



**INDIA CELEBRATED
HER 74TH REPUB-
LIC DAY ON
26TH JANUARY.**

CURRENT AFFAIRS 30

JANUARY 2023

INSIDE

GS1

Indian culture

- 50 ASI-protected monuments disappear 8

Modern Indian history - Personalities

- Gandhi may die but Gandhism will remain forever 9

Salient features of Indian Society

- UNDESA World Social Report 2023 10

Diversity of India

- Republic Day parade: Celebrating Sovereignty 11

Issues face by Women

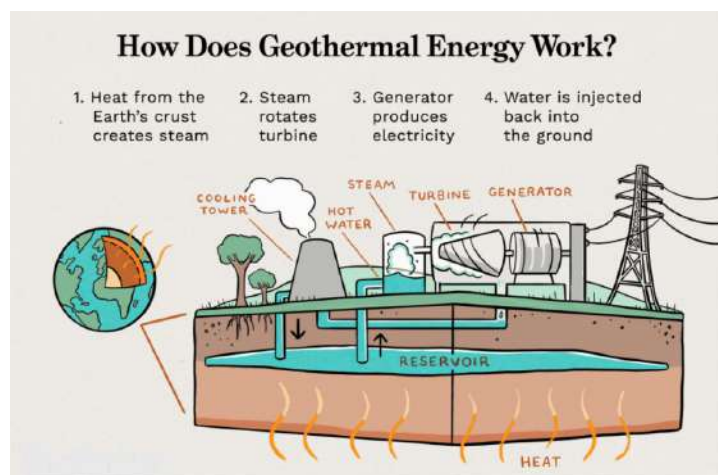
- Wrestling the way out 12
- Menstrual leave: Time to talk period 13

Demography

- China's population drop 14

Distribution of key natural resources

- Monocropping: Impact on Biodiversity 15
- ONGC to map India's geothermal resources 16



- Coal India Ltd's M-Sand Projects 17

Geophysical phenomena

- Black carbon aerosols 18
- Deep-water circulations of the Indian Ocean 19

GS2

Indian Constitution

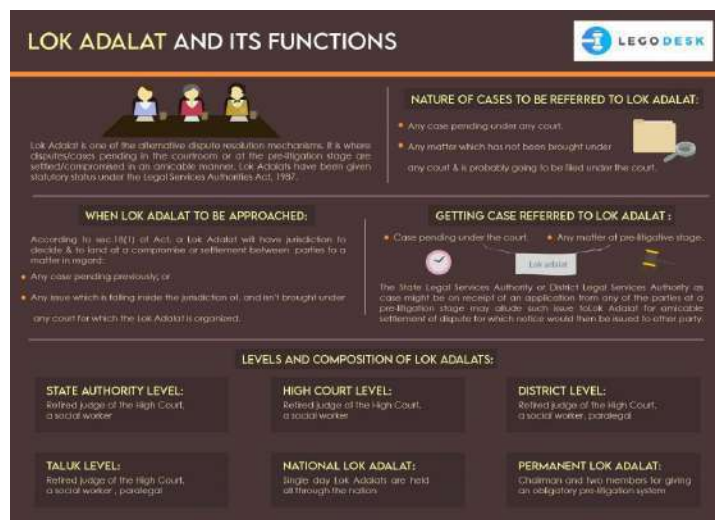
- Mandatory minimum sentences 20
- Living Will and Passive Euthanasia 20

Functions and responsibilities of the Union and the States, issues and challenges

- Governor-CM rift in TN 21
- Coming Soon: 16th Finance commission 23

Judiciary

- Supreme Court upholds demonetisation 25
- SC verdict on MPs, MLAs' right to freedom of speech 26
- High-powered committee for Ladakh 27
- SC direction on road safety 28
- Judicial take on same-sex marriage 29
- Loan recovery via Lok Adalat 30



- Case for reforming Collegium: Suggestions by Law Minister 31
- Inclusivity in Judiciary 31

Statutory, regulatory and various quasi-judicial bodies

- NCPDR drafted guidelines for assessing minors 33

Government policies and interventions

- Green Hydrogen Mission 33
- New UGC Norms 34
- Regulation of online gaming 35
- Voluntary Vehicle-Fleet Modernization Program (V-VMP) 36
- Jharkhand's 1st survey of migrants 37
- Content of "National Importance" 38

Issues related to Education

- Bright spots, areas of concern in ASER 2022 39
- Schools without barriers 40
- All India Survey on Higher Education (AISHE) 2020-2021 41

Issues related to Health

- What plagues rural healthcare? 42
- Plan to eradicate measles, rubella 43
- Neglected Tropical Diseases Day 44

Issues relating to poverty and hunger.

- Malnutrition risking children’s lives: WHO 45

Governance

- The case of online child abuse 46

India and its neighborhood- relations.

- The Indus Waters Treaty 46

Bilateral relations

- The Qatar conundrum 48
- India-Maldives relation 49
- India’s ties with Egypt 51

Effect of policies and politics

- On the legality of Israel’s occupation 52
- META fined under EU’s GDPR 53

International institutions, agencies and fora

- Blacklisting of terrorists: What does this mean? 54
- UNSC: Paralysed and Outdated 55

GS3

Indian Economy

- Indian rupee’s fall against the US dollar 56
- MFIs prime role in India’s economic growth 57
- Start-ups powering India’s Space Odyssey 2.0 59

Economy and issues relating to development.

- Ken-Betwa River link project 60
- Fighting The Big G 61

Employment

- Remote work saved jobs during COVID: ILO report 62

Inclusive growth and issues.

- Oxfam inequality report on wealth tax 63
- Inclusive circular economy 64

Government Budgeting.

- The nuts and bolts of a Union Budget 65

Agricultural produce

- Cultivated idea: Urban farming 66

Changes in industrial policy and their effects on industrial growth.

- One Nation-One Standard 67
- Fake news regulation 68

Infrastructure: Energy

- Risk of transition towards clean energy 69

Science and Technology

- The danger of deep fakes 70
- Crypto awareness campaign 71
- Travails of trans-fat 72

Environmental Conservation

- New Forest (Conservation) Rules vs Forest Rights Act 73
- 50 years of the Stockholm Conference 74
- Bee: Positive impact on Biodiversity 75

Bees

A report highlighted, that the biodiversity of the bee population is essential to preserving the ecosystem function of crop pollination, which is crucial to the availability of food for humans

Threats to Bees: habitat loss, pathogens/parasites, pesticides, invasive species, genetic diversity, climate change.

Ecosystem Services provided by Bees:

- Regulating Services: Pollination, Biodiversity and Conservation, Mitigation by sustainable conservation
- Provisioning Services: Bee Products (Bee Wax, Honey, Propolis, Bee Pollen, Bee Venom, Royal Jelly, Bee Brood)
- Cultural Services: Api tourism, Education and Science, Spiritual Values

The Journey from Nectar to Honey:

- Nectar is collected by bees.
- Bees in the hive fan their wings to dehydrate the nectar.
- It becomes honey when the hive interior is 95 F and moisture level is 17%.

Bees: Queen, Worker, Drone, Stingler, Singler, Singler Apertural, Pollen basket, Honey stomach, Compound eye, Hardile, Ganga, Heart, Abdomen, Thorax, Head, Single eyes, Antennae.

Visit Insights IAS Daily CA for detailed News

- Human disturbance altering habitats, routines of animals 76
- Protests over ESZ classification 78
- Alien Plants and Tiger Habitats 79
- Understanding Kerala’s man-elephant conflict 79
- Forest cover improvement: A target missed 81
- Cheetahs from South Africa 82

Environmental pollution and degradation

- National Clean Air Programme 83
- Light polluting the Dark Sky 84
- Fukushima wastewater 86

Disaster and disaster management.

- Surging crowds, charges of police laxity 86

GS4

Human Values

- Role of Religious Leaders in addressing contemporary issues 87
- In Good Faith: Pranam vs Pramana 88
- Ethical animal research 89

Attitude

- The woman who defied realpolitik 90
- [Influence and relation with thought and behaviour](#)
- Guidelines to social media influencers 92
- [Ethical concerns and dilemmas](#)
- UAE's Sultan Al Jaber and the controversy 93
- [Corporate governance](#)
- Software sector's Antyodaya approach 94
- Big Tech & news publishers 95

- Shumang Leela: Manipur 101
- Mughal Gardens: now Amrit Udyan 101
- [Games](#)
- Information related to Hockey 102
- [Festival in News](#)
- Purple Fest 103
- Magh Bihu 103
- Bharat Parv 2023 103

FACTS FOR PRELIMS; GS1

- [Modern History/Personality](#)
- Swami Sahajanand Saraswati 103
- Architect BV Doshi passes away 104

[Indian Heritage and Culture](#)

- "VIRAASAT"- Celebrating 75 handwoven Saris of India 96

- [Geography](#)
- New Plateau Discovered 104
- Rare dinosaur eggs found in Narmada Valley 105
- Over 90 fossil nests belonging to India's largest dinosaurs uncovered 105
- Earth's inner core 105



- [Places in News](#)
- Mapping 106

- [Society and Social Justice](#)
- Criteria change in Gender Gap Reports 112
- Migration events that brought genetic diversity 112

GS2

- Parasnath hill and Shetrunjay hill 97
- Sagol Kangjei 97
- 'Music in the Park' 97
- Thiruvalluvar Day 98
- Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD) 98
- Buddhist monastery complex at Bharatpur 98
- Andaman Islands named after Param Vir Chakra recipients 99
- Assam's Charaideo Moidams 99
- Monument Mitra Scheme 100
- Etikoppaka toy craft 100
- Criteria for declaring National Monuments 100
- Ramcharitmanas of Tulsidas 101

- [Polity](#)
- e-SCR project 112
- State Finances: A Study of Budgets of 2022-23 113
- Education for Democracy 113
- 13th Amendment (13A) to Sri Lanka's Constitution 114
- Supreme Court judgments in 13 Indian languages 114
- Need for reforming bail processes 114

- [Government Initiative and Policies](#)
- Kalasa-Banduri Canal Construction Project 115
- Comprehensive Migration and Mobility Partnership Agreement (MMPA) 115
- Higher Education Financing Agency (HEFA) 116
- Eat Right Station 116
- Ethylene Glycol (Quality Control) Order, 2022 116
- Advanced Traffic Management System 117
- National assessment regulator: PARAKH 117
- Chargesheet and FIR 118
- Central Government Health Scheme 118
- PM-KISAN 118

- [International News and Organization](#)
- Voice of Global South Summit 119

- Bhopal Declaration 119
- World Economic Forum Initiatives 120
- India - Sri Lanka: ties during crisis 120
- T+1 settlement cycle 120

GS3

Economy

- Utkarsh 2.0 121
- Integrated Banking Ombudsman scheme 121
- Reserve Bank of India puts on hold NUE licensing 122
- Tax scheme misuse 122
- National Coal Index 123
- National Textile Corporation 123
- Expected loss-based approach for loan loss provisioning by banks 123
- Waterways Network 124
- Etalin hydroelectric project (EHEP) 124
- Grameen Udyami Scheme 125
- Application Supported by the Blocked Amount (ASBA) system 125
- Nature Risk profile (NRP) 126
- Caller Name Presentation (CNAP) 126
- Additional Tier-1 bonds and the case against Yes Bank 127
- Google and CCI 127
- WTO's new Agreement on Fisheries Subsidies 127
- SEBI's information database on municipal bonds 128
- National Asset Reconstruction Company 128
- Agri Commodity Trade 129
- India Stack's digital public goods 129
- Short Selling 130
- Mega projects for Andaman and Nicobar 131
- Kashmir's Pashmina shawls 131
- World Economic Situation and Prospectus 2023 report 132
- XR Startup Program 132
- Aviation gasoline export by IOC 133
- India may use emergency law to lift coal power output 133

Agriculture

- 212 indigenous livestock breeds 133
- Cardamom samples exceeding the level of insecticide residue 134

Science and Technology

- Satyendra Nath Bose 134
- SMART Program for Ayurveda 135
- Gelbots 135

- 'Green' tech to rid air filters of germs 135
- India's scientific developments in 2022 – A Recap 135
- Wassenaar Arrangement 136
- Water filter to remove microplastics 137
- New electrolytes can help better ammonia synthesis 137
- Animals that turn transparent? 137
- Laser to guide lightning bolts 138
- What is a 'pantranscriptome'? 138
- Mercury's superconductivity 138
- Norovirus 139
- Ukraine War: CERN has shortened runs 139
- Nitride Semiconductors 140

Technology

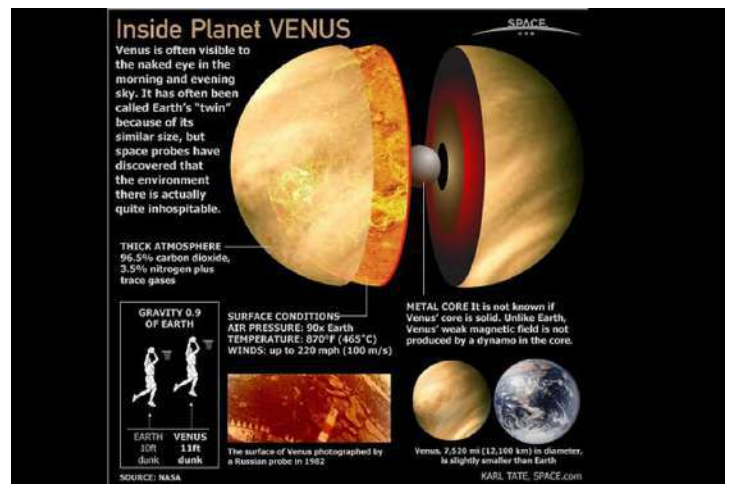
- Can India's BharOS replace Android, iOS? 140
- Railways' AI-based project 141

Health

- Lumpi-ProVaccinD Vaccine 141
- Ozempic 142
- Kala-azar cases decline 142
- A novel spray to prevent COVID-19 infection 143
- India can lead efforts to find a new TB vaccine 143
- Immune imprinting 143
- Polycystic Ovarian Syndrome (PCOS) 144
- Hormonal therapy to cure Breast Cancer 144

Space

- WALLABY 145
- Snapdragon Satellite 145
- 'Shukrayaan' 145



- Solitary waves near Mars 146
- Giant Metrewave Radio Telescope 146
- James Webb telescope discovers its first exoplanet 146
- NASA's Nuclear Rocket Plan 147
- 'Green comet' after 50,000 years 147
- Aditya L1 148

Environment

- Zero poaching incidents in Assam 148
- Silent Valley bird species go up to 175 148
- Asian Waterbird Census (AWC) 2023 149
- Govt exempts key infra projects from wildlife fund rules 149
- Bhopal Ramsar wetland 150
- Sankhya Sagar Wetland 150
- Methanol blended Diesel (MD15) 151
- Genetically Engineered Trees 151
- Kelp forests 152

- Saltie census 2023 156
- Greater Scaup 157
- Spot Bellied Eagle Owl 157
- Kewda Oil 157
- Mahabali frog 158
- Mass mortality of Olive Ridley turtles 158
- Noble's Helen 158
- Invasive plant species in Kerala's wildlife habitat 159
- Red-Headed Vultures and Black Vultures 159

	Seaweed	Seagrass
DEFINITION	Seaweed is a macroalgae	Seagrass is a marine flowering plant
KINGDOM	Kingdom Protista	Kingdom Plantae
VASCULAR TISSUE	Seaweed is a non-vascular algae	Seagrass is a vascular plant
TRUE STEM, ROOT AND LEAVES	Lacks true stem, roots and leaves	Has a true stem, roots and leaves
FLOWERS	Seaweed does not produce flowers	Seagrass produces flowers
SEEDS	Seaweed does not produce seeds	Seagrass produces seeds
FRUITS	No fruits	Produces fruits

Defence

- Village Defence Committees (VDC) 160
- VARUNA' – 2023 160
- Leopard 2 tank 160
- Exercise Cyclone-I 161
- INS Vagir 161
- Military Exercise 161
- Hypersonic Technology Demonstrator Vehicle (HSTDV) 162
- Veer Guardian 2023 162

CONTENT FOR MAINS ENRICHMENT (ETHICS/ESSAY):

Society

- Prajjwala Challenge 162
- Foster farmer: Feel Good 163
- Rajasthan's 'Tree teacher' 163

A gentler Workplace

Recently Chief Justice of India (CJI) Chandrachud brought his daughters (both differently-abled) to Supreme Court

Justice Chandrachud with his family

Benefit of bringing our children to workplaces sometimes:

- **Good Parent-Children relation:** Helps children understand their parents better.
- **Kids don't always understand why work sometimes takes priority.** When your children see your office and learn what you do all day, they begin to have a better sense of why you have to work late some nights or go in early.
- **Future planning of children:** Help children acquaint themselves with structure or visualize a life of professional potential for their future adult selves.
- **Normalizing the culture:** Bringing children to work regularly will help normalize the culture so that parents could do so when necessary
- **Visiting children will enhance their problem-solving skills**
- **Better balancing work and life for parents**

Issues with current work culture

- Asia's relentless culture of hustle puts work and family life at odds with each other. To be successful, it implies, you must choose one over the other.
- Workplaces prefer to invisibilise children — family photographs or a stray artwork by one's child at the workstation

INCLUSIVE WORKPLACE
Reasons to Create Inclusion in the Workplace

Visit Insights IAS Daily CA for detailed News

An inclusive workplace is one where people with all kinds of differences and disabilities feel welcome and valued for their contributions. They have the same opportunities for advancement as their co-workers.

- Manipur's heimang 152

Pollution and Waste

- Technology for Air Quality Monitoring System (AI-AQMS v1.0) 153
- Pollution map based on roadside dust 153
- 'Nitrate radicals' 154

Climate Change

- Urban Forestry and Urban Greening in Drylands 154
- The Glasgow Financial Alliance for Net Zero (GFANZ) 154

Species in News

- Virovore 155
- Asian Elephants 155
- New dwarf boa 156
- Zebrafish 156

- A gentler Workplace 163
- Oxfam Report 163
- Tribes get documents 164
- Foster farmer: Feel Good 164

Women Empowerment

- Mission Parivartan 164
- Aymanam 164

Space

- Parastronaut 165
- Walter Cunningham dead 165

Governance

- Dwarka: How a Delhi district stopped the ground from sinking 166

Environment

- Chinampas: Floating Gardens made of Plastic bottles 166

Health

- Case Study: Cuban HealthCare 166

Ethics

- Doctor Didis of Jharkhand 166
- What makes you happy? 167
- An episode on 'Peace' 167
- Personalities 168
- Martin Luther King Jr. (1929-1968) 171

Keywords

- Cyborg 171
- Quotes 172

Sports

- Pelé: Birth of a legend 173

Edson Arantes do Nascimento (Pelé)



Pele (23 October 1940 – 29 December 2022) who was a Brazilian professional footballer who is regarded as one of the greatest players of all time and labelled "the greatest" by FIFA, died recently.



10 life lessons from his life

- **Embrace who you are:** The greatest gift you can give yourself is to let go off the pretence and stay true to the person in the mirror.
- **Turn anger into a positive emotion:** If done right, anger could be your limitless reservoir of energy.
- **All greats were once underdogs:** Keep doing your best, put your chin up and soon the tide will turn.
- **Great performances are a result of great preparation:** Great players like Pelé are a result of relentless physical and mental preparation. They were not lucky, they simply made their luck by sweating it out.
- **Throw the rule book out of the window:** There is no shame in being unorthodox and playing your natural game.
- **Stick to the choices you made no matter what:** Keep learning, stay curious, stay hungry and keep growing as a sportsman, and as an individual.
- **Age is just a number:** You are never too old or too young to find your true calling. Some people know it all along since their childhood while others wander for decades to find their purpose.

- **Stay true to your roots:** Be proud of your roots. Embrace your culture and shine.
- **Your goals are not yours alone:** Your friends, teammates and loved ones will not only cherish your goals but will also act as stepping stones to get you closer to your goals
- **Dreams do come true:** Your dreams will come true if you just believed in yourself and persevered



Visit Insights IAS Daily CA for detailed News.

50 ASI-PROTECTED MONUMENTS DISAPPEAR

Context:

The Ministry of Culture recently told Parliamentary Standing Committee that **50 of India's 3,693 Centrally Protected Monuments (CPM)** were missing

- Previously in **2013**, a **CAG report** said that at least **92 centrally protected monuments** across the country had gone missing. But since then, 42 CPMs have been identified by ASI.
- **Examples of monuments missing:** Barakhamba Cemetery (Delhi), Guns of Emperor Sher Shah, Tinsukia (Assam); the Ruins of Copper Temple, Paya, Lohit (Arunachal Pradesh) etc.

What are protected monuments?

A protected monument means an **ancient monument** which is declared to be of **national importance** by or under the Ancient Monuments and Archeological Sites and Remains Act, 1958.

- AMASR Act regulates the **preservation of monuments and archaeological sites** of national importance.
- The Act protects monuments and sites that are **more than 100 years old**, including temples, cemeteries, inscriptions, cannons, etc.
- According to the provisions of the AMASR Act, **ASI officials are supposed to regularly inspect the monuments**, assess their conditions, issue show cause notices for removal of any encroachment, etc.

How can a monument go "missing"?

Many of the monuments documented more than a century ago can no longer be found at their designated sites. The reasons can be:

- **Government focus on the social issue rather than heritage:** In the decade following the independence, the focus of successive governments was on health, education and infrastructure, rather than protecting heritage.
 - Even within the scope of heritage, the aim was to **uncover more monuments** and sites, instead of conservation.
- **Rapid urbanization:** 14 monuments have been lost to rapid urbanisation

- **Submergence by reservoir/dams:** 12 are submerged by reservoirs/dams
- **Difficulties in tracing in remote locations:** 24 are untraceable

Recommendations by the Standing Committee

- **Mandatorily survey all the CPMs sites physically:** ASI had previously admitted that a comprehensive physical survey of all monuments has never been conducted after Independence
- **Provide budgetary allocation** and assess security requirements
- **Involving local community** including local Panchayats and Police
- **Use of technology such** as GPS, Geo-location, and Geo-tagging to trace monuments
- **Enhance manpower of ASI:** ASI currently faces an acute manpower shortage to physically man all the big and small monuments which may fall under a particular region

Previous recommendation by CAG: A periodic inspection of each protected monument is carried out by a suitably ranked officer.

Can the 'missing CPM' be deleted from the List of national Monuments?

- **Deleting the lost/untraceable monuments** from the protected list is possible but is a **long-drawn process**
- The deletion requires **denotification of the said monument under Section 35 of the AMASR Act.**
- However, **experts say that deleting untraceable monuments is not advisable** from the list, because once that is done, there would be no imperative to find them.

About ASI:

Archeological Survey of India (ASI) is an **attached office of the Ministry of Culture (MoC)** and is in charge of the protection and maintenance of centrally protected monuments (declared under **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958**).

- The ASI was founded in **1861** by **Alexander Cunningham** when he realised the need for a permanent body to oversee archaeological excavations and conservation.
- **Lord Curzon (1899-1905) passed the law in 1904** (Ancient Monuments Preservation Act, 1904) that made the destruction of Ancient Monuments as an offence and directed officials to collect and preserve ancient monuments.

National Monuments Authority (NMA) (set up under the AMASR Act, **2010**) also comes under MoC and is re-

sponsible for the protection of such sites through regulation of areas around the CPM

Insta Links

- [The Ancient Monuments and Archaeological Sites and Remains \(Amendment\) Act, 2010](#)
- [The abysmal state of heritage conservation](#)
- [Govt to tweak ancient monuments act to make it flexible](#)

Mains Link:

Q. Safeguarding the Indian art heritage is the need of the moment. Discuss. (10M) (UPSC CSE 2018)

Prelims Link:

- National Heritage
- AMASR Act – recent changes

Modern Indian history - Personalities

GANDHI MAY DIE BUT GANDHISM WILL REMAIN FOREVER

Context:

The nation paid homage to Mahatma Gandhi on his 75th death anniversary (30th January 1948). The day is also observed as Martyrs' Day.

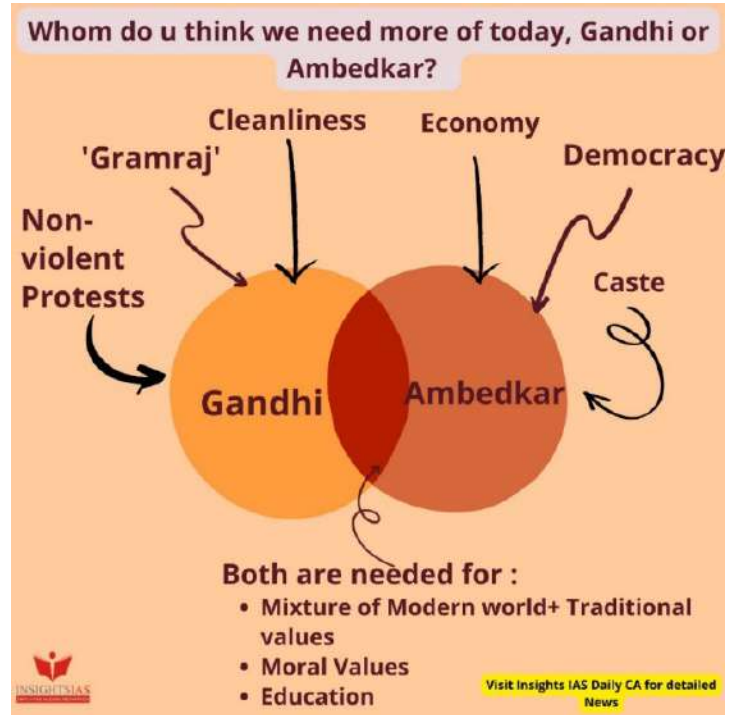
Gandhiji's role in Freedom Struggle:

Outside India:

- Natal protest - Gandhi organized Indian resistance, fought anti-Indian legislation in the courts and led large protests against the colonial government.
- Satyagraha Against registration certificates
- It was in South Africa that Mahatma Gandhi first forged the distinctive techniques of non-violent protest known as Satyagraha.

In India:

- Champaran Satyagraha (1917)
- Ahmedabad mill strike (1918)
- Kheda Satyagraha (1918)
- Rowlatt Satyagraha
- Khilafat and Non-cooperation movement
- Civil disobedience movement
- Protest against the Macdonald award
- Quit India Movement



The vows of Gandhi

India's independence leader Mahatma Gandhi espoused virtues of non-violence, truth, peace and simplicity



Gandhian Ethics:

Follow the link below

[Gandhian Ethics and Its Relevance Now](#)

Seven Dangers to Human Virtue

1. Wealth without work
2. Pleasure without conscience
3. Knowledge without character
4. Business without ethics
5. Science without humanity
6. Religion without sacrifice
7. Politics without principle



Conclusion:

As we celebrate the Azadi Ka Amrit Mahotsav, it's apt to recall how the **Gandhian values of non-violence, inclusiveness and communal harmony enabled India to establish a unique democracy** achieving momentous economic and social transformation through the ballot box rather than through the barrel of the gun.

Insta Curious:

World Leprosy Day always takes place on the last **Sunday** of January. This date was chosen by French humanitarian, **Raoul Follereau** as a tribute to the **life of Mahatma Gandhi**, who did much work with persons affected by leprosy and died at the end of January 1948.

GANDHI'S GLOBAL FOOTPRINT

The Indian independence movement may have witnessed the heyday of Gandhian non-violent action, but the ripples it left behind touched many other nations and influenced varied ideologies. Here's a snapshot of Gandhi's global impact.

Gandhian non-violence was already invoked during his lifetime by **Khan Abdul Ghaffar Khan**, also known as the "Frontier Gandhi". Few people know about Khan Abdul Ghaffar Khan as a Muslim proponent of non-violence, who stressed the compatibility of Islam and Satyagraha.



Often labelled as the "American Gandhi", **Dr. Martin Luther King, Jr.** recognized the value of Gandhi's legacy of non-violence and used it to strengthen his own campaigns in areas ranging from racial integration to voting rights.



Effective non-violent actions led by **Nelson Mandela** played a crucial role in crippling the brutal and racist apartheid regime in South Africa, helping establish a legitimate, democratically elected black majority government.



The non-violent **Arab Spring** awakenings in West Asia from 2009 to 2012 demonstrated that Gandhian non-violence could help to provide the disobedient space that is needed.



[Insta Links: MK Gandhi](#)

Mains Link:

Q. Throw light on the significance of the thoughts of Mahatma Gandhi in the present times. (UPSC 2018)

Q. Highlight the difference in the approach of Subhash Chandra Bose and Mahatma Gandhi in the struggle for freedom. (UPSC 2016)

[Salient features of Indian Society](#)

UNDESA WORLD SOCIAL REPORT 2023

Context:

The United Nations Department of Economic and Social Affairs (UN DESA) published the World Social Report 2023, with the theme "**Leaving No One Behind in an Aging World**".

Background:

- Rooted in the UN Charter and guided by the transformative 2030 SDGs, the UN DESA (New York City, 1948) **upholds the development pillar of the UN**.
- **UN DESA helps countries make informed decisions** by providing information through publications and databases and international deliberations at the UN General Assembly, ECOSOC, etc.
- The World Social Report (since 1997 and previously Report on the World Social Situation) has served as a **background document for policy analysis of socio-economic trends**.
- Since 2001, the periodicity of the report has been changed from a four-year cycle to a two-year cycle (**biennial**).

Why didn't Gandhi ever win the Nobel Prize for Peace?

Context: This year is Gandhi's 75th Death Anniversary



Mahatma Gandhi was the greatest **apostle of peace** and the most inspiring symbol of **non-violent struggle** against oppression and discrimination in the modern era. The Mahatma was nominated several times including in **1937, 1938, 1939 and 1947**, but didn't receive the prize.

Nobel Committee's argument:

- **Gandhi was different from others:** He was no real politician or proponent of international law, not primarily a humanitarian relief worker and not an organizer of international peace congresses.
- **His critique in the committee said:** Gandhi, although "a good, noble and ascetic person", was given to "sharp turns in his policies", which made him both "a freedom fighter and a dictator, an idealist and a nationalist".
- **His ideals were not universal** — his "struggle in South Africa was on behalf of the Indians only, and not of the blacks..."
- **No posthumous consideration:** Gandhi did not belong to an organisation and had not left a will, so it was unclear who would receive the prize money.



However, some **experts** give the reasons that up to 1960, the Nobel Peace Prize was awarded **almost exclusively to Europeans and Americans**. Also, the committee didn't want to be on **wrong side of British Government** by awarding Gandhi.

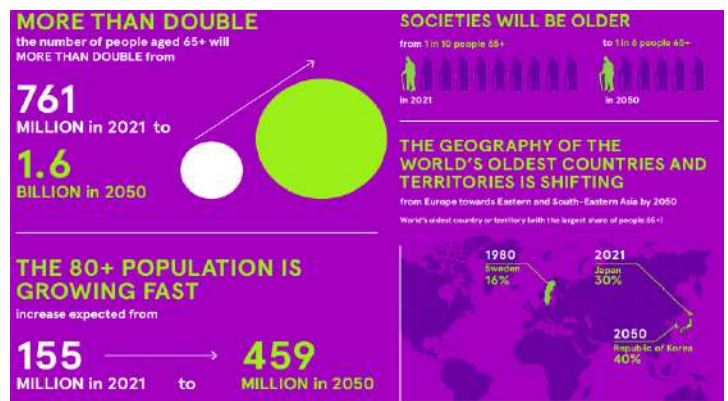
Visit Insights IAS Daily CA for detailed News

- In 2022, the world marked the twentieth anniversary of the adoption of the **Madrid International Plan of Action on Ageing**.
- To commemorate this, the **2023 Report** explores the **economic and social implications of the ageing of the human population**.

- This change brings **both challenges and opportunities** as countries strive to achieve the SDGs.

Highlights of the 2023 Report:

- **Population ageing is a defining global trend** of the time, which has begun or is expected to begin soon in all countries and areas.
- People are living longer (an inevitable result of the demographic transition), and more are older than ever before.
- Spectacular **improvements in health and survival and reductions in fertility** have driven this momentous shift.



Strength	Weakness	Opportunities	Threats
Population ageing signals the extraordinary collective success of the world in improving living conditions for billions of people .	<ul style="list-style-type: none"> • Decrease in the share of working-age people in the total population. • Dependency, vast inequalities, diverse needs, the COVID-19 crisis, the war in Ukraine, and Climate change. 	Demand for long-term care is soaring in many countries	Impose significant social, economic, fiscal, and health-related costs on present and future generations.

Two policy actions suggested by the report:

- **To promote labour market participation** and increased productivity, uphold good health and prevent poverty.
- **To reduce inequality** and promote economic security at older ages in a fiscally sustainable manner, taking into account both pensions and health care.

Conclusion:

The national policies aimed at creating equitable, inclusive societies for people of all ages, and prioritising the rights and well-being of older people are the need of the hour.

Insta Links: [As India ages, keeping an eye on the elderly](#)

Mains Links:

Q. Critically examine the effects of globalisation on the aged population in India. (UPSC 2013)

Diversity of India

REPUBLIC DAY PARADE: CELEBRATING SOVEREIGNTY

Context:

India celebrated her 74th Republic Day on 26th January.

Background:

- 1st parade, 1950: Held in the present day 'Major Dhyan Chand National Stadium'.
- The ceremony included the **official swearing-in of India's first President**, a marching contingent of over 3000 men, Liberator planes of the Indian Air Force flying overhead, etc.
- 1955 onwards: The parade shifted to Rajpath (now Kartavya Path).
- **The parade** from the former Viceroy's residence (Rashtrapati Bhawan now) to the memorial for British Indian soldiers (India Gate now) also **underwent an Indianization process**.

What's on the display at the 74th Republic Day parade in New Delhi?

- **Egyptian President Abdel Fattah El-Sisi** was the chief guest at this year's parade.
- The drive for **atma nirbharta or self-sufficiency** in India's military might. **For example**, the Indian Army showcased the Made-in-India main battle tank **Arjun**, the **NAG missile system**, the **K-9 Vajra-T gun system**, the **AKASH air defence system**, and the **Brahmos missile**. Also, this was the **1st time that no Russian weapons were on display**.
- **In a display of women's empowerment**, the marching contingents of the Indian Air Force and the Indian Navy were led by women officers for the first time.
 - **Assam Rifles** — India's oldest paramilitary force, highlighted the message of gender equality.
 - The Navy's contingent also included **three women and six men Agniveers**, from the Agnipath scheme.
- **The theme of nari shakti or female power** carried beyond the armed forces contingents into the parade's cultural tableaux as well. **For example**,
 - **Tripura's tableau focuses on women's role** in creating sustainable livelihoods through tourism and organic farming.

Significance of the Republic Day military parade:

Display of power:

- There is a historical link between strong displays of soldiers and weaponry, **national pride and projection of power to the nationals and the world**.

Symbol of victory against colonial rule:

- The military parade was chosen as an integral part of Republic Day celebrations to mark the day as -
 - **India's new constitution** officially coming into effect
 - **A day of victory** (against colonial rule) for the Indian state and its people and the coming of a **new, sovereign and strong republic**

Significance of the non-military elements in the Republic Day parade:

A symbol of unity in diversity:

- The Republic Day parade includes non-military elements like the **iconic tableaux**.
- The tableaux are a way to **celebrate India's diversity**: and express regional identities while promoting a sense of national identity.

Culture on Display 2023: The different Themes of Tableaux are important facts for prelims.

State	Theme
Haryana	Bhagavad Gita
Karnataka	State's women Achievers: Salumarada Timakka, Sulagitti Narasamma and Tulasi Gowda Halakki
Uttar Pradesh	Deepotsav In Ayodhya
J&K	Amarnath Shrine
Jharkhand	Baidyanath Temple
Tripura	Mahamuni Buddha Mandir
Gujarat	Clean, Green and Efficient Gujarat
Ladakh	Tourism and Composite culture of the UT
Assam	Ahom warrior Lachit Borphukan
Andhra Pradesh	'Prabhala Teertham' – festival of peasantry during Makara Sankranti
Kerala	Karthiyayini Amma, winner of Nari Shakti Puraskar 2020
Arunachal Pradesh	Potential for Tourism
Uttarakhand	Corbett National Park and Almora's Jageshwar Dham
West Bengal	Durga Puja
Tamil Nadu	Women empowerment and culture of the state

Insta Links: [Egypt President in New Delhi for Republic Day: Significance of his visit, and India's ties with Egypt](#)

Issues face by Women

WRESTLING THE WAY OUT

Context:

Women are made to face the barrels of buoyant sexism on a daily basis, be it at work or even at home. Recently, Indian women wrestlers, **Vinesh Phogat and Sakshi Malik accused BJP MP and Wrestling Federation of India (WFI) president Brij Bhushan Sharan Singh of sexual harassment**.

Issues faced by women in sports:

The word '**pressure**' is central to a sportsperson's life: the need to perform better or at least at par with a previous time; the juggling of time between sport and study; the stress of endorsements. However, women have added layers of pressure:

- **Gender Pay disparity:** The first challenge that female athletes have to face is **being paid half or less of what is given to their male counterparts**.
- **Being objectified:** From coaches to commentators, to the audience, **women are looked at as commodities showcasing themselves for men's pleasure**, not as entities of potential and talent.
 - **Eg: India's** popular badminton player **Jwala Gutta** faced issues related to **objectification** and **body shaming**.
- **Lack of access to facilities:** A lack of access to adequate playing facilities near their homes, makes it more difficult for girls to engage in sports.
- **Safety and transportation issues:** Sports require a place to participate – and for many girls, especially in dense urban environments, that **means travelling to facilities through unsafe neighbourhoods or lacking any means to get to a good facility miles away**.

- **Eg:** Manipur is a sporting powerhouse, but **48 % of female athletes travel over 10km to reach the practice facility**
- **Social stigma:** Girls in sports may experience **bullying, social isolation, and negative performance evaluations.**
- **Mental Health: Mental safety is essential.** Institutes and coaches must provide access to **sports psychologists.** According to the *IOC Mental Health in Elite Athletes Toolkit(2021)*, anxiety and depression are more common in women athletes.
- **The disparity in Access to Quality Training & Infrastructure:** The availability of **quality, trained coaches may be lacking in their community or these coaches may be more focused on the boys' programs that have more money for training.** Equipment and even uniforms aren't funded for many girls' programs at the same levels as boys. Thus, their ability to improve and enjoy the sport is diminished.
- **Inadequate Budget Allocated for Women in Sports:** Budgets are being slashed in all sports, especially for women leading to poor infrastructure.
- **Lack of positive role models:** Today's girls are bombarded with **images of external beauty, not those of confident, strong female athletic role models.** To some girls, fitting within the mould that they are constantly told to stay in is more important than standing out.
 - For instance, it is estimated that the prevalence of eating disorders among women athletes is 6% to 45%, while for men athletes it ranges from 0 to 19% [*IOC Mental Health in Elite Athletes Toolkit (2021)*].

Why girls need to be encouraged in sports:

- They learn **important life skills such as teamwork, leadership, and confidence.**
- **It enhances their self-image**
- Girls' involvement in sports is related to higher levels of family satisfaction.
- High school **female athletes have more positive body images than non-athletes.**
- Reduces chances of diseases in the long run.

The ethical aspect of sexual harassment in sports:

- Lack of trust in the association.
- Reduce participation
- Shows a lack of empathy and morals from the perpetrator's side.

Few positive examples:

- The athletics federation has an **international-level sportswoman (Anju Bobby George) as Vice President, which is the highest.**
- PT Usha leads IOA now.

Case of Dutee Chand:

Dutee Chand was to be the first Indian woman in 36 years to run a 100m at the Rio Olympics. Acting on an anonymous tip, she was asked to get tested for **hyperandrogenism, wherein a woman's body produces more testosterone than is acceptable under the International Association of Athletics Federations (IAAF) guidelines.** Not only was she banned from competing against other women in the Commonwealth Games, **but the world was also suddenly questioning her gender identity.** Her personal life became a sham and her professional life was a mess. However, Dutee refused to cower down, and refusing therapy, has challenged the IAAF regulations at the Court of Arbitration for Sport in Switzerland.



Insta Curious: International Charter of Physical Education, **Physical Activity and Sport by UNESCO** affirms that **'equal opportunity to participate and be involved at all supervision and decision-making levels in physical education, physical activity and sport, whether for the purpose of recreation, health promotion or high performance, is the right of every girl and every woman that must be actively enforced'.**

Insta Links:

- [women-participation-in-sports](#)

MENSTRUAL LEAVE: TIME TO TALK PERIOD

Context:

Kerala government announced that to grant **menstrual leave for female students in all state universities** as part of the government's **"commitment to realise a gender-just society"**

- **Girls of age 18 years** and above are eligible to avail 60 days of menstrual leave in a year.

- The attendance percentage of girl students is sealed at **73% as against the usual 75%**.

Significance of the move:

- A move towards acknowledging and addressing the **often-debilitating pain and discomfort** that many are often forced to work through.
- Creating inclusive and accommodative classrooms and workplaces.

Concerns:

- **Create further discrimination** in a traditional society where menstruation remains a **taboo**, a special period leave could become another excuse for discrimination.
- Persistent risk of **medicalising a normal biological process**, which could further entrench existing biases against women.
- **Reluctance in hiring women** due to **perceived financial and productivity cost of mandatory period leaves**.

Previous efforts towards this direction:

The effort to introduce such policies in India is not new.

India:

- **1992:** Bihar government two days of menstrual leave a month
- **2017: Menstrual Benefits Bill 2017** was introduced in Parliament to provide monthly two days of menstrual leave to both public and private employees during menstruation.
- **2020:** Zomato introduced **menstrual leaves for up to ten days** a year for its women and transgender employees.

Global:

- **Japan** was the first country to implement this policy in 1947.
- Globally, menstrual leave policies exist in countries like Japan, Taiwan, South Korea, China, Indonesia, Zambia, Sweden and Mexico.

[Insta Links: Menstruation Benefit Bill 2017](#)

Mains Links:

Q. Comment on the issue of mandatory menstrual leave and also analyse the design of a new framework for the same in our country. (15M)

Demography

CHINA'S POPULATION DROP

Context:

- According to China's National Bureau of Statistics, its population fell to 1,411.8 million in 2022, from 1,412.6 million in the previous year.
- This is a landmark event, for a country that is soon set to be surpassed by India (as per UN projections, India's population is expected to reach 1,428.6 million in 2023) as home to the greatest number of people.

What has been behind these shifts?

Mortality:

- A country's population increases with a **reduction in the relative number of deaths**, while population growth slows/reverses with **declining fertility rates**.
- **The crude death rate (CDR)** - the number of persons dying per year per 1,000 population - was 23.2 for China in 1950 (22.2 for India). It fell to single digits of 7.3 in 2020 (7.4 for India).
- Another mortality indicator is **life expectancy at birth**. Between 1950 and 2020, it went up from 43.7 to 78.1 years for China and from 41.7 to 70.1 years for India.

Fertility:

- **The total fertility rate (TFR)** - the number of babies an average woman (aged 15-49) bears over her lifetime - was as high as 5.8 for China and 5.7 for India in 1950.
 - According to its 2020 Census, China's TFR was 1.3 births per woman.
 - The TFR has fallen sharply for India too (from 3.4 to 2 between 1992-93 and 2019-21).
- A TFR of 2.1 is considered as "**replacement-level fertility**" - a woman having two children replaces herself and her partner with two new lives.

Why is India's population increasing, while China's shrinking?

- **China's One-Child Policy (1980 to 2015):** This has helped China to prevent nearly 400 million births.

InstaCurious:

Period poverty refers to the lack of access to menstrual hygiene products and education, which can have a negative impact on a person's health, education, and overall well-being. It can lead to health complications, the perpetuation of myths and taboos, absenteeism from school or work and can affect the education and economic opportunities of those who experience it.

- **Sustained lows necessary:** De-growth requires TFRs to remain below replacement levels for extended periods and it will reflect only after a couple of generations.
 - China's TFR dipped below replacement first in 1991, which was almost 30 years before India's.

Potential implications of these shifts

For China	For India
<p>Negative: Decline in the working-age population (less tax revenues, savings potential - poor growth). That's why China officially ended its one-child policy in 2016.</p> <p>Positives: Overall labour supply still exceeds demand.</p>	<p>Opportunity: The share of the working-age population will peak at 57% towards the mid-2030s.</p> <p>Challenges: In the absence of meaningful employment opportunities for the youths, the demographic dividend can well turn into a demographic nightmare.</p>

Mains Links:

Q. Discuss the main objectives of Population Education and point out the measures to achieve them in India in detail. (UPSC 2021)

[Distribution of key natural resources](#)

MONOCROPPING: IMPACT ON BIODIVERSITY

Context:

Impact of Monoculture Rubber Plantation on non-Human Primates and Plant Diversity in South Tripura.

Major findings:

- The conversion of tropical forests into monoculture plantations has a major effect on **non-human primates and plant species**.
 - E.g., **Turning the forests into natural rubber plantations** in Tripura is negatively impacting **non-human primate species and vegetation** in the region.
- **Humans are overusing the world's tropical forests:** As per the WWF, every year, about 140,000 square kilometres of forests have been lost
 - **A large proportion of primary forest** in India has been converted into **monoculture plantations** like tea, oil palm, teak and natural rubber
- Impact on animals: The number of monkeys in the rubber plantation area is much lower than in the nearby forests and the primates spend less time in rubber plantations
 - Due to the **growing rubber plantations**, they do not get enough food, which makes their survival difficult. This threatens the **species and the primates can go extinct**, disrupting the environment's natural state.

What is the importance of non-human primates?

- Non-human primates are of central importance to **tropical biodiversity and various ecosystem functions**.
- They are **humans' nearest biological relatives** and play a significant role in many societies' livelihoods, cultures and religions, the paper said.
- These primates help in the **pollination, seed dispersion and seed germination** of many plants and they are essential seed predators in some ecosystems.

Solutions suggested:

- **Building eco-friendly rubber plantations:** combining rubber trees with fruit trees.
- **Various plants should also be kept intact** to provide shelter or food for arboreal.
- **The agroforestry system** – mixing rubber trees with economically viable species.

Other impacts of Monoculture farming:

- **Growing same species year after year**, can lead to **unsustainable environments, disease pressure** and reducing particular nutrients in the soil.
- **Monocropping** can lead to **deforestation**
- It reduces the **availability of certain nutrients and degrades the soil**.
- Also lead to **soil exhaustion** when the soil becomes depleted of the nutrients.

Rubber

Rubber plantations in Tripura affecting monkeys, vegetation, suggests paper

Natural rubber is a polymer of isoprene, an organic compound and obtained from the latex of a number of tropical trees of which Para Rubber tree (*Hevea brasiliensis*) is the most important.

Age: around 32 years in plantations.

Soil: Well-drained and well-weathered soils e.g., Lateritic type, alluvial, sedimentary types

Precipitation and Temperature: An evenly distributed rainfall with at least 100 rainy days a year and a temperature range of about 20 to 34°C.

A humidity of around 80%, 2000 hours of sunshine, and absence of strong winds are also necessary for the best results.

Uses: Natural rubber is preferred over synthetic rubber due to its high tensile strength and vibration dampening properties, along with tear resistance.



Primates: They are a member of the **most developed and intelligent group of mammals**, including humans, monkeys, and apes.

Fourteen species of nonhuman primates occur in India—six species of macaques, five of langurs, two of looses, and one species of **gibbon** (ape)

Mains Links:

Q. What do you understand by Monoculture farming? Analyse its impact on the agroecology of the country, how can one stop it from depleting the natural resources? (250 Words)

ONGC TO MAP INDIA'S GEOTHERMAL RESOURCES

Context:

ONGC plans to map the geothermal energy sources of India.

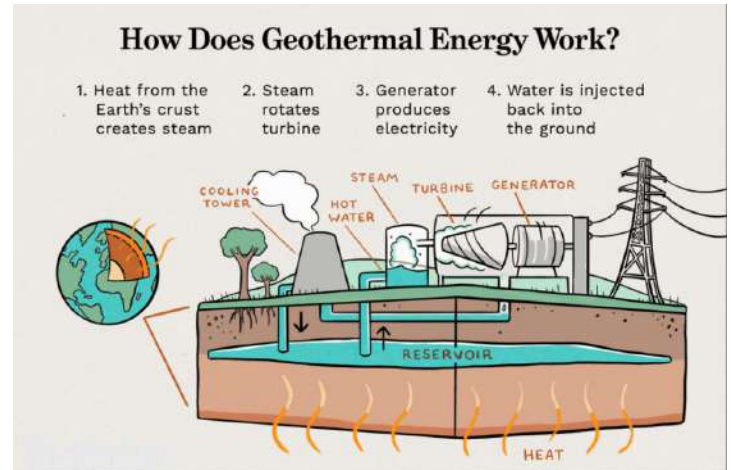
- The focus on geothermal energy is crucial to meet the **climate target of 500 GW of installed renewable energy capacity and net zero carbon emission by 2070.**
- ONGC's diversification efforts is a part of its 'Energy Strategy 2040'.

About Geothermal Energy:

- Geothermal energy is an energy source that is stored in the form of heat beneath the earth's surface, which is clean, renewable, sustainable, car-

bon-free, continuous, uninterrupted, and environment-friendly.

- It is the only renewable energy available 24x7 to mankind not requiring storage and unaffected by day-night or seasonality variance.
- Geothermal resources in India have been **mapped by the Geological Survey of India (GSI)**
- Ministry of New and Renewable Energy estimates that India **could have 10 GW of geothermal power potential.**



Types of Geothermal Power Plants

There are **three types of geothermal power plants** where we can harness the heat of the earth to produce electricity.

- Dry steam powerplant
- Flash steam power plant
- Binary cycle power plant

As flash steam power plant requires a high enthalpy range and hence they cannot be used in India.

Benefits of Geothermal Energy:

- renewable,
- provides a continuous, uninterrupted supply

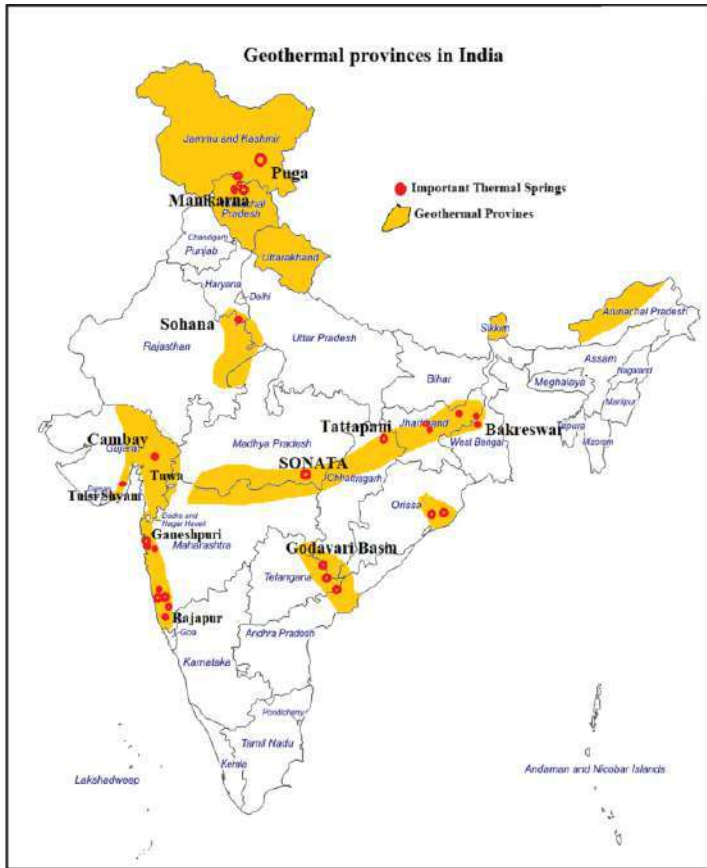
Disadvantages:

- **High initial capital requirement.**
- **Location-specific** energy source, associated with other emissions like **sulphur dioxide and hydrogen sulphide.**
- May cause disasters – **earthquakes**

Status of Geothermal Energy in India

- Oil and Natural Gas Corporation (ONGC) has established India's first Geothermal field development project at **Puga village in Ladakh.**
- **Tata Power will be setting up a geothermal plant in Gujarat of about 5MW plant.**

- **National Thermal Power Corporation** is planning to construct a 300MW of geothermal power plant project in Chhattisgarh.



[Insta Links: Geothermal Energy](#)

Mains Link:

Q. Examine the various obstacles to an energy-secure India. How can the government ensure energy security while honouring its net zero commitments?

COAL INDIA LTD'S M-SAND PROJECTS

Context:

Coal India Ltd (CIL) has envisaged processing the **fragmented rock (known as Overburden Rocks (OB))** for sand production in mines.

- **OB material** contains about **60% sandstone by volume** which is harnessed through crushing and processing of Overburden.

What is M Sand?

M sand is a form of **artificial sand, manufactured by crushing large hard stones**, mainly rocks or granite, into fine particles, which are then washed and finely graded. It is widely used as a **substitute for river sand** for construction purposes.

Need for M Sand

- **Due to high demand**, regulated supply and a complete ban on sand mining during monsoon to protect the river ecosystem.
- **The Supreme Court** banned illegal mining on riverbeds in 2017
- **Sand Mining Framework** prepared by the Ministry of Mines envisages alternative sources of sand in the form of **Manufactured Sand (M-Sand)** and sand from **Overburden (OB)** of coal mines.

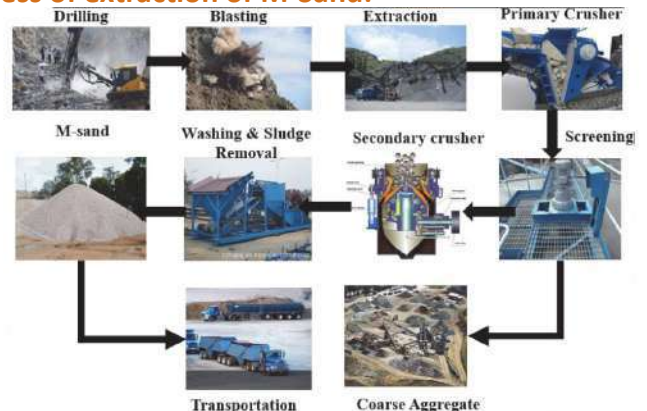
Why Coal India Ltd?

During **Opencast** mining of Coal India, the **overlying soil and rocks are removed as waste to extract coal and the fragmented rock (Overburden or OB)** is heaped in dumps. Most of the waste is disposed of at the surface which occupies a considerable land area and requires extensive planning and control to minimize the environmental impact of mining.

Difference between M Sand and Natural River sand

Parameters	M Sand	River Sand
Process	Manufactured in a factory.	Naturally available on river banks.
Shape	Angular and has a rougher texture. Angular aggregates demand more water. Water demand can be compensated with cement content.	Smoother texture with better shape. Demands less water.
Moisture Content	Moisture is available only in water washed M Sand.	Moisture is trapped in between the particles which are good for concrete purposes.
Concrete Strength	Higher concrete strength compared to river sand used for concreting.	Lesser concrete compared to M Sand
Silt Content	Zero silt	Minimum permissible silt content is 3%. Anything more than 3% is harmful to the concrete durability.
Over Sized Materials	0%. Since it is artificially manufactured.	1 - 6% of minimum oversized materials can be expected. Like pebble stones.
Marine Products	0%	1 - 2% like sea shells, tree barks etc
Eco-Friendly	Though M Sand uses natural coarse aggregates to form, it causes less damage to the environment as compared to river sand.	Harmful to the environment. Eco imbalances, reduce groundwater level and rivers water gets dried up.

Process of extraction of M-Sand:



Benefits of Manufactured Sand (M-Sand):

- **Cost-effectiveness:** As it can be produced in large quantities at a lower cost.

- **Consistency:** in grain size and shape, which can be beneficial for construction projects.
- **Environmental benefits:** Helps reduce the need for mining natural sand, which can have negative environmental impacts.
 - **Using the overburden from coal mines** can help to repurpose materials that would otherwise be considered waste.
 - **Lesser Sand extraction from the river** will reduce erosion of channel beds & banks and protect the water habitat
 - Help **maintain the water table**
- **Reduced water consumption:** as it does not require washing before use.
- **Better workability:** as it's more angular and has a rougher surface.
- Concerns regarding M Sand:
- **Due to its smooth and angular textures,** it leads to more water and cement requirements.
- If the M Sand contains a **large number of micro fine particles,** it can affect the **strength** and **workability** of concrete.

About Sand:

Sand is a mixture of small grains of rock and granular materials which is mainly defined by size, being finer than **gravel** and coarser than **silt**.

- Sand is classified as a “**minor mineral**”, under The Mines and Minerals (Development and Regulations) Act, 1957 (MMDR Act)
- **Administrative control** over minor minerals vests with the **State Governments**

[Insta Links: M Sand](#)

Mains Links:

Q. Is sand mining illegal in India? Discuss the impacts of sand mining and suggest the way forward. (250 words)

Prelims links

Q. With reference to India, consider the following statements: (UPSC 2022)

1. Monazite is a source of rare earth.
2. Monazite contains thorium.
3. Monazite occurs naturally in the entire Indian coastal sands in India.
4. In India, Government bodies only can process or export monazite.

Which of the statements given above are correct?

(a) 1, 2 and 3 only

- (b) 1, 2 and 4 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

Answer - B

Monazite is an atomic mineral that occurs naturally in the coastal sands of three districts: Tirunelveli, Thoothukudi, and Kanyakumari. Hence statement 3 is incorrect.

Q. With reference to the management of minor minerals in India, consider the following statements: (UPSC 2019)

1. Sand is a ‘minor mineral’ according to the prevailing law in the country.
2. State Governments have the power to grant mining leases of minor minerals, but the powers regarding the formation of rules related to the grant of minor minerals lie with the Central Government.
3. State Governments have the power to frame rules to prevent the illegal mining of minor minerals.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

Answer: A

Under MMDR Act, the State government have framed their own mining concession rules. So, statement 2 is incorrect.

[Geophysical phenomena](#)

BLACK CARBON AEROSOLS

Context:

Black carbon aerosols have indirectly affected the mass gain of the Tibetan Plateau glaciers by changing long-range water vapour transport from the South Asian monsoon region.

- The South Asia region adjacent to the Tibetan Plateau **has among the highest levels of black carbon emission in the world.**

About Black Carbon:

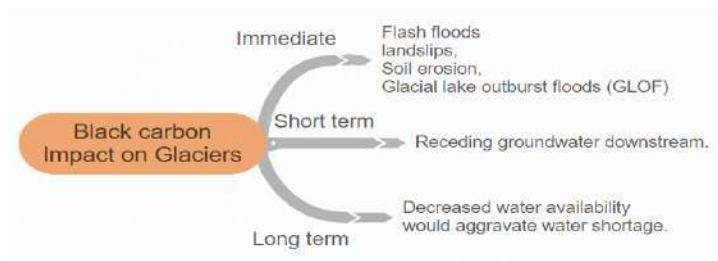
- Black carbon is a **short-lived climate pollutant with a lifetime of only days to weeks after release in the atmosphere.**
- Black carbon is formed by the **incomplete combus-**

tion of fossil fuels, wood, and other fuels

Impact of Black Carbon on Cryosphere

- Rapid melting of Glaciers
 - **Asian Brown Cloud (ABC):** A man-made cloud of carbon emissions, dust, and other pollutants causes less sunlight, less rain, and an inverse warming effect, which causes glacier melting to accelerate.
- **Glacier retreat:** Gangotri glacier retreated 850 meters between 1996 and 1999; as a result of **black carbon deposits** due to **stubble burning** and **forest fires**
- **Increasing Glacial lakes**
- **Changes in Snow Albedo**
- **Livelihood impact**
- **Respiratory and cardiovascular health impacts on humans**

Short-term and Long-term impacts



Way Forward:

- **Policies in place to reduce black carbon emissions** – Enhancing fuel-efficiency standards, phasing out diesel vehicles, promoting electric cars etc.
- **Aggressively curbing black carbon emissions**
- **New economically and technically feasible policies** can help to contain glacier melt.
- **Regional cooperation** to protect these resources will pay important dividends for the **health and well-being** of the people in the region.

Insta Links: [Black carbon](#)

Prelims Link: UPSC 2021

What is blue carbon?

- Carbon captured by oceans and coastal ecosystems.
- Carbon sequestered in forest biomass and agricultural soils.
- Carbon contained in petroleum and natural gas.
- Carbon present in the atmosphere

Answer: (a)

Mains Link:

Q. What is Black Carbon? Explain the impact of recently witnessed black carbon spikes in the Himalayan glaciers.

DEEP-WATER CIRCULATIONS OF THE INDIAN OCEAN

Context:

New studies have shown that the **global overturning circulation** controls ocean heat distribution and atmospheric carbon dioxide levels, thus playing a critical role in global climate.

What does the new study show?

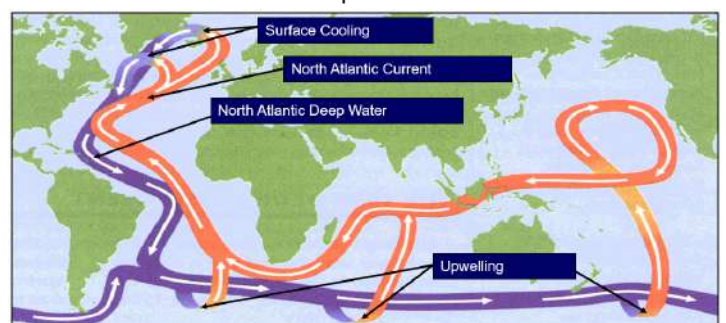
Studies have indicated that **tectonically driven changes in the ocean gateways** such as the closure of the **Central American Seaway** (a body of water that once separated North America from South America), since the late Miocene period, had a dramatic impact on the GOC.

What is Global Overturning Circulation (GOC)?

- It is the **equatorward transport of cold, deep waters** and the poleward transport of warm, near-surface waters.
 - **Atlantic Meridional Overturning Circulation (AMOC)** is one part of this circulation apart from Pacific Deepwater, Southern Ocean Meridional Overturning Circulation etc.
 - AMOC has **undergone exceptional weakening** in the last 150 years compared to the previous 1500 years. Climate models suggest that the AMOC will weaken over the 21st Century as greenhouse gases increase
- It is a **Thermohaline circulation (THC)** and distributes heat and nutrients throughout the world's ocean basins.

Mechanism

GOC carries **warm surface waters** from the tropics towards the Northern Hemisphere, where it cools and sinks. It then returns to the tropics and then to the **South Atlantic** as a bottom current. From there it is distributed to all ocean basins via the Antarctic circumpolar current.



Reasons behind the slowing down of AMOC

The slowing down is anthropogenic impact, and these abrupt changes are destabilizing the AMOC, which could collapse the system. There are various reasons behind the current slowing down

1. **Global warming** can cause a weakening of the major ocean systems of the world.
2. **Melting of Glaciers** - Arctic ice called the "Last Ice Area" has been melting. The freshwater from the melting ice reduces the salinity and density of the water. As the water is unable to sink as it used to, it weakens the AMOC flow.
3. **Warming of the Indian Ocean** - As the Indian Ocean warms faster and faster, it generates additional precipitation, thus reducing the precipitation in the Atlantic Ocean, causing higher salinity in the waters of the tropical Atlantic. This saltier water, as it comes north via AMOC, will get cold much quicker than usual and sink faster.

Mains Links

Q. What is Atlantic Meridional Overturning Circulation (AMOC)? Why is it slowing down, and what are its implications? (10M)

GS2

Indian Constitution

MANDATORY MINIMUM SENTENCES

Context:

A **CJI-led bench** has decided to examine a **petition challenging mandatory minimum sentencing in the case of gang rape of a minor below the age of 12.**

About Mandatory minimum sentences:

As per the 2016 ruling in 'Mohd Hashim vs State of UP And Others'.

- The concept of mandatory minimum sentencing refers to "a **sentence which must be imposed without leaving any discretion to the court. It means a quantum of punishment that cannot be reduced below the period fixed.**

Such sentences are prescribed for **all sexual offenses under the Prevention of Children from Sexual Offences (POCSO) Act except the offense of sexual harassment.**

What are the arguments for and against?

For:

- It **limits the scope for judicial discretion and arbitrariness, thereby enhancing the cause of justice.**

- It **acts as a deterrent** for serious or harsh offenses by ensuring that the perpetrator doesn't go unpunished.

Against:

- This leads to **overcrowding of prisons and is unfair as the convict's mitigating circumstances**, such as if they are a first-time offender or the sole breadwinner in the family, are often overlooked.

Insta Links: [Death penalty](#)

Mains Links:

Q. Examine the issues in awarding a death sentence to a convict in the "rarest of rare" cases. What reforms are needed in humanising the sentencing process? 250 Words

LIVING WILL AND PASSIVE EUTHANASIA

Context:

A five-judge SC bench decided to modify the existing rules for "living wills".

Meaning of 'Living Will': Living will is a **person's right to make an advance directive** about the course of his or her treatment, including the removal of life support, if such a situation arises.

Evolution of the concept of 'Living Will' in India:

- **Law Commission of India (2006)** in its 196th Report: A patient's decision to not receive medical treatment did not constitute an attempt to commit suicide **under Section 309 IPC**. Also, a doctor who obeys the instructions of a competent patient to withhold/withdraw medical treatment **does not commit a breach of professional duty.**
- **Aruna Shanbaug case (2011):** The SC **allowed passive euthanasia** for the nurse lying in a vegetative state at a hospital in Mumbai.
- **K.S. Puttaswamy case/ the Right to Privacy case (2017):** - **Article 21 includes the concept of individual dignity** and thus allows passive euthanasia.
- **Common Cause case (2018):** The SC decided that passive euthanasia will be legally allowed henceforth in India and also laid down guidelines for living wills.
- *"We declare that an adult human being having the mental capacity to take an **informed decision** has the right to refuse medical treatment including withdrawal from life-saving devices. **The right to die with dignity is a part of the right to live with dignity.**"*

Meaning of active and passive euthanasia:

- **Active euthanasia:** involves an active intervention to end a person’s life with substances or external force, such as administering a lethal injection.
- Passive or negative or non-aggressive euthanasia is the **denial of medical care necessary for maintaining life**, such as the denial of antibiotics when the patient is likely to die without them.

What changes after the SC’s recent order?

As per 2018 guidelines	This cumbersome process will now be eased
<ul style="list-style-type: none"> • A living will was required to be signed by an individual seeking euthanasia in the presence of two witnesses. • It was to be further countersigned by a Judicial Magistrate of First Class (JMFC). • The treating physician was to constitute a board comprising three expert medical practitioners, with at least 20 years of experience. • If the board grants permission, the will had to be forwarded to the District Collector for his approval. • The Collector then forms another medical board of three expert doctors, including the Chief District Medical Officer. • Only if this second board agreed with the hospital board’s findings → the decision be forwarded to the JMFC → JMFC will visit the patient and examine whether to accord approval. 	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">NO CASE IN 4 YEARS</p> <p>➤ Rule mandating that the collector would set up review med board for passive euthanasia cases done away with. Now, both primary and review boards will be constituted by the hospital</p> <p>➤ Doctors in the panels need to have 5-year experience, instead of 20 years</p> </div> <ul style="list-style-type: none"> • The requirement for the Magistrate’s approval has been replaced by an intimation to the Magistrate. • The medical board must communicate its decision within 48 hours (no time limit earlier). • A notary or gazetted officer can sign the living will in the presence of two witnesses instead of the Magistrate’s countersign. • In case the medical boards set up by the hospital refuses permission, it will now be open to the kin to approach the High Court which will form a fresh medical team.

Different countries, different laws:

- **NETHERLANDS, LUXEMBOURG, and BELGIUM** allow both euthanasia and assisted suicide (active euthanasia) for anyone who faces “unbearable suffering” that has no chance of improvement.
- **SWITZERLAND bans euthanasia but allows assisted dying** in the presence of a doctor or physician.
- **CANADA** had announced that euthanasia and assisted dying would be allowed for mentally ill patients, however, the decision has been widely criticised.
- **The US** has different laws in different states. Euthanasia is allowed in some states like Washington, Oregon, and Montana.
- **The UK** considers it illegal and equivalent to manslaughter.

Ethical issues associated with Euthanasia:

As we’ve covered this topic previously, kindly follow the link to know more: [The Ethics of Euthanasia](#)

[Functions and responsibilities of the Union and the States, issues and challenges](#)

GOVERNOR-CM RIFT IN TN

Context:

There has been a dispute between the Tamil Nadu Governor and the state government recently.

Background:

- The Governor, while delivering his customary address to the House, **omitted certain paragraphs** from the text prepared by the State government.
 - He left out the references to national and regional stalwarts and the phrase “**Dravidian model of governance**”.
 - He skipped describing Tamil Nadu as “**a haven of peace**” - in terms of the law-and-order situation, its ability to attract foreign investments, etc.

- The CM moved a motion to take on record only the transcript distributed to legislators, **prompting the Governor to walk out of the House.**
- The state government has sought the President’s intervention to ensure that the Governor acts as per **Article 163 (1)** [Council of Ministers to aid and advise Governor] of the Constitution.

What triggered the tussle?

- Since the Governor took office the ruling party (DMK) has demanded his resignation for **failing to forward a Bill to the President.**
- The Assembly passed a Bill to exempt government seats in undergraduate medical and dental courses from the National Eligibility-cum-Entrance Test (NEET).
- Even though the Bill is presently pending Presidential assent, **other Bills are awaiting the Governor’s approval**

Similar instances in the past of Governor- State government tussles:

- **In Kerala**, at least three Governors had skipped sections during their Assembly address since January 1969.
- In 1965, the then **West Bengal** Governor, annoyed by the Opposition’s interruptions, walked out of the Assembly without addressing the House.
- In 1960, then-**President Rajendra Prasad** made certain **corrections** in the printed copies of the address.
- In 1988, then President **R. Venkataraman**, changed (in his address) the expression “My government” to “The government” as the original practice was a part of the British legacy.
- Former President **Pranab Mukherjee** (2012-2017), did not shy away from making suggestions at the appropriate for a.

Governor’s address - The larger issue

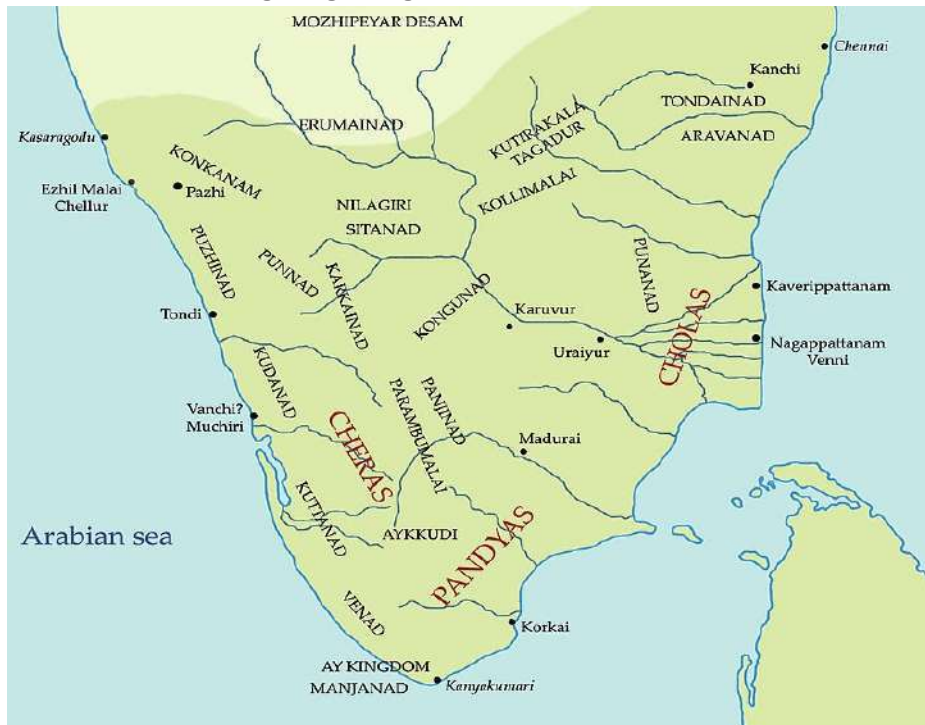
Meaning	Constitutional provisions	Convention	Implications of Governor deviating from the speech
<ul style="list-style-type: none"> • It includes a review of the previous year, goals for the session and policy and legislative measures that the government intends to execute in the next year. • It is produced and submitted to the Governor in advance by the state government. 	<p>Article 176 (Special address by the Governor): The Governor shall address the Legislative Assembly or both Houses (in the case of a State having a Legislative Council), assembled together at the</p> <ul style="list-style-type: none"> • Commencement of the first session after each general election to the Legislative Assembly and • Commencement of the first session of each year <p>Article 87: Special address by the President</p>	<p>The governor must read the entire speech without alteration because it is fundamentally the message of the government, for which the governor’s office bears no responsibility.</p>	<p>Widens the trust deficit</p> <p>May lead to a Constitutional crisis</p> <ul style="list-style-type: none"> • Governor violating Article 163. • The state government may choose not to defend the address, thus losing the confidence of the house.

Conclusion: According to the British constitutional law expert Ivor Jennings, the Governor can correct errors and suggest changes or revisions to the address, but the Cabinet has the final say.

Related topic: History of TN

Context: TN Governor sparked a dispute by stating his preference for the word 'Tamizhagam' to refer to the state rather than Tamil Nadu.

Tamizhagam or ancient TN during Sangam Age:



A short history of Tamil Nadu:

- Social activist E V Ramasamy/ Periyar (1879-1973) started the **Self-Respect Movement** in 1925 to reclaim the identity and self-respect of Tamils.
- He envisaged an independent Dravida homeland of **Dravida Nadu**, comprising Tamil, Malayalam, Telugu and Kannada speakers.
- He launched a political party called the Dravidar Kazhagam (DK) and **opposed the imposition of Hindi** and emphasised the need for a cultural identity of the Tamil nation.
- It was on January 14, **1969**, that the Madras State was officially renamed **Tamil Nadu**, under the then Chief Minister CN Annadurai, who was silent on the demand for an independent Dravida Nadu.
- He instead decided to work for **greater autonomy for Tamil Nadu** and better cooperation among the southern states.

[Insta Links: The office of the Governor](#)

Mains Links:

Q. Though not very useful from the point of view of a connected political history of South India, the Sangam literature portrays the social and economic conditions of its time with remarkable vividness. Comment. (UPSC 2013)

COMING SOON: 16TH FINANCE COMMISSION

Context:

The government will soon kick off the process to set up the **16th Finance Commission**, with the Finance Ministry likely

to notify the terms of reference (ToR) of the constitutional body.

Background:

- The **15th Finance Commission** (FFC chaired by NK Singh) was set up in (November 2017) with a mandate to make recommendations **for the five-year period from 2020-21**.
 - The Commission is **usually granted about two years** to deliberate on its terms of reference, consult States and frame its recommendations.
 - The government **should ideally have its report by October 2025** to consider it in time for **Budget 2026-27**, where it will have to place its action taken report on the Commis-

sion's report.

- Despite the Constitution's mandate **to establish an FC every five years**, breaking the trend, the 15th FC's term was extended by a year, **ending in 2025–2026**.
- In late 2019, the Commission was asked to give a **standalone report for 2020-21** and **another report for an extended five-year** period till 2025-26.
- Since the FFC report **covered six years** (instead of five), the next FC must be selected this year.
- The last time an FC was granted a six-year time frame was for the **9th FC**, formed in June 1987.
- The **10th FC was still constituted in June 1992** within the five-year deadline specified by **Article 280 of the Constitution**, which has not been the case this time.

The first step towards establishing 16th FC:

- **While the ToR (Terms of Reference)** for the 16th FC will be worked out after internal government deliberations steered by the Finance Ministry, **the appointment of an Officer on Special Duty** to drive the process.
- This officer typically becomes the **member-secretary of the Commission**, once it is constituted.

The key challenges for the 16th FC:

- **The co-existence of another permanent constitutional body** - the GST Council.
 - The Council's decisions on tax rate changes **could alter the revenue calculations made by the FC** for sharing fiscal resources.
- The government usually accepts recommendations on States' share of tax devolution and the trajectory for fiscal targets and ignores most other suggestions. For instance,
 - The government **ignored the FFC's suggestion of creating a Fiscal Council**.
 - The government has accepted the FFC's recommendation to set up a **non-lapsable fund for internal security and defence** 'in principle', but its implementation still has to be worked out.

Way ahead:

- **A recourse mechanism** can be put in place for the Commission to revisit its numbers due to the GST Council's decisions.
- The governments must rise beyond politics to deliberate and implement FC's recommendations, which are sound in terms of policy and economics.

What is the Finance Commission?

- It is a **constitutional body** constituted **every 5 years** by the **President of India** under **Article 280** of the Indian Constitution **to define the Centre-state's financial relations**.

Why is there a need for an FC?

- The Indian federal system allows for the **division of power and responsibilities between the Centre and states**.
- Correspondingly, the **taxation powers** are also broadly divided between the Centre (collects the majority of the tax revenue) and states (responsible for delivering public goods in their areas).
- Sometimes, due to this and also due to vast regional disparities, **states may incur expenditures higher than the revenue** generated by them.
- To address these **imbalances**, the FC recommends the extent of central funds to be shared with states.
- Thus, it is considered the **balancing wheel of fiscal federalism** in India.

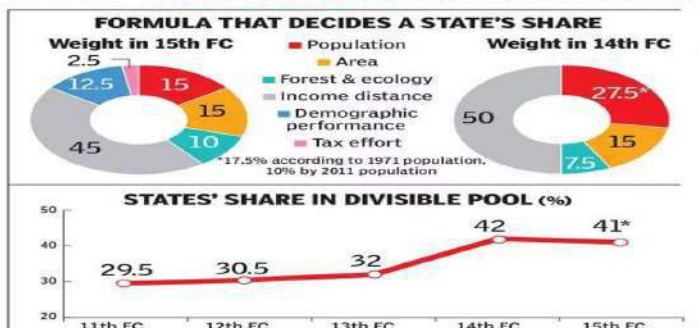
Finance Commission

First FC (1952–57)	Second FC (1957–62)	Current/Fifteenth FC (2021–2026)
Chairman - KC Neogy	Chairman - K Santhanam	Chairman - NK Singh

Article 280 (Indian Constitution Part XII)	Constituted by	Members
Constitution of FC as a Quasi Judicial Body	President of India quinquennially (or earlier)	<ul style="list-style-type: none">• Chairman + 4 members (including an HC Judge) – appointed by President• Authority to decide qualifications – Parliament• Tenure – as specified by the President• Reappointment – Eligible
Makes Recommendations to President about		
<ul style="list-style-type: none">• Distribution of net tax proceeds between Centre and States• Principles for grants-in-aid to the states by the Centre• Evaluates the rise in the Consolidated Fund of a state to affix the resources of Panchayats/Municipalities• Other financial matters referred to it by President		
Powers of a Civil Court As per Code of Civil Procedure 1908		

*Recommendations of the FC are **only advisory and not binding** on the Government

HOW THE BOOTY IS DIVIDED



Insta Links:

[Navigating the storm: On the Fifteenth Finance Commission](#)

Mains Links:

Q. How have the recommendations of the 14th France

Commission of India enabled the States to improve their fiscal position? (UPSC 2021)

Prelims Links: (UPSC 2014)

Which of the following are associated with 'Planning' in India?

1. The Finance Commission
2. The National Development Council
3. The Union Ministry of Rural Development
4. The Union Ministry of Urban Development
5. The Parliament

Select the correct answer using the code given below:

1. 1, 2 and 5 only
2. 1, 3 and 4 only
3. 2 and 5 only
4. 1, 2, 3, 4 and 5

Ans: 3

Judiciary

SUPREME COURT UPHOLDS DEMONETISATION

Context:

The Supreme Court upheld the government's decision to demonetise currency notes of Rs 500 and Rs 1,000 by a 4:1 majority.

Background:

- On November 8, 2016, the PM of India announced that the two notes would no more be legal tender, with immediate effect.
 - Introduced new notes of Rs 2,000 and Rs 500 for public circulation.
 - **Two primary reasons:** to curb fake currency notes and reduce black money stored as cash.
- Though supported by many, **58 petitions** have been filed in the SC challenging various aspects.
- The petitioners accused that **Section 26(2) of RBI Act, 1934**, was not followed: On the **recommendation of the [RBI] Central Board**, the Central Government may, by notification in the Gazette of India, declare that any series of bank notes of any denomination shall cease to be legal tender.
- The court was to consider whether the **recommendation for the policy came from the government or the RBI.**

Arguments for and against demonetisation presented in the SC:

Against (by petitioners)	For (by RBI and government)
<ul style="list-style-type: none"> • As per Section 26(2), the recommendation should have emanated from the RBI. • In this case, the government had advised the central bank, following which it made the recommendation. • Earlier governments had demonetised currency (in 1946 and 1978), by way of a law made by Parliament. 	<ul style="list-style-type: none"> • The said Section does not talk about the process of initiation. • The quorum as determined by RBI General Regulations, 1949, was met for the Central Board meeting. • Though consultations with the RBI began in Feb 2016, the process was kept confidential. • The RBI had not agreed to the previous demonetisation decisions, but the earlier governments made the law.

The SC's (4:1) verdict on demonetisation:

Judgment notes

In a 4:1 verdict, the Supreme Court upheld the demonetisation process. A snapshot of the majority and dissenting observations

 <p>Justice B.R. Gavi (for the majority): Demonetisation notification does not suffer from any flaw in the decision-making process, satisfies the test of proportionality</p>	<p>■ The contention that the notification is liable to be set aside on the ground that it caused hardship to individual citizens will hold no water. Individual interests must yield to the larger public interest sought to be achieved</p>	 <p>Justice B.V. Nagarathna (dissenting): The RBI Act does not envisage initiation of demonetisation of bank notes by the Centre. Sub-section (2) of Section 26 of the Act, contemplates demonetisation of bank notes at the instance of the Central Board of the Reserve Bank of India</p>
---	--	---

- The Centre's notification was **valid and satisfied the test of proportionality** - a reasonable nexus between the objectives and the means to achieve the objectives.
- From the record, it appears that there was a **consultative process** between the central government and RBI for over 6 months before the decision was taken.
- The Decision-making process **cannot be faulted merely because the proposal emanated from the centre** (as the government and RBI are not in 'isolated boxes') and the court cannot replace the wisdom of the executive with its wisdom.
- The action taken by the Central Government has been validated by the **Specified Bank Notes (Cessation of liabilities) Act, 2017**, which prohibited and penalised the holding or transferring or receiving of demonetised currency.

The dissenting judgement:

- While the measure was "**well-intentioned**", it was to be declared **unlawful purely on legal grounds** as the record demonstrates that there was **no indepen-**

dent application of mind by RBI.

- Violation of Section 26(2), as the proposal for demonetisation, is **to emanate from the central board of the RBI** and the demonetisation has to be done **through legislation rather than through executive notification**.

Conclusion:

Most policy decisions carry the risk of unintended consequences, which must be carefully balanced against the potential benefits of such decisions.

[Insta Links: Demonetisation](#)

SC VERDICT ON MPS, MLAS' RIGHT TO FREEDOM OF SPEECH

Context:

The SC held there is **no reason to impose "additional restrictions"** on the right to free speech {under Article 19(2) of the Indian Constitution} of ministers, including MLAs and MPs.

Article 19 (Protection of certain rights regarding freedom of speech, etc.):

(1) All citizens shall have the right-

- (a) to freedom of speech and expression;
- (b) to assemble peaceably and without arms;
- (c) to form associations or unions;
- (d) to move freely throughout the territory of India;
- (e) to reside and settle in any part of the territory of India;

(g) to practise any profession, or to carry on any occupation, trade or business.

(2) Nothing in 19 (1) (a) shall affect the operation of any existing law, or prevent the State from making any law, as far as such law imposes **reasonable restrictions** in the interests of the -

- Sovereignty and integrity of India,
- Security of the State,
- Friendly relations with foreign States,
- Public order,
- Decency or morality, or
- In relation to contempt of court, **defamation or incitement to an offence**.

Background:

- The case (Kaushal Kishor v the State of UP), relates to the Bulandshahar rape incident of 2016, in which the then Minister of the State termed the incident a **'political conspiracy and nothing else'**.

- The survivors then filed a writ petition before the SC and the court raised an important question - **"Whether restrictions can be imposed on a public functionary's right to freedom of speech and expression?"**.

The majority judgement:

- Even if the remarks are related to state affairs or intended to protect the government, **the government is not legally responsible for them**.
- While citizens had the right to petition the Court for violations of Articles 19 and 21 (right to life), a statement made by the Minister that was inconsistent with citizens' rights **may not by itself be actionable**.
- However, if it results in an omission (error) or commission (command) of an offence by a public official, remedies can be sought.

The dissenting opinion:

- Freedom of speech and expression is a **much-needed right** so that citizens are well-informed and educated on governance.
- As a result, the dissenting judge agreed with the majority that **further restrictions on speech were unnecessary**.
- If the statements made by a Minister are **derogatory**, the government should be legally liable.
- The word **'fraternity'** in the Preamble of the Constitution, ensures that the dignity of individuals cannot be harmed by an unwarranted speech by fellow citizens, including public officials.

Conclusion:

Hate speech strikes at the foundational values of society. However, common law remedies are present to address those issues and creating another set of guidelines or laws is a matter for **Parliament to deliberate** (the dissenting opinion).

Insta Links:

[Is the freedom of speech absolute?](#)

Mains Links:

Q. Examine the scope of Fundamental Rights in light of the latest judgement of the Supreme Court on the Right to Privacy. (UPSC 2017)

Prelims Links: (UPSC 2017)

Q. Which one of the following objectives is not embodied in the Preamble to the Constitution of India?

- (a) Liberty of thought
- (b) Economic liberty
- (c) Liberty of expression
- (d) Liberty of belief

Ans: b

HIGH-POWERED COMMITTEE FOR LADAKH

Context:

Recently a **high-powered committee** has been formed in the **Union Territory of Ladakh**.

Need for the committee:

- There has been increasing demand for the **inclusion of Ladakh under the 6th Schedule**.
- Civil society groups in Ladakh have been **demanding the protection of land, resources and employment for the past three years** after the special status of the erstwhile State of Jammu and Kashmir under Article 370.
- The committee will discuss measures to protect the **region's unique culture and language** taking into consideration its **geographical location and strategic importance; ensure the protection of land and employment for the people of Ladakh**; strategies for inclusive development and discuss issues related to the empowerment of the Ladakh Autonomous Hill District Councils of Leh and Kargil.

Sixth Schedule

The sixth schedule under **Article 244** of the Constitution protects the **autonomy of tribal populations** through the creation of **autonomous development councils** which can frame laws **on land, public health and agriculture**. As of now, ten autonomous councils exist in Assam, Meghalaya, Tripura and Mizoram.

NCST Recommendation:

- The National Commission for Scheduled Tribes (NCST) has recommended that the **Union Territory (UT) of Ladakh be included in the Sixth Schedule of the Constitution**.

Reasons behind the demand:

- It is estimated that more than **90% of Ladakh's population is tribal**. The primary Scheduled Tribes (STs) in Ladakh are **Balti Beda, Bot (or Boto), Brokpa (or Drokpa, Dard, Shin), Changpa, Garra, Mon and Purigpa**.

- The Ladakh region has several distinct cultural heritages by communities such as **Drokpa, Balti and Changpa, among others, which need to be preserved and promoted**.

What is the government's stand?

- Not keen to give any special status to Ladakh, the **MHA informed a parliamentary standing committee** recently that the **objective for inclusion of the tribal population under the sixth schedule** is to ensure their overall socio-economic development, which, the **UT administration has already been taking care of and that sufficient funds are being provided to Ladakh to meet its overall developmental requirements**.
- The Ladakh administration recently increased the reservation for the Scheduled Tribes in direct recruitment from **10% to 45% which will significantly help the tribal population in their development**.



Insta Links: [Ministry evades direct reply on demand to include Ladakh under the 6th schedule](#)

Insta Prelims

Q. The provisions in the Fifth Schedule and Sixth Schedule in the Constitution of India are made in order to (UPSC 2015)

- (a) protect the interests of Scheduled Tribes
- (b) determine the boundaries between States
- (c) determine the powers, authority and responsibilities of Panchayats
- (d) protect the interests of all the border States

Answer: A

Q. Which of the following provisions of the Constitution of India have a bearing on Education?

1. Directive Principles of State Policy
2. Rural and Urban Local Bodies
3. Fifth Schedule
4. Sixth Schedule
5. Seventh Schedule

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 3, 4 and 5 only
- (c) 1, 2 and 5 only
- (d) 1, 2, 3, 4 and 5

Answer: C

SC DIRECTION ON ROAD SAFETY

Context:

A Bench led by the Chief Justice of India (D.Y. Chandrachud) agreed that urgent steps need to be taken to enforce **Section 136A of the Motor Vehicles Act, 1988**.

Background:

- **Section 136A** was introduced into the Motor Vehicles Act in 2019 to keep an electronic eye on errant drivers.
- In this respect, the SC directed its committee (led by Justice A.M. Sapre) to meet with the Road Transport Secretary and frame **State-specific guidelines**.
- In its reply, the Centre stated that it has already framed Rules under sub-section (2) of Section 136A, which provides for rules for the electronic monitoring of road safety including speed cameras, CCTV cameras, speed guns, etc.

Data on Road accidents in India:

- According to NCRB data, over 1.5 lakh people died from road accidents in 2021 and **nearly 90% of deaths on the road were due to speeding**, overtaking and dangerous driving.
- According to the World Bank's data from 2019, **India ranked first** among the top 20 countries for road accidents.

The WB's report on women's mobility in India:

- For women, the fear of **sexual assault** is another cause for concern when they traverse public spaces after dark.
- **84% of women's trips** were estimated to be by public transport, and more women tend to walk to work compared to men.

Steps taken by the Indian government:

- **The 2021 National Road Safety Board Rules** require the formation of technical working groups to address issues such as crash investigation and forensics.

STEPS TAKEN BY MINISTRY ON ROAD SAFETY

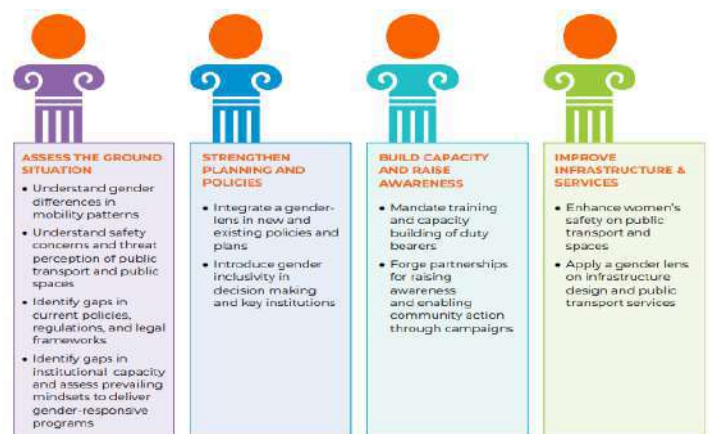
- Approval of National Road Safety Policy
- National Road Safety Council to be the apex body to take policy decisions
- Setting up of State Road Safety Council & District Road Safety Committees
- Road safety now an integral part of road design at planning stage
- Road Safety Audit of selected stretches of National Highways

www.morth.nic.in

सड़क परिवहन और राजमार्ग मंत्रालय
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
भारत सरकार
Government of India

Way ahead for India:

- **Evidence-based preventive interventions.** For example, black spots or accident-prone areas on roads where mishaps happen without the fault of drivers, need to be marked.
- **Sundar Committee's** recommendations need immediate implementation. **For example**, establishing a **centralised national body for road safety** and establishing decentralised responsibility at the district level.
- WB launched a **"Toolkit on Enabling Gender Responsive Urban Mobility and Public Spaces in India"**, suggesting a four-pillared approach.



Brasilia declaration:

The Brasilia Declaration, adopted at the second global high-level conference on road safety held in Brazil, lays down recommendations on **strengthening existing legislations, adopting sustainable transport and strengthening the post-crash response.**

In the declaration, participants reasserted their commitment to reducing the deaths caused due to traffic accidents to half by the year 2020.

This target was set under the 2030 Agenda for Sustainable Development.

Insta Links: [World Bank's new toolkit on Enabling Gender Responsive Urban Mobility](#)

JUDICIAL TAKE ON SAME-SEX MARRIAGE

Context:

The SC transferred to itself (for an authoritative ruling) petitions pending in various HCs seeking legal recognition of same-sex marriage under the **Special Marriage Act (SMA) 1954** and making the law **gender-neutral**.

The Special Marriage Act, 1954:

- It provides for civil marriage (or “registered marriage”) for the people of India and all Indian nationals in foreign countries, **irrespective of the religion** or faith followed by either party.
- Marriages solemnized under the Act are not governed by personal laws.

Background:

- Batches of petitions, filed after the **Navtej Johar case** (which decriminalised homosexuality by reading down section 377 of the IPC), were pending before the Delhi, Kerala and Gujarat HCs.
- These petitions argue that **non-recognition of same-sex marriage amounted to discrimination** impacting the dignity and self-fulfilment of LGBTQ+ couples.
- They also challenge **the mandatory requirement to issue public notice and objection** to marriage contemplated under the SMA and the Foreign Marriage Act, exposing same-sex couples to the risks of **ostracism, persecution and violence.**

What happens in other countries?

- **US:** In 2015, the US SC recognised gay marriage, as limiting marriage solely to heterosexual couples vio-

lated the 14th Amendment guaranteeing equal protection under the law.

- The decision led to a nationwide legalisation of same-sex marriage.
- **Australia, Ireland, Switzerland:** Following a referendum, Australia’s Parliament passed a law recognising the same-sex-marriage.
 - In Ireland and Switzerland too, a popular vote by the majority led to formal recognition of LGBTQ marriages.
- **South Africa** became the **first African country** to legalise same-sex marriages in 2006, as the highest court found the ‘Heterosexual-Only Marriage’ policy to be violative of the equal rights enshrined in the constitution.
- **Taiwan** became the **first Asian country** to recognise same-sex marriage.
- **Argentina** became the **first Latin American country** to allow same-sex marriages nationwide.
- **Canada:** Same-sex couples in Canada have enjoyed the legal benefits of marriage since 1999. In 2005, the Canadian Parliament passed nationwide legislation to this effect.

Marital rights same-sex couples do not enjoy in India



- Government pensions and medical benefits
- Claiming leave travel allowance for partner
- Right to property or inheritance
- Joint adoption
- In case of separation, there is no provision to seek maintenance by the economically weaker partner
- Right to take emergency medical decisions

Insta Links: [Legalising Same-Sex Marriage](#)

Mains Links:

Q. Examine the scope of Fundamental Rights in light of the latest judgement of the Supreme Court on the Right to Privacy. (UPSC 2017)

Prelims Links: (UPSC 2019)

Which Article of the Constitution of India safeguards one's right to marry the person of one's choice?

- (a) Article 19
- (b) Article 21
- (c) Article 25
- (d) Article 29

Ans: b

LOAN RECOVERY VIA LOK ADALAT

Context:

- In 2021-22, the number of non-performing assets (NPAs) referred by banks to various recovery channels, including Lok Adalat and the Insolvency and Bankruptcy Code (IBC), increased fourfold over 2020-21.
- Among all channels, the number of stressed accounts reported to **Lok Adalats** by banks **increased dramatically** in 2021-22.

LOK ADALAT AND ITS FUNCTIONS

NATURE OF CASES TO BE REFERRED TO LOK ADALAT:

- Any case pending under any court.
- Any matter which has not been brought under any court & is probably going to be filed under the court.

WHEN LOK ADALAT TO BE APPROACHED:

- Any case pending previously, or
- Any issue which is falling inside the jurisdiction of, and isn't brought under any court for which the Lok Adalat is organized.

GETTING CASE REFERRED TO LOK ADALAT:

- Case pending under the court.
- Any matter of pre-litigative stage.

LEVELS AND COMPOSITION OF LOK ADALATS:

- STATE AUTHORITY LEVEL:** Refereed judge of the High Court, a social worker
- HIGH COURT LEVEL:** Refereed judge of the High Court, a social worker
- DISTRICT LEVEL:** Refereed judge of the High Court, a social worker, paralegal
- TALUK LEVEL:** Refereed judge of the High Court, a social worker, paralegal
- NATIONAL LOK ADALAT:** Single day Lok Adalats are held all through the nation.
- PERMANENT LOK ADALAT:** Chairman and two members for giving an obligatory pre-litigation system.

Background:

Bank's Loan recovery mechanisms:

- **Lok Adalat:** Conducted by NALSA, the awards of Lok Adalat are final and binding on all parties
- **IBC:** Introduced in 2016 and amended in 2021, IBC provides a time-bound process of resolving the insolvency of corporate debtors (330 days)
- **Debt Recovery Tribunals (DRTs):** Along with Debts Recovery Appellate Tribunals (est. Under Recovery of debts and Bankruptcy Act, 1993) for expeditious adjudication and recovery of debts.
- **Securitisation and Reconstruction of Financial Assets and Enforcement of the Security Interest Act**

(**SARFAESI Act 2002**): Under this, banks can take control of securities pledged against the loan and manage or sell them to recover dues without any court intervention.

Why cases referred to Lok Adalats increased dramatically?

- Banks send stressed accounts worth **up to Rs.20 lakh to Lok Adalats**, which are organised by banks in **collaboration with the district legal service authority**.
- The number of cases referred to Lok Adalats is high since the **cost of recovery through this route is lower** than through DRTs or SARFAESI.
- However, the rate of recovery through this route has been very low (2.3% in 2021-22 and 4% in 2020-21), **as it is very difficult to recover loans from defaulters in the small-ticket loan segment.**

NPA Vs Write-offs

A recent report by RBI (Trend and Progress of Banking in India 2021-22) has highlighted that the gross non-performing assets (GNPA) ratio of SCBs has been declining sequentially from its peak of 9% in 2017-18 to reach 5.8% at end-March 2022.

What are NPA/ Bad loans?

A non-performing asset (NPA) is a loan or advance for which the principal or interest payment remained overdue for a period of 90 days.

What are Writing off of Bad loans/NPA?

Writing off of a loan essentially means it will no longer be counted as an asset. Banks generally do it to reduce the level of non-performing assets (NPAs) on its books.

Why do banks write off?

- If there is very very low chance of recovery of loan, banks write off the loan.
- After the write-off, the lender moves the defaulted loan, or NPA, out of the assets side and reports the amount as a loss.
- After the write-off, banks are supposed to continue their efforts to recover the loan using various options.
- They have to make provisioning as well.
- An additional benefit is that the amount so written off reduces the bank's tax liability
- Write off is different from loan waiver (full cancellation of loan)

	NPA recovery	Recovery in Written-off NPAs	Total Recovery
2014-15	42,387	5,461	47,848
2015-16	40,903	8,096	48,999
2016-17	53,250	8,680	61,930
2017-18	67,107	10,456	77,563
2018-19	102,009	19,067	121,076
2019-20	84,633	24,002	108,635
2020-21	58,495	24,781	83,276
2021-22	68,387	24,130	92,517
Total	517,171	124,674	641,845

Fig: Banks data on NPA and Write offs in different years.

Insta Links: Why NPAs are not just about bank governance

Prelims Links: (UPSC CSE 2017)

Which of the following statements best describes the term 'Scheme for Sustainable Structuring of Stressed Assets (S4A)', recently seen in the news?

1. It is a procedure for considering the ecological costs of developmental schemes formulated by the Government.
2. It is a scheme of RBI for reworking the financial structure of big corporate entities facing genuine difficulties.
3. It is a disinvestment plan of the Government regarding Central Public Sector Undertakings.

4. It is an important provision in The Insolvency and Bankruptcy Code' recently implemented by the Government.

Ans: 2

CASE FOR REFORMING COLLEGIUM: SUGGESTIONS BY LAW MINISTER

Context:

The Union Minister for Law and Justice has written to the CJI suggesting that a nominee of the government should be included in the collegium that makes recommendations for the appointment of judges.

Background:

The suggestion to the CJI comes in the backdrop of -

- An ongoing tussle between the government and the judiciary on the issue of the appointment of judges.
- A Memorandum of Procedure (MoP) is pending finalisation.

What is the MOP?

- It is the **official playbook agreed upon by the government and the judiciary** and governs the collegium system of appointing judges.
- Since the collegium system **evolved through a series of SC rulings** (First (1981), Second (1993) and Third (1998) Judges Cases), the MoP is the bedrock of the process of appointments.
- The MoP was **sought to be re-negotiated after the SC struck down (4:1) 2015 the National Judicial Appointments Commission (NJAC)**.
- **Draft MoPs**, which include eligibility criteria, a new secretariat and a mechanism to deal with complaints against proposed candidates, were exchanged during 2015-17.

The bone of contention in the MoP and SC's take on the appointment process:

- The insertion of a **"national security" clause** that may prevent an appointment was a major point of contention.
- The SC in a 2017 judgement (a suo motu contempt proceeding against Justice C S Karnan, then a judge of the Calcutta HC) highlights,
 - The need to **revisit the process of selection and appointment of judges** to the constitutional courts.
 - The necessity to establish an effective legal regime to deal with situations where the **conduct of a constitutional court judge ne-**

cessitates remedial actions (other than impeachment).

- The SC has initiated a **contempt case against the government** for not adhering to the timelines set out in the MoP and court rulings.

Government's stand:

- The MoP is under finalisation by the Government in **consultation** with the SC Collegium.
- The Parliamentary Standing Committee on Law and Justice voiced concern, given that the MoP had been **pending for more than seven years**.

What does the Law Minister's suggestion imply?

- **Government representatives should be a part of the SC** (CJI and four senior-most judges of the apex court) and HC (Chief Justice and two senior-most judges of a particular HC) Collegiums.
- **A departure from the NJAC**

The opposition to the suggestion:

- This remedy is a **poison pill** for an independent judiciary.
- **A representative of the Government alone** attacks not only the independence of the judiciary but also the competitive balance between the ruling party and the opposition.

LAWMAKERS AND THE CONTENTIOUS LAW

THE TWO SYSTEMS AT LOGGERHEADS

Here's a look at the Collegium and the NJAC systems and a comparison between the two in relation to the powers vested with them and their functioning

COLLEGIUM SYSTEM

Original provision

Under Article 124(2) and Article 217(1) of the Constitution, SC/HC judges have to be appointed by the President after "consultation" with the CJI. Govt was not bound by the CJI's recommendation.

Judicial takeover

In 1993, SC introduced the collegium system taking over primacy in appointments of SC&HC judges.

CJI's primacy

In 1998, a nine-judge Constitution bench ruled that "consultation" must be effective and the CJI's opinion shall have primacy.

Composition

Under the collegium system, a panel of top five SC judges appointed judges in secrecy.

Veto power

Government could return collegium's recommendation. But if a recommendation was sent again, government was bound by it.

NJAC SYSTEM

Constitutional amendment

NJAC was established by the Constitution (99th Amendment) Act, 2014, giving some say to executive in judges' appointment.

NJAC Act

Parliament also passed the National Judicial Appointments Commission Act, 2014 to regulate procedure to be followed by NJAC that replaced collegium system.

Implementation

The 99th Constitutional Amendment Act and NJAC came into force from April 13, 2015. But it could not take off as the CJI refused to join until petitions against the new system were decided.

Composition

CJI, 2 seniormost SC judges, Union law minister, and two eminent persons.

Veto power

NJAC not to recommend person if any two members did not agree.

[Insta Links: The impasse over the appointment of judges](#)

INCLUSIVITY IN JUDICIARY

Context:

- The SC Collegium headed by CJI reiterated its decision to appoint five advocates as HC judges, includ-

ing a senior advocate (**Saurabh Kirpal**), who if appointed, could **be India's first openly gay judge**

- Earlier the government had sought reconsideration of these names
- The importance of diversity and inclusivity in the judiciary
- **Constitutional Morality vs Majoritarian and Social Morality**
- Transformative Constitutionalism and a Living Constitution

What are the objections made by the government?

- A candidate's sexual orientation and his "foreign-national" partner.
- An advocate sharing content critical of the PM on social media.

Government's position behind these objections:

According to the Union Law Ministry, despite the fact that homosexuality is no longer a crime in India, same-sex marriage is still not recognized in either codified statutory law or uncodified personal law.

On what grounds Collegium reiterated its decision:

- **The SC (in Navtej Singh Johar case 2018)**, has established the constitutional position that every individual is entitled to maintain their own dignity and individuality, based on sexual orientation.
- It would be **clearly contrary to the SC's constitutional principles** to reject the candidacy on the basis of sexual orientation.
- There is no reason to believe that the candidate's Swiss national partner would be hostile to India **because his home country is friendly**.
- **All citizens have the right to free speech and expression**, and the views critical to government do not disentitle a candidate from holding a constitutional office so long as s/he is a person of **competence, merit and integrity**.

Significance of appointing a judge of different sexual orientation:

- His appointment will add value to the Bench of the Delhi HC and provide **inclusion and diversity**.
- Diverse judges challenge and enhance one another's perspectives.

Significance of Diversity in our Judiciary:

- It refers to efforts to ensure that the composition of a nation's judiciary reflects the diversity of the population it serves
- Eg: measures to increase the representation of women, minorities, SC/STs, Divyangjan and other vulnerable sections like LGBTQ community.

- "The social & geographical diversity must find its reflection at all levels of the judiciary as diversity on the bench promotes diversity of opinions & efficiency. People from different backgrounds enrich the Bench with their diverse experiences.": Former CJI Ramana.

Conclusion:

Several judgments have advanced and advocated for the rights of the LGBTQIA+ community. We must not sacrifice constitutional morality at the altar of social morality. The SC's decision to make public the Government's objections shed some light on the process, but it also heightens tensions with the Centre. Questions will be raised as to why the Collegium released only three objections, rather than all.

Quotes:

"We cannot change history but can pave a way for a better future. The Constitution is a living organism and it has to be given life. It is time to bid adieu to prejudicial perceptions deeply ingrained in societal mindset."- Navtej Singh Johar v. Union of India

InstaCurious:

DOCTRINE OF MANIFEST ARBITRARINESS:

If a law is drastically unreasonable, capricious, irrational or without adequate determining principle, excessive & disproportionate, it would be manifestly arbitrary.

Eg: Navtej Singh Johar's judgement held that **Section 377 was "manifestly arbitrary"**

The Collegium system and the process for appointing judges to the higher judiciary:

- The Collegium system (headed by the incumbent CJI) is the way by which judges of the SC and HCs are **appointed and transferred**.
- The Collegium system is **not rooted in the Constitution** or a specific law promulgated by Parliament, rather it has **evolved through judgments of the SC**.
- **The Government's role:**
 - Names recommended for appointment reach the Government only after approval by the Collegium.
 - The role of the government in this entire process is **limited to getting an inquiry conducted** by the Intelligence Bureau (IB) if an advocate is to be elevated as a judge in an HC or the SC.
 - The government may also object to and seek clarification on the Collegium's choices, but if the Collegium reiterates the same names, **the government is bound to appoint them**.

[Insta Links: Law Minister's suggestion to CJI on the appointment of judges: The context and background](#)

[Statutory, regulatory and various quasi-judicial bodies](#)

NCPDR DRAFTED GUIDELINES FOR ASSESSING MINORS

Context:

The NCPDR has come up with draft guidelines on the **preliminary assessment of whether certain minors are to be tried under law as adults** in particular cases, under the Juvenile Justice (Care and Protection of Children) Act.

Background:

- Previously, all children under the age of 18 were deemed minors by the law, but **a provision was added to the JJ Act in 2015 that allows a child in conflict with the law to be tried as an adult.**
- In cases of **heinous offences**, a child between the ages of 16 and 18 may be tried as an adult, and the **Juvenile Justice Board (JJB)** must perform a preliminary assessment to determine whether to try such a child as an adult or a minor.
- If tried as an adult, the child may be sentenced to jail, with the **exception of death or life imprisonment**

Need for the NCPDR's draft guidelines:

- Recently, the SC held that the task of preliminary assessment under the JJ Act is a **"delicate task"** and the assessment requires expertise and direction to put in place specific guidelines.
- The NCPDR has framed guidelines which describe the **key procedures to conduct the preliminary assessment.**
- While the course of assessment may differ from child to child, **the guidelines are meant to frame essential components and the basic mechanisms to address any ambiguity.**

The draft guidelines:

- The preliminary assessment has to determine **four aspects**:
 - **The physical capacity** of the child
 - **Mental capacity**
 - **Circumstances** in which the offence was allegedly committed
 - **Ability to understand the consequences** of the alleged offence
- It also states that the **experts** (from the field of child

psychology and psychiatry) **must be given an optimal opportunity** to interact with the child to build a rapport.

- A copy of the assessment (**conducted within 3 months** of the child being produced before the JJB) must be given to the child and a legal aid counsel must be present during the assessment.
- **The JJB must rely on the Social Investigation Report**, statements of witnesses and interaction with parents, guardians, school staff, peer groups and neighbours.

National Commission for Protection of Child Rights (NCPDR):

- It is an Indian **statutory** body established by an Act of Parliament - the Commission for Protection of Child Rights (CPCR) Act, 2005.
- The Commission works under the aegis of the **Union Ministry of Women and Child Development** and became operational in 2007.
- It is mandated to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms align with the Child Rights perspective as enshrined in the Indian Constitution and the UN Convention on the Rights of the Child.
- As defined by the commission, a child includes a person **up to the age of 18 years.**

JJ Act, 2015:

- The Ministry of Women and Child Development introduced the Act to replace the Juvenile Delinquency Law and the Juvenile Justice (Care and Protection of Children) Act of 2000.
- One of the main provisions of the Act is that **minors in conflict with the law between the ages of 16 and 18 can be tried as adults.**

[Insta Links: Juvenile Justice Act amendment may backfire](#)

Mains Links:

Q. Is the National Commission for Women able to strategize and tackle the problems that women face in both public and private spheres? Give reasons in support of your answer. (UPSC 2017)

[Government policies and interventions](#)

GREEN HYDROGEN MISSION

Context:

Union Cabinet has approved the **National Green Hydrogen**

Mission, which is aimed at **making India the global hub** for the production of green hydrogen

Expected Mission Outcomes:

- Development of **Green Hydrogen Production Capacity** of at least **5 MMT** (Million Metric Tonne) per annum
- **Renewable energy capacity** addition of about **125 GW** in the country by **2030**
- **Over 8 lakh crores** in total investments
- Creation of over **6 lakh jobs** by **2030**
- Saving over **1 lakh crore** in **fossil fuel import**
- **Reduction in about 50 MMT** of annual greenhouse gas emissions by 2030

Components of the Mission:

- **SIGHT** (Strategic Interventions for Green Hydrogen Transition Programme) under this, two **financial incentive mechanisms** have been created:
 - **Targeting domestic manufacturing** of electrolyzers
 - **Production of green hydrogen**
- **Strategic Hydrogen Innovation Partnership (SHIP)**: Under this **Public-private partnership framework for R&D** will be facilitated under the mission.
- **Green Hydrogen Hubs**: Regions capable of supporting large-scale production and/or utilization of hydrogen will be identified and developed as Green Hydrogen Hubs
- **Policy Framework**: An enabling policy framework will be developed to support the establishment of the green hydrogen ecosystem.
- **Standards and regulations framework** will be also developed
- **A coordinated skill development programme** will also be undertaken
- **Support pilot projects** in emerging end-use sectors and production pathways

India's status for Green Hydrogen:

- India has just begun to generate green hydrogen with the objective of raising **non-fossil energy capacity to 500 gigawatts** by 2030.
- **Oil India Limited (OIL)** recently commissioned **India's first 99.99% pure green hydrogen plant** in eastern Assam's Jorhat
- **NTPC (in Kawas, Surat)** has started **India's 1st Green Hydrogen Blending** operation in Piped Natural gas (PNG) Network.
- **Petroleum and Natural Gas Regulatory Board (PNGRB)** has given approval for a 5% blending of green hydrogen with PNG (later to be scaled to 20%)

- **Pune Municipal Corporation (PMC)** has collaborated with business management consultant **The Green Billions (TGBL)** to manage its waste and generate it into useable green hydrogen (under the waste-to-hydrogen project)
- **Strategic Clean Energy Partnership (SCEP)** to mobilise finance and speed up green energy development

Benefits of the Mission:

- **Creation of export opportunities** for Green Hydrogen and its derivatives
- **Decarbonization** of Industrial, mobility and energy sectors
- **Reduction in dependence** on imported fossil fuels and feedstock
- Development of **indigenous manufacturing capabilities**
- Creation of **employment opportunities**
- Development of **cutting-edge technologies**

About the Mission:

National Hydrogen Mission was launched on **August 15, 2021**, with a view to cutting down carbon emissions and increasing the **use of renewable sources of energy**.

- **Nodal Agency**: The Ministry of New and Renewable Energy (MNRE) will formulate the scheme guidelines for implementation.
- **All concerned ministries, departments, agencies and institutions of the Central and State Governments** will undertake focused and coordinated steps

InstaLinks:

Prelims Link:

1. [About Green Hydrogen.](#)
2. [How is it produced?](#)
3. [Applications.](#)
4. [Benefits.](#)
5. [About the Hydrogen Energy Mission.](#)

Mains Link:

[Discuss the benefits of Green Hydrogen.](#)

NEW UGC NORMS

Context:

The University Grants Commission (UGC) released the draft UGC (Setting up and Operation of Campuses of Foreign Higher Educational Institutions in India) Regulations 2023.

Background:

The **National Education Policy, 2020**, envisages a legislative framework to allow top global universities to operate in India.

Highlights of the draft:

- It seeks to allow foreign universities -
 - To set up their campuses in India.
 - Decide their admission process, fee structure (to be reasonable), etc.
 - To repatriate funds (to be governed by the Foreign Exchange Management Act, 1999) to their parent campuses.
- The operation of Foreign Higher Educational Institutions shall not be contrary to the -
 - Sovereignty and integrity of India
 - Security of the State
 - Friendly relations with foreign States
 - Public order, decency, morality
 - Standards of higher education in India
- Top 500 global rankings or “reputed” universities are eligible to apply and will be granted approval to operate for 10 years.
- The regulations provide foreign institutions complete autonomy to hire faculty and other staff members either from abroad or in India.
- The UGC will have the right to inspect the campuses at any time and such campuses will not be outside the purview of anti-ragging and other criminal laws.

WHAT DRAFT REGULATIONS SAY		WHO ARE ELIGIBLE	The new National Education Policy (NEP) has envisioned that top universities in the world will be facilitated to operate in India. For this, a legislative framework facilitating such entry will be put in place, and such universities will be given special dispensation regarding regulatory, governance, and content norms on par with other autonomous institutions of India. — M Jagadesh Kumar, UGC chairperson
<ul style="list-style-type: none"> These varsities will have the freedom to decide on admission criteria and fee structure The commission has advised keeping the fees “reasonable and transparent” The foreign institution shall have the autonomy to recruit faculty/staff from India/abroad The varsity to ensure that the foreign faculty stay at the campus for a reasonable period 	WHAT IT ENVISAGES The regulatory framework allowing the entry of higher-ranked foreign varsities will provide an international dimension to higher education, enable Indian students to obtain foreign qualifications at affordable cost, and make India an attractive global study destination	WHO ARE ELIGIBLE Two categories can apply. Universities that have secured a position within the top 500 of overall or subject-wise global ranking or a reputed institution in its home jurisdiction	
FUNDS AND FUNDING <ul style="list-style-type: none"> Cross-border movement of funds and maintenance of foreign currency accounts, mode of remittance, repatriation, and sale of proceeds shall be as per the Foreign Exchange Management Act (FEMA) The operation of foreign HEIs shall not be contrary to the sovereignty and integrity of India, the security of the state, friendly relations with foreign states, public order, decency, or morality An audit report shall be submitted annually to the commission certifying that the operations of the FHEIs in India are in compliance with the Act and related rules, the draft said 			

The application process:

- A web-based portal maintained by the UGC will receive proposals → A committee formed by the UGC will evaluate the applications and make recommendations within 45 days → The selected applicants will be given about 2 years to set up campuses.
- They will have to mandatorily impart education in offline mode.

Significance of the draft:

- Allowing foreign universities will ensure diverse courses, such as in the fields of urban design and fashion design.
- Reduce forex reserve depletion. In 2022 over 4.5 lakhs (four point five) of Indian students went

abroad to study, leading to an outflow of an estimated \$28-30 billion.

- Around 40 million students in India, currently pursuing higher education, will have access to global quality education.

Concerns:

- The national security clause is too restrictive in nature. However, any aggrieved party will have the right to approach the judiciary.
- Campuses in Gujarat’s GIFT will remain outside the purview of the UGC regulations.

Insta Links: [Institutions of Eminence \(IoEs\) to set up campuses abroad](#)

Mains Links:

Q. How have digital initiatives in India contributed to the functioning of the education system in the country? Elaborate on your answer. (UPSC 2020)

REGULATION OF ONLINE GAMING

Context:

The Ministry of Electronics and Information Technology (MeitY) released draft amendments to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, in relation to online gaming.

Background:

- An inter-ministerial task force established by the MeitY to propose the contours of national-level legislation to regulate online gaming had previously made several recommendations.
- The draft of the proposed amendments has been released based on these.

Types of online gaming <ul style="list-style-type: none"> e-Sports - Video games played online Fantasy sports - Dream11 Online casual games - It includes a game of chance, which may be considered as gambling if players bet money or anything of monetary value 	How big is India's online gaming market? <ul style="list-style-type: none"> Between 2017 and 2020, the industry increased at a CAGR of 38% (8% in China and 10% in the US). It is predicted to exceed \$1.5 billion in 2022 and reach \$5 billion by 2025. Number of paying players increased from 80 million in 2020 to 95 million in 2021. 	Need to regulate the market <ul style="list-style-type: none"> Online gaming - a state subject, lacks uniform regulatory oversight Societal concerns - Persons losing big amounts of money on online games, resulting to suicides
--	--	--

What changes are being proposed?

- Defines an ‘online game’: A game that is offered on

the internet and is accessible by a user through a computer resource if s/he makes a deposit with the expectation of earning winnings.

- Companies offering such online games will be **handled similarly to social media companies** in terms of regulatory compliances and obligations.
- **A self-regulatory body:** Online games would be required to register with a self-regulatory body, and only games approved by the authority will be permitted to function lawfully in India. MeitY can recognise and derecognise all self-regulated bodies.
- **Mandatory KYC norms:** Online gaming companies would be compelled to follow the same rules as entities regulated by the RBI.
- **Banning bets on the outcome:** Online gaming companies will not be permitted to accept bets on game outcomes.
- **Chief Compliance Officer:** The platforms are expected to appoint a senior employee, who would coordinate with law enforcement agencies to ensure compliance with their orders.
- **Nodal Contact Person:** To facilitate the necessary coordination at any point of the day. **Grievance redressal:** The platforms must have in place an appropriate mechanism for the receipt and resolution of grievances.

Significance of the proposed changes:

- **Safeguard the interests of users** (especially women and children).
- Addresses the discourse in the sector about the definitions of a **'game of skill'** (used in the Public Gambling Act (1867) but had not been defined) and a **'game of chance'**. The term 'game of skill' had been.
- **Endeavours to provide for greater transparency.** For example,
 - Operators would have to inform the user about the policy related to the withdrawal or refund of their deposit.
 - Addiction is to be combated using repeated warning messages while playing a certain game.
- These rules **will help curb the menace of anti-national** and illegal offshore gambling platforms.

What are some of the concerns?

- The rules **group all gaming intermediaries together**, regardless of size or risk.
- They all require **similar compliances**, including the requirement for executives to be based in India.
- This might place an **undue burden on young start-ups** and make it difficult for global players to launch services in India.

Global practices:

- **China** has placed strict limits on the time young people may spend playing online games and an online game must obtain approval before its launch.
- **In the U.S.**, Internet casino gaming remains illegal in every state that doesn't explicitly legalise the games.
- **Germany's** "Youth Protection" laws aimed at regulating violent games require developers to replace realistic red blood with a green version.
- **Australia** has sought to ban games for including depictions of everything from assault to marijuana use.

Conclusion: On the one hand, the proposed rules seek to expand the online gaming market and stimulate innovation, while on the other, they seek to regulate the online gaming market in India in order to protect users' interests.

VOLUNTARY VEHICLE-FLEET MODERNIZATION PROGRAM (V-VMP)

Context:

As per the **Ministry of Road Transport and Highways (MoRTH)**, **11 states and UTs** have joined the **National Single window system (NSWS)** for the **Voluntary Vehicle-Fleet Modernization Program (V-VMP)**.

- It will **encourage private investment** in the ecosystem for car recycling
- **The National Single window system (NSWS)** was created by DPIIT (Ministry of Commerce and Industry)

What is the vehicle scrapping policy?

The Vehicle Scrapping Policy is a **government-funded programme** to **scrap old and unfit vehicles** and replace them with modern and new vehicles on Indian roads. The primary goal of the policy is to create an ecosystem for **phasing out unfit and polluting vehicles** to achieve a **lower carbon footprint** in the country.

THE ECONOMICS

Can yield between ₹15,000 & ₹40,000 for four-wheelers (after scrapping cost and margin)

₹1 to ₹1.5 lakh for trucks

₹10 to ₹15,000 for two-wheelers

ORGANIZED SCRAPPING

MPS processes obsolete vehicles and white goods from individuals, government-facilitated auctions and insurance firms, among others

In the next step, the items not fit for recycling are dismantled and the remaining metal scrap is shredded

Heavy-duty magnets are utilized to sort the ferrous metal, such as iron, from the non-ferrous metal, such as aluminium and copper

The ferrous/non-ferrous and other remaining parts are sold through e-commerce portal

UNORGANIZED SCRAPPING

A huge market but vehicles are simply disassembled and are typically not recycled at source but are sold to scrap dealers

Some of them are sent to dump yards

MAJOR INPUTS IN CARS

- Steel | About 65%
- Aluminium | About 7%
- Copper | About 1%
- Lead and other material | About 13%
- Rubber and Plastics | About 15%

ABANDONED VEHICLES

No dedicated policy to scrap abandoned vehicles yet

Once confiscated, such vehicles find place at police stations or open grounds

V-VMP came into effect from April 1, 2022

About Vehicle Scrapping

Benefits of Vehicle Scrapping

- 25-30% cut in vehicle tax
- Better fuel efficiency
- Safety features like air bags, ABS
- Boost to manufacturing in auto sector

Implementation process of V-VMP Scheme

- Submission of vehicle docs
- Electronic document validation
- Collection of vehicle and V-VMP certificate issuance
- Recycling and shredding of old vehicle
- Replacement vehicle purchase
- Excise duty rebate
- Total discount value

Visit Insights IAS Daily CA for detailed News

Context:

The first Jharkhand Migrant Survey (JMS) was recently conducted across 24 districts of the state.

Background:

- The initiative is part of the state's **Safe and Responsible Migration Initiative (SRMI)**, which was launched in 2021-end and includes the preparation of a database of migrant workers.
- Apart from Jharkhand, **Kerala** too has been a **pioneer in this field**, followed by states like Tamil Nadu and Punjab.

Purpose of Conducting the Survey:

- Evidence-based informed policy-making for targeted welfare delivery:** data from the survey will help design appropriate state policies to address welfare issues of migrant workers in the state
- To map the major sectors of engagement for migrant workers,
- Find the social security benefits available to their families and
- Identify the health hazards they face.
- To check last-mile service delivery and understand how safe migration is being facilitated

Overview of Migration:

- Migration is the **movement of people away from their usual place of residence**, across either internal (within the country) or international (across countries) borders.
- As per the 2011 Census data, India had **45.6 crore migrants in 2011** (38% of the population) compared to 31.5 crore migrants in 2001 (31% of the population).
- 99% of total migration was internal** and immigrants (international migrants) comprised 1%.

Patterns of Migration:

- Internal migrant flows** can be classified on the basis of origin and destination.
 - i) rural-rural (largest - 54%), ii) rural-urban, iii) urban-rural and iv) urban-urban.
- Another way to classify migration is: **(i) intra-state, and (ii) inter-state.**
 - In 2011, intra-state movement accounted for almost 88% of all internal migration (39.6 crore persons).
 - As of 2011, UP (83 lakh residents) and Bihar were the largest source of inter-state migrants while Maharashtra (60 lakh people) and Delhi were the largest receiver states.

Related News

Over 75 thousand approvals were granted on National Single Window System Portal for various Central and State/UTs clearances

- Various government schemes including **Vehicle Scrapping Policy, Indian Footwear and Leather Development Policy (IFLDP)**, and **Sugar and Ethanol Policy** onboarded on NSWS
- NSWS was launched in **September 2021 (Ministry of Commerce and Industry)**
- Currently, **Investors can apply for approvals from 27 Central Ministries/Departments** and 19 States/UTs on the portal.
- The portal is envisioned as a **one-stop shop for investors for taking all the regulatory approvals** and services related to investments.
- NSWS initiative is an example of the **'Whole of Government' approach** with different Central Ministries/Departments, States and UTs coming together to facilitate investor-related clearances on a single portal, with transparency and accountability, enhancing the ease of doing business exponentially.

Insta Links:

[Vehicle scrappage policy](#)

Prelims Link:

- Key features of the policy.
- Applicability.
- Incentives.

Mains Link: Discuss the issues associated with the policy.

JHARKHAND'S 1ST SURVEY OF MIGRANTS

Reasons for internal migration and Size of the migrant labour force:

- Overall, 8% of people moved within a state for work (21% of male migrants and 2% of female migrants).
- Movement for work was **higher among inter-state migrants** - 50% of male and 5% of female interstate migrants.
- As per the Census, **there were 4.5 crore migrant workers in 2011**, which, according to the Working Group Report on Migration, underestimates the migrant worker population.

Issues faced by migrant labour:

- **Article 19(1)(e) of the Constitution**, guarantees all Indian citizens the right to reside and settle in any part of the territory of India, subject to reasonable restrictions in the interest of the general public or protection of any scheduled tribe.
- However, people migrating for work face key challenges including:
 - **Lack of social security and health benefits** and poor implementation of minimum safety standards law,
 - **Lack of portability of state-provided benefits** especially food provided through the public distribution system (PDS) and
 - **Lack of access to affordable housing** and basic amenities in urban areas.

Steps taken by the government with regard to migrant labour:

STEPS ANNOUNCED FOR WORKERS

- | | |
|--|---|
| ■ Migrants covered under the National Food Security Act or through any state government scheme will be provided 5 kilograms of grains and 1 kg of <i>chana</i> per family in a month | ■ MGNREGA work to be continued during the monsoon season as well; state governments advised to provide work to migrants through MGNREGA |
| ■ A scheme under the Pradhan Mantri Awas Yojana for migrant labour or urban poor to provide ease of living at an affordable rent | ■ Labour law changes to be made by taking the legislative route |
| ■ National portability of public distribution cards by March 2021 | ■ A special credit facility to help 5 million street vendors with a working capital of up to ₹10,000 crore |

Way ahead: Four labour codes - Code on Wages 2020, Industrial Relations Code 2020, Social Security Code 2020 and Occupational Safety, Health and Working Conditions Code 2020 - needs to be notified soon.

Conclusion:

- In India, the **Concurrent List** includes the subject of labour. Therefore, it is necessary for the central and state governments to work together to develop a plan for the welfare of migrant workers

Insta Links: [Remote voting for migrant workers](#)

CONTENT OF “NATIONAL IMPORTANCE”

Context:

The Information and Broadcasting (I&B) Ministry issued a fresh advisory for the implementation of the **Guidelines for Uplinking and Downlinking of Television Channels in India 2022**.

Background:

- **Uplink** is a term used to describe a communication line used to send electronic messages to satellites.
- On the other hand, **downlinking refers to the communication path utilised** to receive the satellite's electronic communications.
- The Union Cabinet had approved the 2022 Guidelines to **ease the issue of permissions to the companies/ limited liability partnerships (LLPs) registered in India for**
 - Uplinking and Downlinking of TV Channels,
 - Setting up of Teleports/ Teleport Hubs,
 - Use of Digital Satellite News Gathering (DSNG)/ Satellite News Gathering (SNG)/ Electronic News Gathering (ENG) systems,
 - Uplinking by Indian News agencies and temporary uplinking of a live event.

The benefit of the new guidelines: It will replace those operational since 2011, would -

- Ease of compliance for the permission holder
- Ease of Doing Business
- Simplification and Rationalization, etc.

Highlights of the I&B Ministry's fresh advisory:

- It mandates '**public service broadcasting**' of **national and social importance** (with effect from March 1, 2023) for private TV channels through **voluntary compliance and self-certification**.
- It said the content could include the themes of -
 - Education and spread of literacy,
 - Agriculture and rural development,
 - Health and family welfare,
 - Science and technology,
 - The welfare of women and the weaker sections of society,
 - Protection of the environment and cultural heritage and
 - National integration, etc., and **could be extended to include similar subjects such as water conservation**, disaster management, etc.
- The content **need not** be of **30 minutes at a stretch** and shall be accounted for cumulatively on a monthly basis i.e. 15 hours per month.

- The broadcasters have the liberty to modulate their content. **For example**, the topics of national importance and social relevance **embedded in the programmes** broadcast by private TV channels **would qualify for their obligation**.
- The broadcasters would be required to submit a monthly report on the **Broadcast Seva Portal** on compliance.
- The broadcasters will have to keep a record of the content telecast for 90 days.

[Channels in India 2022](#)

Mains Links:

Q. Has digital illiteracy, particularly in rural areas, coupled with a lack of Information and Communication Technology (ICT) accessibility hindered socio-economic development? Examine with justification. (UPSC 2021)

[Issues related to Education](#)

Exemptions from the public service broadcasting obligation:

- Any content transmitted **from midnight to 6 a.m.**
- **Foreign channels**, downlinking in India [in languages other than those specified in the **8th schedule of the Indian Constitution**].
- The channels broadcasting [more than 12 hours] sports and devotional/spiritual/yoga content **shall be exempt from furnishing the monthly reports** on the Broadcast Seva Portal.

Conclusion:

According to a FICCI-EY report, with television subscriptions estimated to add another 42 million by 2025 from 178 million in 2021, public service broadcast is not a bad idea in a diverse country with myriad issues.

Insta Links:

[Guidelines for Uplinking and Downlinking of Television](#)

BRIGHT SPOTS, AREAS OF CONCERN IN ASER 2022

Context:

Following two years of school closures caused by Covid-19, the recently released **17th** Annual Status of Education Report (ASER) for 2022 contains both bright spots and areas of concern.

Background:

- **Pratham**, a non-governmental organisation (NGO), has been surveying children aged 6 to 14 and publishing ASER since 2005 to track trends in school enrolment, attendance, and reading and arithmetic abilities.
- **This year's report** (published after 2018) surveyed 7 lakh children in 19,060 villages across 616 districts across the country.

ASER 2022	
Bright spots	Areas of concern
<ul style="list-style-type: none"> • School enrolment touched a record high (98.4% in 2022, 97.2% in 2018) • The proportion of girls (aged 11-14) not enrolled has reduced (10.3% in 2006, 4.1% in 2018, 2% in 2022) • The percentage of children (aged 11 - 14) enrolled in government schools has risen from 65% in 2018 to 71.7% in 2022 • A small, steady increase in the children availing private tuitions (from 26.4% to 30.5% between 2018-22) • Improvement in the AVAILABILITY OF SMARTPHONES <ul style="list-style-type: none"> • In 2022, the availability of smartphones in the homes of enrolled students has nearly doubled from • % of CHILDREN NOT GOING TO SCHOOL: <ul style="list-style-type: none"> • It has dropped to 2% or below for the first time in 2022 • Even after prolonged school closures during the pandemic period, the proportion of children not enrolled in school continued to decline between 2018 and 2022. 	<ul style="list-style-type: none"> • Drop in learning levels of foundational literacy and numeracy (FLN) • For example, in 2022, the basic reading ability of children in Class 3 dipped by 6.8% points from 27.2% in 2018 and the proportion of children in Class 3 who could do at least subtraction fell to 25.9% (from 28.2%)

What can be deduced from the ASER 2022 findings?	Govt scheme to promote FLN	Way ahead
<p>Why has enrolment in government schools increased? Improvements in infrastructure; distribution of textbooks, midday meals during lockdown; job losses, and the closure of budget private schools in rural areas.</p> <p>Why did private tuition increase? More flexible to adapt (If a person is unable to pay, they can pay later) and provided extra assistance to children when schools were closed.</p>	<ul style="list-style-type: none"> • The National Education Policy 2020 • The National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN) Bharat • Foundational Literacy and Numeracy mission 	<ul style="list-style-type: none"> • Integration between the Anganwadi and school systems is critical. • Particularly the education component of the Anganwadi system must be adequately funded.

Conclusion:

FLN is critical for increasing the country's productivity in terms of human capital. As a result, the government's priority should be to raise learning and teaching standards.

Insta Links: [Needed, education data that engages the poor parent](#)

Mains Links:

Q. National Education Policy 2020 is in conformity with Sustainable Development Goal 4 (2030). It intends to restructure and reorient the education system in India. Critically examine the statement. (UPSC 2020)

SCHOOLS WITHOUT BARRIERS

Issues affecting children with disability/disabilities (CWD):

- **'State of the Education Report for India 2019: Children with Disabilities'** by UNESCO mentioned that CWD comprises 1.7% of the total child population in India (Census 2011).
- **Physical:**
 - Inaccessible school buses
 - Inaccessible facilities in schools (drinking water facilities, canteens, and toilets)
 - Inappropriate infrastructure in classrooms (uncomfortable seating, slippery flooring, and low illumination)
- **Institutional:** Lack of policy implementation by agencies
- **Social:** Misinformed attitudes and perceptions among parents, teachers, staff, and communities
- **Communication barriers**
- **Economic** burden and lack of opportunities

Solutions to deal with these issues:

- Policy level:
 - **Actualizing the zero-rejection policy** in schools (e.g., Sarva Shiksha Abhiyan)
 - **Infrastructure should include:** Equitability, Usability, Durability, Affordability, Cultural adaptability, and Aesthetic appeal
- Institutional Level:
 - **Awareness and sensitization programmes** for children, parents, and caregivers
 - **Training trainers for upskilling of school faculty and special educators**
 - **Technical training for local government departments**
 - **A co-learning platform** for knowledge-sharing between all
- **Civil Society and organizations:**
 - **UN-Habitat India: 'Leave No One Behind' Project** (main pillar of Accessible India Campaign)
- ICT Solutions to Support **Universal Design for Learning**
- **Storybooks in local spoken and sign languages**



Conclusion:

Developing inclusive and accessible schools will help challenge perceptions about children with disabilities and actualise the zero-rejection policy in schools

InstaCurious: The UN SDG 4 is to “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Insta Links: [Disability Right](#)

Mains Links:

Q. Unless there is educational inclusion of the disabled, the goal of inclusiveness and empowerment will remain elusive. Comment in light of recently released the draft of the national policy for persons with disabilities. (15M)

ALL INDIA SURVEY ON HIGHER EDUCATION (AISHE) 2020-2021

Context:

The Union Ministry of Education released data from the All-India Survey on Higher Education (AISHE), 2020-2021, which showed a 7.5% increase in student enrolments across the country.

About ASIHE Report:

- The All India Survey on Higher Education (AISHE) was initiated in 2011, during which data for the year 2010-11 was collected.
- The entire survey was conducted through electronic mode and a dedicated portal <http://aishe.gov.in> was developed for this purpose.

Key findings from the report:

For the first time, the Higher Education Institutions (HEIs) of India have filled their data using an entirely online data collection platform through the Web Data Capture Format (Web DCF) developed by the Department of Higher Education and the National Informatics Centre (NIC).

Number of Institutions

- The number of universities has increased by 70 during 2020-21, to 1,113 in 2020-21 from 1,043 in 2019-20.
- Uttar Pradesh, Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Madhya Pradesh, Andhra Pradesh, Gujarat, Telangana, and Kerala are the top 10 States in terms of the number of colleges.
- Among the districts, the maximum number of colleges (1058) is situated in Bangalore Urban followed by Jaipur (671). About 32% of colleges are situated in 50 districts.
- Student Enrolment in Higher Education:

- Total enrolment in higher education: It has increased to nearly 4.13 crore in 2020-21 from 3.85 crore in 2019-20 (an increase of 28.80 Lakh).
- Female enrolment increased from 18.8 million in 2019-20 to 20.1 million in 2020-2021
- SC: There were 2 lakh more SC students who got enrolled in 2020-21 compared to the previous year.
- ST: The year also saw about 3 lakh more ST students and 6 lakh more OBC students getting enrolled for higher education.
- According to the survey report, at the undergraduate level, enrolment was highest in humanities (nearly 33%), followed by science (nearly 15%), commerce, and engineering & technology. At the postgraduate level, the maximum number of students opted for social science followed by science
- Gender Parity Index (GPI) has increased from 1 in 2017-18 to 1.05 in 2020-21. More women enrolled themselves on science courses than men
 - The Gender Parity Index is a socioeconomic index usually designed to measure the relative access to education of males and females. This index is released by UNESCO.
- The top 6 States in terms of Student Enrolment are Uttar Pradesh, Maharashtra, Tamil Nadu, Madhya Pradesh, Karnataka, and Rajasthan.

Teaching and Non-Teaching Staff in Higher Education:

- The number of teachers has increased by 47,914 in 2020-21 over 2019-20.
- There are 75 female teachers per 100 male teachers.
- Out-Turn
- The total number of pass-outs has increased to 95.4 Lakh in 2020-21 as against 94 Lakh in 2019-20.

Significance of Higher Education:

- Atmanirbhar Bharat: Self-reliant India needs a continuous supply of trained, skilled human resources
- Demographic Dividend
- Better Employment opportunities
- Economic development
- Technological advancements
- Solving Societal Issues
- Plurality, Inclusivity & Diversity: To develop the horizons of the mind, it is important to provide a diversified, plural environment.
- Empowerment of Women
- Initiatives for Higher Education in India:
- National Education Policy (NEP) 2020
- Rashtriya Uchchar Shiksha Abhiyan (RUSA)
- Project Education Quality Upgradation and Inclu-

sion Programme (EQUIP)

- **Prime Minister's Research Fellowship (PMRF):** Attract the talent pool of PhD programmes
- **Paramarsh/Mentor-Mentee Relationship:** Under this scheme, **accredited institutions would help aspiring institutions that want to get accredited.**
- **Scheme for Promotion of Academic and Research Collaboration (SPARC):** It aims to improve the research ecosystem
- **Global Initiative for Academic Network (GIAN):** It aims to tap the talent pool of scientists and entrepreneurs from abroad.
- **Formation of Higher Education Financing Agency (HEFA):** It aims to **finance the creation of capital assets in premier educational institutions in India.**
- **Institutes of Eminence (IoE) Scheme:** It aims to provide opportunities for a few chosen institutions to grow in the direction of being renowned globally for their excellence.
- **SWAYAM Portal**

Way Forward:

- There is a need to shift focus from **enrolment to attendance.**
- **Multi-stakeholder approach:** Extensive consultation involving parents, local self-governments, and civil society are key.

[Insta Links: Higher Education in India](#)

Mains Link:

Q. "Commercialization of higher education in India is bound to create issues of access and exclusion". Critically comment on the statement and suggest measures to address the related issues. (15M)

Issues related to Health

WHAT PLAGUES RURAL HEALTHCARE?

Context:

According to the Union Ministry of Health & Family Welfare's **Rural Health Statistics 2021-2022**, India's rural healthcare system continues to be plagued by a shortfall on two critical fronts - **doctors and infrastructure.**

The Indian healthcare system is divided into:

- **Sub-centres (SC):** These are the first point of contact for a patient, catering to a population of 3,000-5,000.

- **Primary Health Centres (PHC):** SC is succeeded by a PHC, which is required to look after the daily needs of 20,000-30,000 people (50,000-75,000 in urban areas).
- **Community Health Centres (CHC):** They provide referrals and access to specialists, catering to 80,000-120,000 people (0.25-0.5 million in urban areas).

Key highlights of the Rural Health Statistics 2021-2022:

- There is a shortage of 83.2% of **surgeons**, 74.2% of **obstetricians and gynaecologists**, 79.1% of **physicians** and 81.6% of **paediatricians.**
- Less than half the **PHC (45%)** function on a 24x7 basis.
- Of the 5,480 functioning CHCs, only 541 have all four specialists.
- **SC, PHC and CHC facilities are overburdened** across the board, with SCs currently looking after more than 5,000 people, PHCs catering to 36,049 people and CHCs to 164,027 people.
- This, coupled with a **human resource shortage** (like auxiliary nurse midwives - ANM), plagues access to adequate and quality healthcare.
 - The shortage was most pronounced in Uttar Pradesh, Gujarat, Himachal Pradesh, Odisha and Uttarakhand.
 - **SCs, PHCs and CHCs had more staff in 2021**, at the height of the deadly second wave of COVID-19, as compared to now.

Other challenges faced:

- Low quality of care
- Poor accountability
- **Absenteeism:** "Even if the personnel are present, their level of participation in providing health services, may not be at desirable levels due to lack of supplies, inadequate infrastructure facilities, poor monitoring of the staff, and so on."-Economic Survey 2018-19
- Lack of awareness
- Limited access to facilities
- According to the National Health Profile (NHP) 2019, there are only **1.5 government hospitals per 100,000 population in rural India**, compared to 3.5 in urban areas

Government initiatives to transform rural healthcare:

- **Under Ayushman Bharat**, the existing SCs and PHCs are being transformed into **AB-Health and Wellness Centres (HWCs)** to deliver preventive, curative, palliative and rehabilitative services which are universal, **free and close to the community.**
- **PM Ayushman Bharat Health Infrastructure Mis-**

sion (PM-ABHIM) envisages increased investments in public health to provide better access to health in rural areas by:

- Strengthening of HWCs in villages and cities for early detection of diseases
- Support for Block Public Health Units (BPHU) in 11 high-focus States
- Integrated district public health laboratories in all districts, etc.
- **National Ambulance Service** under National Health Mission (NHM) for free transportation to health facilities.

Contribution of the National Rural Health Mission (NRHM):

- While there has been a decline in the past year, a **huge improvement has been recorded as compared to 2005**, when the government launched the NRHM (now subsumed under NHM).
- **For example**, the number of allopathic doctors at PHCs has increased from 20,308 in 2005 to 30,640 in 2022, which is about a 51% increase.

Conclusion:

- The focus should be placed on **improving rural healthcare infrastructure and human resources**. This will ensure that Indians living in even the most remote areas have access to effective healthcare.
- This would be in line with India's commitments as a welfare state and would also aid in the achievement of **SDG 3 - Health for All**.

InstaCurious:

Human Resources for Health (HRH)

As per **WHO**, Human Resources for Health (HRH) are defined as **"the stock of all individuals engaged in the promotion, protection or improvement of population health"**. This includes both public and private sectors and different domains of health systems, such as personal curative and preventive care, non-personal public health interventions, disease prevention, health promotion services, research, management and support services

Health systems require human resources for health (HRH) to ensure healthcare for all. According to the World Health Organisation (WHO), HRH scarcity primarily affects low- and lower-middle-income countries (LICs and LMICs) like India

Quote:

Dr Devi Shetty, one of India's most renowned doctors, re-

marked, **"Beds do not treat people. Doctors, nurses, and paramedics are the ones who do it."**

Insta Links: [Rural Healthcare](#)

Mains Links:

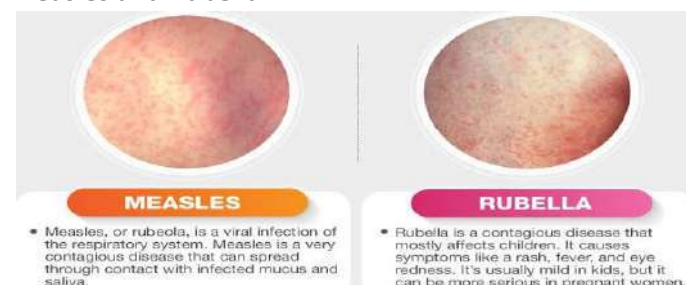
Q. Appropriate local community-level healthcare intervention is a prerequisite to achieving 'Health for All' in India. Explain. (UPSC 2018)

PLAN TO ERADICATE MEASLES, RUBELLA

Context:

India set a goal (in 2019) to eradicate measles and rubella (MR) by 2023 after missing the previous deadline of 2020.

Measles and Rubella:



- **Rubella isn't the same as measles**, but the two illnesses share some signs and symptoms, such as the **red rash**.
- **Rubella is not as contagious or harmful** as measles and is brought on by a different virus.
- While measles has a **high fatality rate**, **rubella infection in a pregnant woman will have an impact on the foetus**, resulting in birth defects.
- **The measles-mumps-rubella (MMR) vaccine** is highly effective in preventing MR and provides lifelong protection against them.
- Over the past two decades, the measles vaccine is estimated to have **averted more than 30 million deaths globally**.

Why is eliminating MR crucial?

- **WHO: The measles virus** is one of the world's most contagious human viruses that kills more than 1,00,000 children every year globally and rubella is a leading cause of birth defects.
- An outbreak of measles in **Maharashtra in 2022, particularly in Mumbai**, killed 15 children among several hundred who contracted the infection.

What has India done to achieve targets?

- **During 2010-2013**, India conducted a phased measles catch-up immunisation for children aged 9

months-10 years in 14 States, vaccinating approximately 119 million children.

- **Mission Indradhanush** was launched in 2014 to vaccinate the unvaccinated.
- **During 2017–2021**, India adopted a national strategic plan for MR elimination, and introduced rubella-containing vaccine (RCV) into the routine immunisation programme, besides launching a nationwide MR supplementary immunisation activity (SIA) catch-up campaign.
 - Additionally, it changed the focus of acute fever and rash surveillance from **out-break-based to case-based**.
 - Also, the number of laboratories in the MR network has more than doubled.

What needs to be done to achieve the target?

- **Immunisation at 95%** for under one- year olds.
- **District based approach** -
 - Give each district a target to achieve the required rate of immunisation,
 - Conduct a robust fever and rash surveillance programme, testing for MR.
- Progress monitoring and **additional inputs** to the districts lagging in implementation.
- **Provision of full support** (improve their service conditions, and salaries) **to the ground-level staff** (village health nurses, ASHA, Anganwadi and ICDS workers).

Conclusion:

- Having **strong immunisation infrastructure**, States like **Tamil Nadu and Kerala** will reach the targets easily, unlike the other States where more effort will be needed to do so.
- As the saying goes - **“a threat of infection anywhere is a threat everywhere,”** India needs to improve its surveillance by finding, investigating, collecting, and testing a sample for every suspected case in every district across every State and UT.

Insta Links: [Measles](#)

Prelims Links: (UPSC 2014)

Consider the following diseases

1. Diphtheria
2. Chickenpox
3. Smallpox

Which of the above diseases has/have been eradicated in India?

1. 1 and 2 only
2. 3 only
3. 1, 2 and 3

4. None

Ans: 2

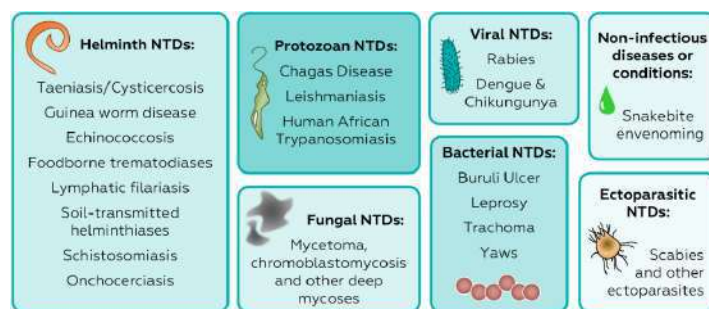
NEGLECTED TROPICAL DISEASES DAY

Context:

WHO published the **“Global report on neglected tropical diseases 2023”** on **World NTD Day — January 30, 2023**.

About Neglected Tropical Diseases:

- NTDs are a group of **20 conditions** mainly prevalent in tropical areas where people do not have access to clean water or safe ways to dispose of human waste.
- Caused by: **pathogens, including viruses, bacteria, parasites, fungi, and toxins.**
- NTDs are **most common among marginalized communities in the developing regions of Africa, Asia, and the Americas.**



Key Findings of the report:

- **16 countries** accounted for 80 per cent of the global NTD burden.
- Highlights the tremendous effects COVID-19 had on **community-based initiatives, access to healthcare facilities, and healthcare goods supply chains.**

About WHO Neglected Disease roadmap is WHO’s blueprint to drive global efforts in the fight against NTDs in the context of the United Nations Sustainable Development Goals.

Global Initiatives:

- **London Declaration on NTDs:** It was adopted on **30th January 2012** to recognize the global burden of NTDs.

NTDs in India:

- India carries the **largest burden of at least 11 of these diseases**, with parasitic illnesses like **kala-azar and lymphatic filariasis** affecting millions of people throughout the country – often the poorest and most vulnerable.

Indian Initiatives to tackle NTDs:

- A **WHO-supported** regional alliance was established

by the governments of India, Bangladesh, and Nepal in 2005 to expedite early diagnosis and treatment of the most vulnerable populations and improve disease surveillance and control of sandfly populations (Kala-azar).

- India has already eliminated several other NTDs, including guinea worm, trachoma, and yaws.

[Insta Links: Neglected Tropical Diseases \(NTDs\)](#)

[Issues relating to poverty and hunger.](#)

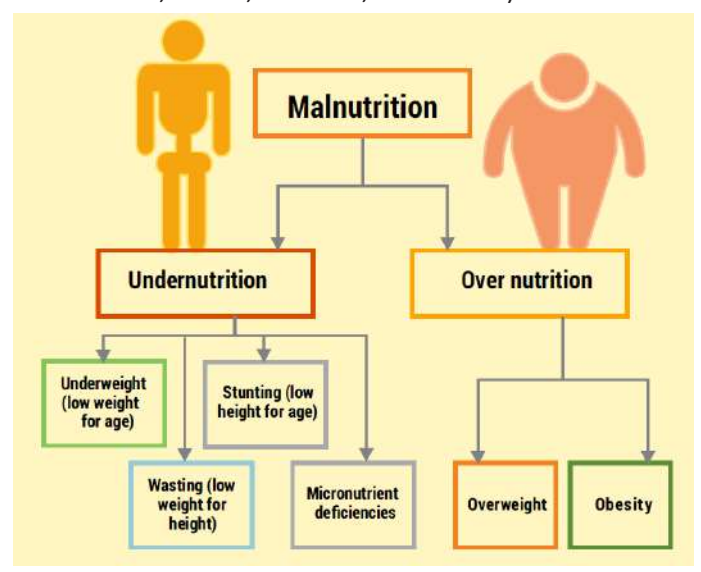
MALNUTRITION RISKING CHILDREN'S LIVES: WHO

Context:

According to the World Health Organization (WHO), conflict, climate shocks, the ongoing impacts of COVID-19 and rising living costs are rendering increasing numbers of children acutely malnourished.

Malnutrition:

- Malnutrition refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients.
- It covers 2 broad groups of conditions -
 - **Undernutrition:** It includes **stunting** (low height for age), **wasting** (low weight for height), **underweight** (low weight for age) and **micronutrient deficiencies** or insufficiencies (a lack of important vitamins and minerals).
 - **Overweight:** It includes obesity and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes, and cancer).



Findings of the WHO:

- The global food crisis is leading to a health crisis, re-

sulting in a **vicious cycle** - malnutrition leads to disease and disease leads to malnutrition.

- **Wasting/acute malnutrition**, which is the deadliest form of undernutrition, is a major threat to children's lives and their long-term health and development.
- More than **30 million children in the 15 worst-affected countries** suffer from this and 8 million of these children are severely wasted.
- Meanwhile, critical health, nutrition and other life-saving services are becoming **less accessible**.

Efforts taken in this direction:

- Five UN agencies including WHO is calling for accelerated progress on the **Global Action Plan on Child Wasting**.
- **These agencies** are Food and Agriculture Organization (FAO), UN Refugee Agency (UNHCR), United Nations Children's Fund (UNICEF), World Food Programme (WFP) and WHO.
- **The action plan aims to prevent, detect and treat** acute malnutrition among children in the worst-affected countries: Afghanistan, Burkina Faso, Chad, etc.

Way ahead:

- There is the need for **urgent decisive and timely action** to prevent this crisis from becoming a tragedy.
- **Greater investment** in support of a coordinated UN response is the need of the hour.

Malnutrition in India:

- Despite decades of investment to tackle this malaise, **India's child malnutrition rates** (which contributes to a third of the global burden of undernutrition) **are still one of the most alarming** in the world.
- **The Global Hunger Index (2022)**, which is calculated on the basis of total undernourishment of the population, child stunting, wasting and child mortality, places India at the 107th spot among 121 countries.

[Insta Links: Malnutrition](#)

Mains Links:

Q. Can the vicious cycle of gender inequality, poverty and malnutrition to be broken through microfinancing of women SHGs? Explain with examples. (UPSC 2021).

THE CASE OF ONLINE CHILD ABUSE

Context:

A study jointly conducted by CRY — Child Rights and You and Chanakya National Law University, Patna stated that online sexual exploitation and abuse (OCSEA), has extended its presence across India during the pandemic and the extent of such crimes is becoming a matter of concern.

Key findings from POCSO and Beyond: Understanding Online Safety during COVID Report -

- Adolescent girls and boys **within 14-18 years**, belonging to **the lower income strata** were figured as **the most vulnerable age group**.
- **Just 30 per cent** of the parents said they would go to the police station and file a complaint, while **70 per cent** ruled out that possibility.
- Only **16 per cent** of parents claimed to be familiar with any OCSEA-related laws, indicating a lack of information and faith in the legal system and law enforcement.
- Nearly **33 per cent** of the parents among the respondents reported that **strangers approached their children via Online Platforms**.

Laws on sharing of online Child Sexual Abusive Material (CSAM) in India:

- In India, **viewing adult pornography in private is not an offence**.
- As per the **Information Technology (IT) Act, 2002**, it is punishable to show children any pornographic content.

Current system of detecting CSAM in India:

- **Help from foreign agencies**
- **Operation Megh Chakra and Operation Carbon:** launched by the CBI.

India's efforts so far:

- **'Aarambh India':** a Mumbai-based NGO, **partnered with the IWF**, and launched India's first online reporting portal to report images and videos of child abuse.
- **National cybercrime reporting portal**
- **Jairam Ramesh Committee** made recommendations on 'the **alarming issue of pornography on social media** and its effect on children and society as a whole'.
- **State governments** are increasingly adopting "**Child-Friendly Policing**" to encourage reporting of

abuses.

Major Initiatives for Preventing Child Sexual Abuse in India:

- POCSO Act, 2012
- Integrated Child Protection Scheme
- Child Abuse Prevention and Investigation Unit
- Beti Bachao, Beti Padhao
- Juvenile Justice Act/Care and Protection Act, 2000
- Child Marriage Prohibition Act (2006)
- Child Labour Prohibition and Regulation Act, 2016
- Operation Smile

Effects of Sexual Abuse on Child:

- Children fall for post-traumatic stress disorder diagnosis, depression, conduct disorders, attention deficit hyperactivity disorder, and obsessive-compulsive disorder.
- Strong feelings of hopelessness, suicidal ideation, and suicidal attempt.
- Getting detached from family and friends.

Ethical aspects related to Child Abuse:

- Deteriorating moral ideologies in the society – rising cases of paedophilia.
- Parents trying to **not open up with their children or talk about this in society**.

InstaCurious:

Article 19 of the UN Convention on the Rights of the Child (CRC) states the following:

States Parties shall take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or Exploitation, including sexual abuse, while in the care of parent(s), legal guardian(s) or any other person who has the care of the child.

Insta Links:

- [Child Abuse](#)
- [An online fight where children need to be saved](#)

[India and its neighborhood- relations.](#)

THE INDUS WATERS TREATY

Context:

New Delhi has issued a notice to Islamabad seeking modification of the Indus Waters Treaty (IWT).

Background:

- The notice follows Pakistan's continued "intransigence" in implementing the treaty, by raising repeated objections to the construction of hydel projects on the Indian side.
- India is **invoking** Article XII (3) of **the treaty** to bring changes to the 1960 pact.

IWT and its dispute redressal mechanism:

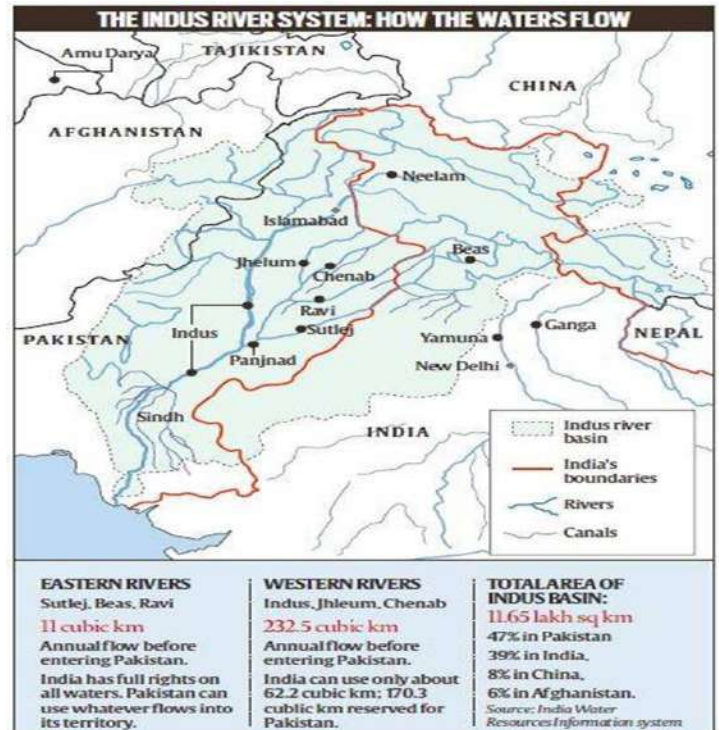
- IWT is a **water-distribution treaty between India and Pakistan**, brokered by the World Bank (WB), to use the water available in the Indus River and its tributaries.
- It is often cited as an example of **the possibilities of peaceful coexistence** despite the troubled relationship.
- **It was signed in Karachi in 1960** by then-Indian PM Jawaharlal Nehru and then-Pakistani president Ayub Khan.
- The Treaty gives control over the waters of the **three "eastern rivers" - the Beas, Ravi and Sutlej (BRS)- to India**, while control over the waters of the three **"western rivers" - the Indus, Chenab and Jhelum -has been given to Pakistan.**
- India has about 20% of the total water carried by the Indus system while Pakistan has 80%.
- The treaty **allows India to use the western river waters for limited irrigation use and unlimited non-consumptive** use for such applications as power generation.
- **India has the right to generate hydroelectricity through run-of-the-river (RoR) projects on the western rivers** which, subject to specific criteria for design and operation, is unrestricted.
- The dispute redressal mechanism provided under the IWT is a **graded 3-level** mechanism.
- The concerns have to be cleared at the levels of the **Indus Commissioners → Neutral Expert → Court of Arbitration.**

Dispute over the hydel projects:

- There has been a **longstanding dispute over two hydroelectric power projects** - one on the Kishangan-ga river (a tributary of Jhelum) and the other on the Chenab (Ratle).
- Pakistan has raised objections to these projects, and **dispute resolution mechanisms under the Treaty have been invoked multiple times.** But a resolution has not been reached.
- In 2022, the WB announced to concurrently appoint

a **Neutral Expert and a Chair of the Court of Arbitration** to resolve the dispute, which as per India poses practical and legal challenges.

- Pakistan had demanded the constitution of a **Court of Arbitration**, while India demanded a **Neutral Expert** to resolve the dispute.



Recent developments:

- India has not fully utilised its rights over the waters of the Indus system.
- Over the last few years, there has been a growing demand in India **to use the IWT as a strategic tool**, considering that India has a **natural advantage being the upper riparian state.** In the aftermath of the Uri attack, Prime Minister Narendra Modi had said, **'blood & water can't flow together at the same time.'**
- Accordingly, India has been working to start several big and small hydroelectric projects that had either been stalled or were in the planning stages.

The treaty has remained "uninterrupted" because India respects its signatory and **values transboundary rivers as an important connector in the region in terms of both diplomacy and economic prosperity.**

India-Pakistan relations:

The current state:

- **Prior to 2016:** Characterised by intense engagement, terror attacks, Indian responses, a breakdown of talks and eventual resumption of talks.
- **Post-2016:** The Pathankot airbase attack followed by a terror attack in Uri, prompted India to respond via ‘**Surgical Strikes**’ and practical ‘Freezing of Relations’.
- **Pulwama Terror Attack (2019):** India retaliated through the **Balakot airstrike**.
- **Abrogation of Article 370:** further deepened the divide.
- **Age of Cold peace:** on the Line of Control, inside Kashmir and in the verbal exchanges between the two sides.
 - A state of relative peace between two countries characterised by mistrust and hostile internal policies between the two governments and citizens is referred to as **cold peace**.
- **Indications of improved relations:** thanks to **cricket diplomacy**, India may visit Pakistan in 2023 following a 15-year gap.
- **Pakistan’s PM wish to offer a white flag to India** in a recent interview for the betterment of the Pakistani economy and its people.
- **India’s invitation to Pak PM** after 12 years to attend a high-level SCO meet being hosted by India at Goa.

Key challenges ahead for India-Pak relations:

- **The China-Pakistan axis in Asian geopolitics:** Pakistan and Chinese leaders describe their ties using metaphors such as “**higher than the mountains**” and “**deeper than the oceans**”. Pakistan’s economic dependence on Beijing has increased in recent years. **Due to Pakistan’s current economic crisis** as a result of declining foreign exchange reserves and mounting debt, India may face growing Chinese influence in South Asia as a whole and Pakistan in particular (CPEC).
- **Terror atmosphere:** brooded by Pakistan is hampering India’s efforts to peace.

Conclusion:

Multilateral settings are often viewed as opportunities for countries with problematic relations to find a way forward. India should utilise this opportunity to iron out differences with Pakistan.

Insta Links: [Indo-Pakistan relations](#)

Mains Links:

Q. “Increasing cross-border terrorist attacks in India and growing interference in the internal affairs of member-states by Pakistan are not conducive for the future of SAARC (South Asian Association for Regional Cooperation).” Explain with suitable examples. (UPSC 2016)

[Bilateral relations](#)

THE QATAR CONUNDRUM

Context:

Eight former Indian Navy soldiers arrested by Qatari authorities in August have been imprisoned in Doha for more than four and a half months.

Background:

- The eight veterans were in a defence services provider company owned by an Omani national, who was also arrested along with the eight Indians.
- Commander Purnendu Tiwari (ret'd) received the

Pravasi Bharatiya Samman award 2019 (the only person from the armed forces to receive the honour) for his contributions to **improving India-Qatar ties**.

- According to the company’s website, it provided training, logistics and maintenance services to the **Qatari Emiri Naval Force (QENF)** - the naval branch of the armed forces of the State of Qatar.
- The charges against the men have not been made public, but their solitary confinement has led to speculation of their detention in connection with a **security-related offence**.

India and Qatar - A history of friendly ties:

- Since diplomatic relations between India and Qatar were established in **1973**, the two countries have maintained friendly relations.
- Since the visit of India’s PM (Manmohan Singh) in 2008, the first by an Indian PM, the relationship has strengthened.
- When the Qatari Emir (Sheikh Tamim Bin Hamad Al Thani) visited in **2015**, **five MoUs entailing cooperation in several fields** were signed.

- An agreement on prisoner repatriation was made, permitting citizens of India or Qatar who have been convicted and sentenced for a crime to be extradited back to their home country to serve the remainder of their prison sentence.
- The two sides have agreed to celebrate the **50th anniversary** of the establishment of diplomatic relations in 2023.

Indian community:

It is the **largest expatriate group in Qatar** which is estimated to be around **800,000 Indians**. They are contributing in a variety of areas, the most visible of which is the projects related to the **Qatar 2022 FIFA World Cup**.

Economic ties:

In 2021, India was one of Qatar's top four export destinations, as well as one of the top three import sources. The bilateral trade is about \$15 billion, with over \$13 billion in LNG and LPG exports from Qatar.

Defence co-operation:

The India-Qatar Defence Cooperation Agreement, signed in 2008 and officially described as a "pillar" of Indian-Qatar co-operation, was extended for another five years in 2018.

- The pact included **training of the QENF by India, as well as mutual visits**.
- Two editions of a joint naval exercise called **Zair Al Bahr** have been held.

Recent challenges in the relationship:

India-Qatar ties in perspective of India-Arab relations:

- The eruption of the **Qatar diplomatic crisis in 2017** complicated India's relations with the Arab Gulf states.
- The Indian government referred to the rift as an **internal matter** involving the Gulf Cooperation Council (GCC) countries.
- The Saudi-led bloc's closing of sea, land, and air borders appeared to present Delhi with **hurdles in maintaining trading links with Qatar**.
- However, the feared negative consequences of the dispute never occurred. After Delhi temporarily halted exports to Qatar, normal commercial flows between the two countries resumed.

India is being painted as anti-Muslim:

The first major test of the relationship (after 2017) was a ruling party's spokesperson's derogatory references to the Prophet on a TV show. Qatar was the first country to react and demand a "public apology" from India.

The jailing of the eight ex-Navy personnel:

The second major challenge signalled that all is not well with the relationship.

Conclusion:

- The long custody of the veterans for reasons not yet in the public domain is a **test for Indian diplomacy** and its engagement with the Indian diaspora.
- The well-being of Indians abroad should be the priority by reaching out personally to individuals in need or their families.



Insta Links: [Qatar's isolation](#)

Mains Links:

Q. The question of India's Energy Security constitutes the most important part of India's economic progress. Analyze India's energy policy cooperation with West Asian Countries. (UPSC 2017)

Prelims Links: (UPSC 2014)

Q. Turkey is located between

1. Black Sea and Caspian Sea
2. Black Sea and Mediterranean Sea
3. Gulf of Suez and Mediterranean Sea
4. Gulf of Aqaba and Dead Sea

Ans: 2

INDIA-MALDIVES RELATION

Context:

The External Affairs Minister (EAM) of India visited Maldives when the presidential election in Maldives is around the corner.

Background:

- The incumbent president's (Solih) announcement to run for a second term, has been opposed within his party by former president and leader of the Maldivian Democratic Party (MDP) Mohamed Nasheed.

- Though Solih's foreign policy expressly roots for "India First", he is also careful about not alienating China.
- Yameen had a **pro-China tilt** and has run an anti-India campaign ('India Out' campaign recently) alleging that the MDP government has sold out to India and permitted Indian troops to be based on Maldivian soil.

What happened during the EAM's visit?

- Inaugurated an international airport developed by India (\$ 136.6-million) at Hanimadhoo in Haa Da-haaluu atoll.
 - This is India's second largest infrastructure project after the (\$500 million) **Greater Male Connectivity project**, which aims to connect the Maldives capital to three neighbouring highlands.
 - Both are prestige projects for Delhi that **compete in scale with the Chinese-built Male-Hulumale-Hulhule bridge** and the Hulumale airport.
- Inaugurated an **India-funded community centre** in the Foakaidhoo island in the nearby Shaviyani atoll.
- **Handed over two sea ambulances** to the Maldives Defence Ministry.
- In the Manadhoo island of Noonu atoll, the two sides signed three MoUs, including -
 - A proposed collaboration between Cochin University and the Maldives National University, and
 - A \$100 million grant for "high impact community development" projects.
- **The focus of the discussion was on development cooperation, capacity building and people-to-people ties.**

Significance of Maldives for India:

- A country crucial to **India's interests in the Indian Ocean.**
- In the past five years, Delhi's **Neighbourhood First and SAGAR (Security and Growth for All in the Region) policies** have found expression in the improvement of ties.
- Maldives is part of the **India-driven Colombo Security Conclave.**

India's message to Maldives:

- India is a **committed partner** in the Maldives's journey of progress and transformation.
- The **"new disruptions" in the current geopolitics** has made the collaboration even more important.

Conclusion:

- Maldives is an important player of India's Indian Ocean diplomacy. As a result, India cannot take the Maldives' anti-India campaign for granted.
- India should use its goodwill to persuade both citizens and leaders of Maldives of the importance of India in Maldives' development.

Quotes:

"We are good neighbours. We are strong partners. We have mutually invested in development and progress. But we also together have responsibility for peace and security in the region."- EAM Jaishankar

"Maldives-India relation, goes beyond diplomacy. Our values, our cultures, and our histories are intertwined, making it a traditional relationship. Our centuries-old relationship is grown with political trust, economic cooperation and coherent strategic policies between our two countries."- Solih on his visit to India in 2021

Insta Curious: China's Debt-trap/cheque-book diplomacy vs. India's development cooperation and an empowerment model of diplomacy

10 REASONS WHY MALDIVES IS IMPORTANT FOR INDIA

1. Strategically located in the Indian Ocean, Maldives archipelago comprising 1200 coral islands lies next to key shipping lanes which ensure uninterrupted energy supplies to countries like China, Japan and India.
2. Since China started to send naval ships to Indian Ocean roughly 10 years ago – and right up to Gulf of Aden for anti-piracy operations – Maldives' significance has steadily grown and now sits at the heart of international geopolitics.
3. As the pre-eminent South Asian power and a 'net security provider' in the Indian Ocean region, India needs to cooperate with Maldives in security and defence sectors.
4. China's massive economic presence in Maldives is a major concern for India. With the country now said to owe 70% of its external aid to China, India had to push back. The current political crisis might just have offered India the right opportunity.
5. A large section of population which supports the opposition parties like Nasheed's MDP wants India to act against Yameen.
6. Maldives is also a member of SAARC. It is important for India to have Maldives on board to maintain its leadership in the region. Maldives was the only SAARC country which seemed reluctant to follow India's call for boycott of SAARC summit in Pakistan after the Lin attack.
7. Under Yameen, radicalization grew rapidly and it was often said that the archipelago accounted for one of the highest numbers of foreign fighters in Syria in terms of per capita. India can ill-afford a neighbor which fails to check Islamic radicalization.
8. India and Maldives share ethnic, linguistic, cultural, religious and commercial links. India was among the first to recognize Maldives after its independence in 1965 and later established its mission at Male in 1972.
9. There are 25,000 Indian nationals living in Maldives (second largest expatriate community). Indian tourists also account for close to 6% of tourists Maldives receives every year.
10. India is also preferred destination for Maldivians for education, medical treatment, recreation and business. According to MEA, more and more Maldivians are seeking long term visa for pursuing higher studies/medical treatment in India.

Insta Links: [India-Maldives relations](#)

Mains Links:

Q. Discuss the political developments in the Maldives in the last two years. Should they be of any cause of concern to India? (UPSC 2013)

Prelims Links: (UPSC 2014)

Which one of the following pairs of islands is separated from each other by the 'Ten Degree Channel'?

- Andaman and Nicobar
- Nicobar and Sumatra
- Maldives and Lakshadweep
- Sumatra and Java

Ans: 1

INDIA'S TIES WITH EGYPT

Context:

This is the **first time** that an Egyptian President (Abdel Fattah El-Sisi) has been invited as chief guest for the Republic Day celebrations in India.

India-Egypt relations:

History:

- India and Egypt share close political understanding based on a long history of cooperation in **bilateral, regional and global issues**.
- Diplomatic relations were established in **1947** (completed 75 years in 2022).
- **Friendship Treaty** between the two countries led to the formation of **Non-Aligned Movement** (NAM in 1961) along with Yugoslav President Josip Broz Tito.
- High-level exchanges with Egypt continued post **2011 Egyptian Revolution**
- The new government led by President (Sisi) took over in 2014.
- When the Egyptian President paid a State visit to India in 2016, a joint statement was issued, **outlining the three pillars-**
 - Political-security cooperation,
 - Economic engagement and scientific collaboration and
 - Cultural and people-people ties as the basis of a new partnership for a new era.

The recent engagements:

- India has invited Egypt as a **special guest for the G-20 summit**.
- **Exercise Cyclone-I** – first ever exercise between Indian Army and Egyptian Army was held in Jaisalmer recently.
- India and Egypt agreed to elevate their bilateral ties to a **"Strategic Partnership"** covering political, security, defence, energy, and economic aspects.

What's the state of bilateral trade relations?

- Egypt has traditionally been **one of India's most im-**

portant trading partners in Africa, as they have had a bilateral trade agreement since 1978 based on the **most-favoured nation clause**.

- The bilateral trade has **increased more than five times** (USD 7.26 billion in 2021-22 - a 75% increase from FY 2020-2021) in the past 10 years.

Other areas of cooperation:

- **Agriculture:** Egypt is currently facing a shortage of food grains as its major sources were the **warring Ukraine and Russia**. In May last year, India- which had put a ban on the sale of wheat, allowed the export of 61,000 tonnes of wheat to Egypt.
- Cyber security & IT
- Healthcare
- Culture
- Youth matters and Broadcasting

Importance of the Egyptian President's present visit:

For Egypt	For India
<ul style="list-style-type: none">• Egypt is facing a massive economic crisis due to depleted forex reserves.• Egypt is eyeing more tourist footfall from India to boost forex inflows into their tourism-dependent economy.	<ul style="list-style-type: none">• India is looking at increasing investments in the country, especially in major infrastructure projects in and around the Suez Canal, and special economic zones in Alexandria and Cairo.
<ul style="list-style-type: none">• Egypt is interested in procuring defence equipment from India.• A military contingent from the Egyptian Army will participate in the Republic Day parade.	<ul style="list-style-type: none">• India is planning to supply LCA Tejas, missiles like Akash, DRDO's Smart Anti-Airfield Weapon and radars.
<ul style="list-style-type: none">• Education sector: the Indian higher educational institutions are planning to set up campuses in Egypt	<ul style="list-style-type: none">• A proposal for establishing an IIT in Egypt is in the works
<ul style="list-style-type: none">• Egypt is viewed as a moderate Islamic voice by New Delhi since it has made an attempt over the years to play a nuanced and positive role in the 57-member Organisation of Islamic Cooperation.	<ul style="list-style-type: none">• Improving ties with Muslim-majority countries

Related Topic: Republic Day 2023 - How India chooses its chief guest

Context:

- Being invited as the chief guest at Republic Day celebrations is the **highest honour a country accords in terms of protocol and the ultimate sign of friendship.**

How is the Republic Day chief guest chosen?

- The process starts nearly six months in advance of the event and all kinds of considerations (political, commercial, military, and economic interests of India) are taken into account by the **Ministry of External Affairs (MEA)** before extending the invitation.
- Another factor for choosing Egypt: the association with the **NAM** which began in the late 1950s, early 1960s.
- **The first Chief Guest** of the parade in 1950 was President Sukarno of Indonesia, one of the five founding members of the NAM.
- After due consideration, the MEA seeks the approval of the Prime Minister and the President on the matter.
- The MEA does not choose one option but a list of potential candidates and **discretion is of utmost importance.**
- After a candidate is finalised, the **Chief of Protocol** (Protocol Division, MEA) works on the details of the programme and logistics.

What is the significance of a Republic Day invite? Highly symbolic from the Indian government's perspective as the choice is dictated by a number of reasons - strategic and diplomatic, business interests, and international geo-politics.

InstaCurious:

The first ever IAF-EAF Joint Tactical Air Exercise, **Desert Warrior**, was held in Egypt in 2021.

Insta Links: [Crafting a unique partnership with Africa](#)

Mains Links:

Q. "If the last few decades were Asia's growth story, the next few are expected to be Africa's." In the light of this statement, examine India's influence in Africa in recent years. (UPSC 2021)

Prelims Links: (UPSC 2022)

Q. Which one of the lakes of West Africa has become dry and turned into a desert?

1. Lake Victoria

2. Lake Faguibine
3. Lake Oguta
4. Lake Volta

Ans: 2

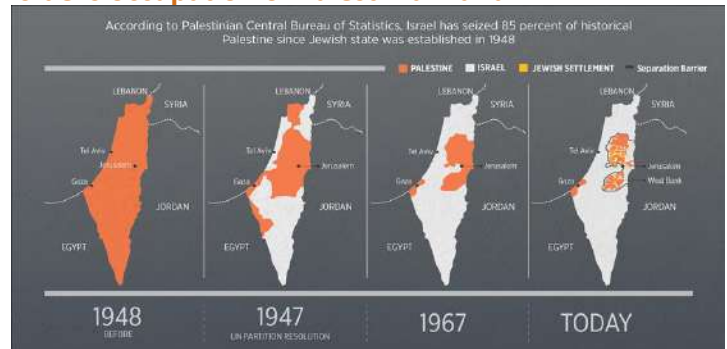
[Effect of policies and politics](#)

ON THE LEGALITY OF ISRAEL'S OCCUPATION

Context:

The UNGA passed a resolution (India abstained from the vote) that asked the body's highest court, the International Court of Justice (ICJ), to render its opinion on the legal consequences of Israel's prolonged occupation of Palestinian land.

Israel's occupation of Palestinian land:



- A UNGA resolution had sought to partition the **British mandate Palestine**, which was rejected by the Arabs.
- The state of Israel was declared in 1948 → first Arab-Israeli war (1948).
- **Historically Palestine was divided** into the -
 - State of Israel (including West Jerusalem),
 - West Bank (including East Jerusalem) that was taken over by Jordan and
 - Gaza Strip (controlled by Egypt).
- Tensions kept rising between Israel and **Egypt, Jordan, and Syria**, which led to the six-day war of 1967.
- **The war resulted in Israel capturing** the -
 - West Bank,
 - Gaza Strip (Israel withdrew in 2005, however, its external borders are still controlled by Israel and Egypt),
 - East Jerusalem,
 - Syria's Golan Heights and
 - Sinai Peninsula of Egypt (later returned to Egypt).
- Israel also declared the whole of **Jerusalem** as its "eternal, undivided capital".

Attempts to restore normalcy:

- The UNSC passed a resolution in late 1967 stating that Israel must withdraw from the territories it seized in the war.
- However, it is yet to happen and the fate of Palestinian self-determination remains uncertain.

What does the recent resolution seek to do?

- It asked the ICJ to advise on the legal consequences of -
 - Israel's occupation, settlement and annexation.
 - Israel's measures aimed at altering the demographic composition, character and status of the Holy City of Jerusalem.
- There are two possibilities - the ICJ can either lead to a settlement between parties or it can lead to a trial followed by a verdict. While its rulings are binding, the ICJ has no power to enforce them.

Conclusion:

- The UN resolution coincides with the return of Benjamin Netanyahu as Israel's Prime Minister for a sixth time. In his words, "Jewish people have an exclusive and unquestionable right to all areas of the Land of Israel."
- There are fears that the new hard-line regime will bring damaging impacts for Palestinians.

ICJ vs. ICC

	International Court of Justice (ICJ) La Cour Internationale de Justice (CIJ)	International Criminal Court (ICC) La Cour pénale internationale (CPI)
Year Court Established	1946	2002
UN-Relationship	Official court of the U.N., commonly referred to as the "World Court."	Independent. May receive case referrals from the UN Security Council.
Location	The Hague, The Netherlands	The Hague, The Netherlands
Types of Cases	Contentious between parties & Advisory opinions	Criminal prosecution of individuals
Subject Matter	Sovereignty, boundary, & maritime disputes, trade, natural resources, human rights, treaty violations, treaty interpretation, and more.	Genocide, crimes against humanity, war crimes, crimes of aggression
Funding	UN-funded.	Assessed contribution from state parties to the Rome Statute; voluntary contributions from the U.N.; voluntary contributions from governments, international organizations, individuals, corporations and other entities.

Insta Links: [India-Palestine relations: Ignoring the dispossessed people goes against India's anti-colonial legacy](#)

Mains Links:

Q. "India's relations with Israel have, of late, acquired a depth and diversity, which cannot be rolled back." Discuss. (UPSC 2018)

Prelims Links: (UPSC 2015)

Q. The area known as 'Golan Heights' sometimes appears in

the news in the context of the events related to

- Central Asia
- Middle East
- South-East Asia
- Central Africa

Ans: b

META FINED UNDER EU'S GDPR

Context:

- Meta has been slapped with fines totalling €390 million by the Irish Data Protection Commission (DPC) for breaching **General Data Protection Regulation (GDPR)**.
- Meta's **profit forecasts for 2023 have dropped nearly 50%**, indicating that both users and advertisers are abandoning the platforms (exception - of Instagram Reels and WhatsApp).

Background:

- The company's advertising and data handling practices have been accused of breaching the EU's overarching privacy law - **GDPR**.
- The legal permission that Meta sought from users to collect their data for personalised advertising, **essentially forced them to accept personalised ads**, in violation of the GDPR.
- As per the GDPR, cross-border cases are handled by the data protection authority in the country where the company is based.

Significance of the ruling:

- **Strengthens the GDPR's overarching theme** - the individual's right over her data and the need for a person to give explicit consent before their data can be processed.
- The decision could imply that **Meta would have to tweak its apps** to ensure that they do not leverage personal data for advertising.

Impact of the ruling:

- **The likely ripple effect:** With a focus on privacy and requiring individuals to give explicit consent, the GDPR has substantially influenced legislation in

nearly 160 countries.

- **Broadening individual's right over her data:** A pair of sub-legislation of GDPR -
 - The Digital Services Act (DSA) focuses on issues such as regulating hate speech, etc.
 - The Digital Markets Act (DMA) defines a new category of “**dominant gatekeeper**” platforms and is focused on non-competitive practices and the abuse of dominance/**monopoly** by these players.

The possible impact of the ruling on India:

- The Government of India is currently working on a policy framework for the tech sector, which includes -
 - The **new Personal Data Protection bill**
 - A comprehensive Digital India Act that would eventually replace the existing IT Act, and
 - The new Telecom Bill
- Hence, the ruling could have resonance in India too.

[Insta Links: New draft digital data protection bill: How it compares with the older version and laws elsewhere](#)

[International institutions, agencies and fora](#)

BLACKLISTING OF TERRORISTS: WHAT DOES THIS MEAN?

Context:

- The UN Security Council's (UNSC) **1267 Al Qaeda Sanctions Committee** added Abdul Rehman Makki to its list of designated terrorists upon China withdrawing its 'technical hold'.
- Pakistan-based Makki is the deputy chief of the terror outfit Lashkar-e-Taiba and the brother-in-law of its founder (Hafiz Saeed).

Background:

- **During India's two-year (2021-22) tenure at the UNSC**, five names were designated under the ISIL and Al Qaeda Sanctions Committee including Abdul Rehman Makki.
- These names faced a “**technical hold**” from China, while the other 14 members (permanent + non-permanent) of the UNSC supported the listing.
- India and the US have **listed Makki as a terrorist under their respective national laws**.
- In October 2022, Pakistan was removed from the FATF grey list.

What is the 1267 Al Qaeda Sanctions Committee?

- **The committee is part of the UNSC** and its job is to **implement international sanctions** against terrorists.
- It was established as the Al-Qaida and Taliban Sanctions Committee in **1999** after **UNSC Resolution 1267 designated** Al-Qaeda and the Taliban as terrorist bodies.
- In 2011, a separate committee was formed for the Taliban.

What does the UN's blacklisting of terrorists imply?

- Resolution 1267 was adopted under Chapter VII of the UN Charter and requires all UN member states to -
 - Freeze the assets,
 - Prevent the entry into or transit through their territories, and
 - Prevent the direct or indirect supply, sale and transfer of arms and military equipment to any individual or entity associated with Al-Qaida.
- It is conducive to **enhancing international counterterrorism cooperation** in response to terrorist threats.

Significance for India:

- **Threats from terrorist organisations in the region remain high.** (Makki being linked to seven terror attacks in India)
- Listings and sanctions by the UNSC are effective tools to **curb such threats and dismantle terror infrastructure** in the region.
- **It validates India's commitment to a zero-tolerance policy toward terrorism.**
- It will also inspire India to press the international community to take credible, verifiable, and irreversible action against terrorism.

FATF:

- It is an **intergovernmental** organisation founded in **1989** on the initiative of the G7 to develop policies to **combat money laundering**.
- In 2001, its mandate was expanded to include terror financing.
- **Headquarters:** It operates from Organisation for Economic Cooperation and Development (OECD) headquarters in Paris.
- **Member Countries:** It has 39 members (including India) including two regional organisations - the EU and GCC (Gulf cooperation council)
- **Sessions:** Its plenary (decision-making body) meets **three times per year**.
- **Lists under FATF:**
 - **Grey List:** It serves as a warning for the countries considered a safe haven for supporting terror funding and money laundering.
 - **Black List:** High-risk countries and Non-Cooperative Countries or Territories (NCCTs) are put on the blacklist. E.g., **Iran, the Democratic People's Republic of Korea (DPRK) and Myanmar.**

[Insta Links: Sanctions under the UN Security Council Resolution 1267](#)

Mains Links:

Q. Analyse the complexity and intensity of terrorism, its causes, linkages and obnoxious nexus. Also, suggest measures required to be taken to eradicate the menace of terrorism. (UPSC 2021)

UNSC: PARALYSED AND OUTDATED

Context:

UN General Assembly (UNGA) **President Csaba Korosi** expressed concern that the UN Security Council **does not reflect today's realities**, is paralysed and is unable to discharge its basic function of maintaining international peace and security.

What has happened now?

Russia, a veto-wielding permanent member of the UN, attacked Ukraine. **Russia has vetoed UNSC resolutions on Ukraine** and voted against a resolution in the UNGA which called on countries not to recognise the four regions of Ukraine that Russia has claimed.

What is UNSC?

UN Security Council

15 Members:



Five permanent members: China, the United States, France, the United Kingdom, and the Russian Federation



Ten non-permanent members elected for two-year terms by the GA



Each member has one vote



Presidency of the Council: Each of the members in turn for one month



Primary responsibility: Maintenance of international peace and security

Source: UN official website

CGTN

What is Veto power in UNSC?

The United Nations Security Council veto power: **The five permanent members** of the **UNSC** (China, France, Russia, the United Kingdom, and the United States) can veto any **“substantive” resolution**.

Why the need for Reforms in UNSC?

- **Changing geopolitical realities:** Since 1945, the Cold War strategic influences have declined; the membership of the UN has increased almost fourfold and the expectations of what the UN should do have grown.
- **Overrepresentation:** There is a huge European bias in P-5 due to the presence of the United Kingdom and France, including Russia.
- **Under-representation:** Regions like Latin America, the Caribbean Group, the Arab World, and Africa do not have a single permanent member
- **Question of Veto:** All five permanent members of the UNSC enjoy veto power. But the veto has been misused to put national interests ahead of global interests. Critics of the veto power say that it is the **most undemocratic element** of the UN and the **main cause of inaction on war crimes & crimes against humanity**, as it effectively prevents UN action against the permanent members and their allies. For E.g. in the current Russian case
- **Non-transparent** and non-consultative manner of functioning.
- **North-South Inequality:** Only China is representative of the global south region, whereas the global north has four nations to represent them at the UNSC.
- **Growing stresses on the International System:** geopolitical conflict, climate change, food and energy insecurity, and pandemics have brought out the **in-equities and inadequacies** of the way the world currently functions.

Key reforms taken in recent times:

Key UN reforms

- 1997** Kofi Annan announces his plan for United Nations reform with two reform packages: "Track One" and "Track Two"
- 2004** Two models proposed for expanding the Security Council
- 2005** Kofi Annan presents his most comprehensive reform and policy agenda with his report "In Larger Freedom"
The Peacebuilding Commission (PBC) is established
- 2006** The Human Rights Council replaces the former United Nations Commission
- 2007-2016** Reforms continue during Ban Ki-moon's term with the launch of the 2030 Agenda for Sustainable Development and adoption of the Paris Climate Agreement
- 2017-2020** Reforms envisioned by UN Secretary-General Antonio Guterres have been ongoing which focus on the UN's peace and security pillar

Source: UN official website

CGTN

Conclusion:

The implementation of the Council's decisions, and its very legitimacy, could be enhanced if the Council was reformed to be **more representative, effective, efficient, accountable and transparent.**

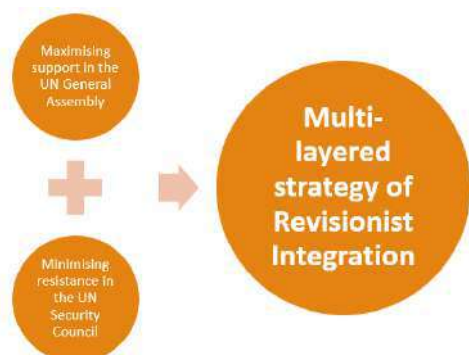
Quote: "It's clear that **outdated systems that were created to deal with the challenges of the past** cannot be expected to address the multitude of challenges of **today's dynamic and interdependent world.** The Security Council can deliver effective solutions only if **it gives a voice to the voiceless rather than zealously guarding the status quo of the mighty.**" --Deputy Permanent Representative to the United Nations Security Council Ambassador R Ravindra

Why India should be given a UNSC seat:

- **India's culture and worldview** resonate with the UN's vision
- India's **extensive association with the UN** since its inception
- **India's democratic values** and credibility of being the largest democracy
- **India's intrinsic strength** – Most populous country, Fifth largest economy and Responsible Nuclear power
- India as the leader of the **'Global South'**
- Contribution to **peacekeeping**
- **The active role played** on various issues of emerging importance in the UN

India's Efforts for reforms:

- India's **NORMS reform** (New orientation for a reformed multilateral system) in the changing architecture of global governance, including the UNSC
- **As an advocate of the 'Global South'**
- **G4 and L69:** G-4 (India, Brazil Germany and Japan) and L.69 (A group of like-minded countries from Asia, Africa and Latin America) have tried to push UNSC for reforms and expansion
- The Indian strategy of **"revisionist integration"** into the Security Council consists of two components: (see below image)



Insta Links: [UNSC](#)

Mains Links: **Q. Analyze the factors that lend credibility to India in assuming a permanent seat at the UN Security Council, amid calls for its reforms. (10M)**

GS3

[Indian Economy](#)

INDIAN RUPEE'S FALL AGAINST THE US DOLLAR

Context:

The Indian rupee depreciated by around 10% against the US dollar in 2022.

Depreciation reduces the value of a country's currency when compared with the currency of other countries (say \$), measured by the exchange rate of the local currency (wrt \$)

The performance of the Indian rupee in 2022 - Worst-performing Asian currency in 2022:

- It witnessed a fall of around **10%** against the US dollar, falling to a **lifetime low of 83.2** the dollar.
- Compared to the rupee, the Chinese Yuan, Philippine Peso and Indonesian Rupiah fell by around **9%** and the South Korean Won and Malaysian Ringgit declined by nearly **7 and 6%**, respectively.

Reason for this decline in India:

- **The US Fed aggressively raised interest rates** (by 425 basis points (bps) in 2022) in its fight against inflation, **leading to a higher interest rate differential between the US and India**

- As a result, **investors pulled out money** from the domestic market and started investing in the US market to take advantage of higher rates.
- **For example**, foreign portfolio investors (FPIs) pulled out **Rs 1.34 lakh crore** from the Indian markets in 2022, putting pressure on the rupee.
- **The Russian invasion of Ukraine** accentuated the FPI withdrawals with the global economic slowdown making inflows tougher.

Steps taken to arrest this decline:

- The Reserve Bank of India (RBI) **heavily intervened** in the foreign exchange (forex) market to defend the rupee.
- As a result, **the country's forex reserves have fallen by \$70 billion** (\$562.81 billion as of December 23, 2022) since the beginning of 2022.
- However, the central bank is **now starting to again build up its reserves** and that would act as a buffer in times of uncertainty.

The outlook on the rupee for 2023: India remains the **fastest-growing economy** and Indian Rupee will recover

How does the Rupee Appreciate or Depreciate?

The Rupee appreciates or depreciates on following factors:

1. INTEREST RATE

India with an interest rate of 6-7% attracts greater capital inflow as investors get a higher return than their earnings in the US. (with Interest rates of 2-3%). This results in rupee appreciation.



2. INFLATION RATE

A country with lower inflation would have increased demand for its products by foreign buyers. Higher demand for goods & services would result in currency appreciation.



3. EXPORT-IMPORT

A country exporting more than importing from other countries, would result in higher demand for that currency, causing currency appreciation.



Impact of Rupee Appreciation & Depreciation:

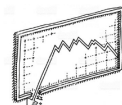
IMPACT ON INDUSTRY

Rupee Appreciation means imports turn cheaper and exports become expensive. Rupee depreciation means exports earn more.



IMPACT ON STOCK MARKET

Foreign investors (FIIs) stand to benefit from a rupee appreciation. Subsequently increased FII inflows could fuel a bull run in the stock market.



FUEL SHOCK



In the case of a Rupee depreciation, the biggest blow to the Indian economy would be the higher outflows due to fuel becoming expensive. This increased fuel costs would result in food inflation as transportation costs become higher.

Insta Links: [Why is it essential to contain domestic inflation?](#)

Mains Links:

Q. How would the recent phenomena of protectionism and currency manipulations in world trade affect the macroeconomic stability of India? (UPSC 2018)

Prelims Links: (UPSC 2022)

With reference to the Indian economy, consider the following statements:

1. An increase in Nominal Effective Exchange Rate (NEER) indicates the appreciation of the rupee.
2. An increase in the Real Effective Exchange Rate (REER) indicates an improvement in trade competitiveness.
3. An increasing trend in domestic inflation relative to inflation in other countries is likely to cause an increasing divergence between NEER and REER.

Which of the above statements is/are correct?

1. 1 and 2 only
2. 2 and 3 only
3. 1 and 3 only
4. 1, 2 and 3

Ans: 3

Explanation: An increase in the Real Effective Exchange Rate (REER) indicates a **loss** in trade competitiveness. An increase in the REER implies that exports become more expensive and imports become cheaper.

MFIS PRIME ROLE IN INDIA'S ECONOMIC GROWTH

Context:

As per the study conducted by PricewaterhouseCoopers (PwC) and the Association of Microfinance Institutions of India, Microfinance institutions (MFI), will play a leading role in the growth process of India.

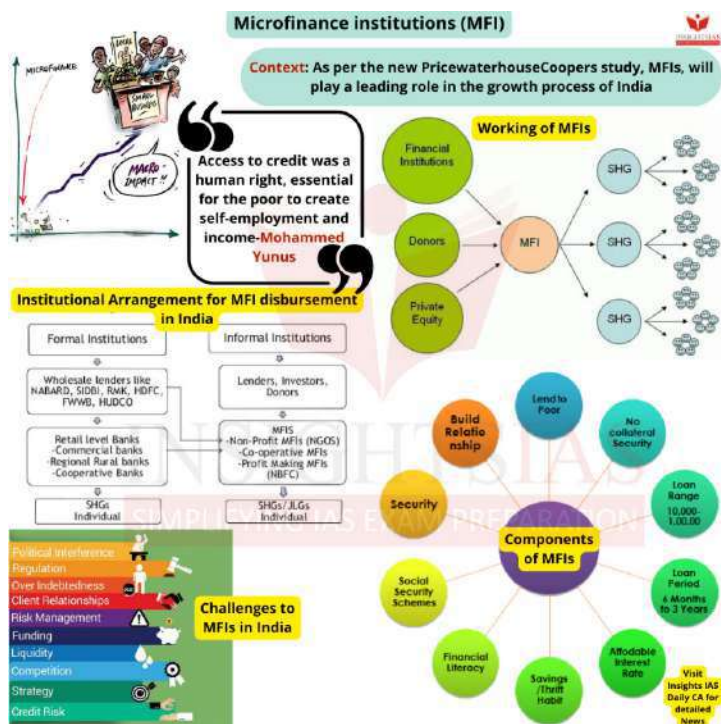
What are MFIs?

Microfinance institutions (MFIs) are **financial companies that provide small loans to people who do not have any access to banking facilities**. The definition of "small loans" varies between countries. In India, all loans that are below Rs. 1 lakh can be considered microloans.

The Origin:

Microfinance institutions (MFIs) came into being in the 90s as banks' reluctance to lend to those without credit history

provided an opportunity to those willing to take the risk and organize rural communities.



Significance of microfinance institutions in the economy

- **Empowerment of women:** About 95 per cent of loan products extended by microfinance institutions are given to women, as well as those with disabilities.
- **Access to credit esp. for the poor:** It has acted as a financial support system to low-income households by offering credit access to six crore borrowers in the last few years.
- **Poverty alleviation:** Microfinance disrupts the cycle of poverty by making more money available. They provide easy credit and offer small loans to customers, without any collateral.
- **Savings in rural households:** It helps the poor and marginalized section of society by making them aware of the financial instruments available for their help and also helps in developing a culture of saving.
- **Creating employment**
- **Social benefits:** Families benefiting from microloans are more likely to provide better and continued education for their children and quality healthcare facilities for family members.
- **Digitization:** From 2017 onwards, the Indian MFI industry embraced the digital route by using online delivery channels, mobile banking and e-wallets.

Issues concerning MFI:

- **Minimal or no regulatory structure** breeds an environment where customers are increasingly dissatisfied with microfinance services, culminating in the Andhra Pradesh crisis in 2010.
- **Regulatory role of RBI wrt MFIs:** RBI more or less caters to commercial and traditional banks more than it helps MFIs.
- **Very little regulation exists for NGO-MFIs and Co-operatives**
- **Delinquency among microfinance borrowers**
- **Dependence on commercial banks**
- **Over-indebtedness of MFIs**
- MFIs have strayed away from their original purpose of poverty alleviation and social empowerment to short-term profit-making.
- **MFIs are harassing their clients** who are usually too desperate to turn away from the credit being offered. This is true even when credit comes with the catch of high repayment rates.

Way forward

- MFIs must adopt **more flexible operating models**, providing **skills training**, and offering services such as the **portability of accounts**.
- **RBI's new regulatory framework for Microfinance institutions:** RBI has recently released its Consultative Document on the Regulation of the **Microfinance sector** aimed at protecting and empowering borrowers.
- A **diversified menu of microloan products** linked to sustainable income generation activities via micro-enterprises or the **creation of community-based pooled enterprises** could make it more attractive and compatible with the requirements of women.
- **Linking developmental initiatives to an institution** (hand-holding) to nurture, monitor, and handhold those activities in the formative stages is crucial for sustainability.

Conclusion

As per the World Bank estimates, **more than 500 million people** have improved their economic conditions via microfinance-related entities. Strengthening the credit check and debt collection processes and educating the villagers about products and consequences is important.

Insta links: [Microfinance Regulations](#)

Mains Links:


Q. By highlighting the significance of microfinance institutions in the economy, analyze if the present regulatory framework can effectively manage these institutions. (15M)

START-UPS POWERING INDIA'S SPACE ODYSSEY 2.0

take up end-to-end activities in these domains

Context:

With the space sector opening up, start-ups have begun to rapidly transform the industry.




Private sector Participation in Space sector

Presently, the global space industry is worth \$400 billion and is set to touch \$1 trillion by 2040. And, India's participation is just 2% of this mammoth share. Hence, the imperative for the private sector to play a bigger role.

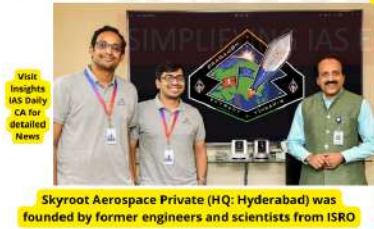
Examples of Private sector participation:

- **Skyroot Aerospace:** Recently, it launched Vikram-S, India's first private rocket.
- **Airtel-backed OneWeb** is in the process of launching 648 small satellites in LEO mode to provide its high-speed satellite internet service.
- **Chennai's SRM University** has built the **SRM5at** (for monitoring carbon dioxide and water vapour)
- **Dhruva Space:** The company launched Thybolt-1 and Thybolt-2.
- **Agnikul Cosmos:** It develops rockets (using 3-D printing) fuelled by its patented semi-cryogenic engines
- **Digantara:** For addressing space junk.
- **Pixel:** It will build a constellation of 24 hyper spectral micro satellites which will act as an "MRI scanner" of Earth.



Benefits of Private sector participation in Space

- Reforms to help India leapfrog to next stages of space activities to become a **Global technology powerhouse**
- To enhance socio-economic use of space assets & activities; **Large-scale employment opportunity in technology sector**
- **IN-SPACE** to provide level playing field for private companies to use Indian space infrastructure
*Indian National Space Promotion and Authorisation Centre
- **NSIL** to reorient space activity models from 'supply driven' to a 'demand driven'
*NewSpace India Limited
- Allow ISRO to focus more on R&D activities, exploration missions & human spaceflight programme



Measures for encouraging the private sector in the space programme:

- **Indian National Space Promotion and Authorisation Centre (IN-SPACE)** in Ahmedabad.
 - **IN-SPACE is an autonomous, single-window nodal agency;** formed to promote, authorise, monitor and supervise the space activities of Non-Governmental Private Entities (NGPEs) in India.
 - **With the formation of IN-SPACE,** over 100 companies have come up in this sector and in 2022 they raised as much as \$110 million.
- **Reforms in the space sector** enable more private players to provide end-to-end services.
- **NewSpace India Ltd (NSIL),** is mandated to transfer the matured technologies developed by the ISRO to Indian industries.
- **Change in strategy:** the **present supply-based model** has been changed to a **demand-driven model,** wherein NSIL shall act as an aggregator of user requirements and obtain commitments.
- **Regulatory regime:**
 - The first to be updated was the **SpaceCom and SpaceRS policies,** further liberalizing the traditional Satellite Communication and Remote Sensing sectors, respectively, thus enabling entrepreneurs and industries to

Private players' entry will support the Indian space industry in the following ways:

- Participation in the private sector will give rise to **new innovations and technology.**
- It will provide an opportunity to harness the **talent pool** in the country, by providing them with immense opportunities for exploration.
- A **reduction in the cost of operation with efficient practices, building** a supply chain to accommodate the downstream players.
- Also, it will allow procuring **non-Indian orbital resources** to build their space-based systems for communication services in and outside India.

Private players find smaller satellite markets a more lucrative option.

Advantages of smaller satellites:

- Smaller satellites **use industry-grade rather than space-grade components.**
- These smaller satellites are **parked closer to earth,** where radiation is lower and have a shorter lifespan.
- Moreover, while an **INSAT class satellite will cost at least ₹400 crores,** smaller satellites can be built for just **₹10 crores**
- Above all, they **do not need large launch vehicles** such as the PSLV or GSLV, which cost ₹300 crore and ₹450 crores, respectively.
- **Potential:** According to European Space Agency data, anywhere between 70,000 to 100,000 satellites will be launched in the next 15 years and over 80% will be small satellites weighing less than 500 kg.

Role of ISRO in the Private space industry:

- **The private sector will rely on ISRO for infrastructure**—be it launch facilities, tracking systems, technology transfers and capacity building
- **ISRO will focus on non-commercial greater complexity scientific missions** such as focusing on deep-space missions and putting an Indian in space through its **Gaganyaan** mission.
- **ISRO has set up NewSpace India Ltd (NSIL)** to handle the commercial end of the business.
- ISRO is the **6th largest space agency** in the world and holds an exceptional success rate
- **Indian Space Association (ISpA):** ISpA aspires to be the collective voice of the Indian Space industry.
- The introduction of the **Indian Space Activities Bill**

will give greater clarity to private players on how to be an integral part of the space sector.

Limitations of the private sector in space:

- **Policy Bottlenecks:** India is yet to legislate specific space laws to regulate the private sector. Hence, ensuring openness and clarity about the working framework becomes difficult in the current situation.
- **Monopolization:** Space is capital intensive industry, and only a few rich corporates can afford the investment. Hence, accommodating all players and ensuring an equitable platform becomes difficult.
- **Funding:** India's space budget of **\$1.7 billion** (in 2022) was minuscule compared to the US's \$30 billion and China's \$14 billion (which includes \$1 billion from its private players).
- **Profit Motive:** Space in general, should be an enabler of Technological equity for citizens. This aspect becomes difficult to ensure when private entities operate with **profit interest**.
- **Intellectual property issue:** The lack of a robust space-centric IPR policy in India, raises issues regarding sharing and diversification of space resources.

Conclusion

At present, India needs a space policy, which can be clear and liberal on private players. With this proposed new policy for space, India wants to **tap into the private sector**, which could help the industry grow.

Insta Links

Mains Links:

Q. The mission Prarambh, marks the Indian private sector's first foray into the promising space launch market, opening opportunities for the privatisation of space which is heavily dominated by ISRO. Discuss.

Prelims Links:

Q. With reference to India's satellite launch vehicles, consider the following statements: (UPSC 2018)

1. PSLVs launch the satellites useful for Earth resources monitoring whereas GSLVs are designed mainly to launch communication satellites.
2. Satellites launched by PSLV appear to remain permanently fixed in the same position in the sky, as viewed from a particular location on Earth.
3. GSLV Mk III is a four-staged launch vehicle with the first and third stages using solid rocket motors; and the second and fourth stages using liquid rocket engines.

Which of the statements given above is/are correct?

(a)		1		only
(b)	2		and	3
(c)	1		and	2
(d)	3 only			

Ans: A

The satellites in geosynchronous orbits appear to remain permanently fixed in the same position in the sky. Hence, statement 2 is not correct.

GSLV-Mk III is a **three-stage launch vehicle** with four liquid strap-ons. The indigenously developed Cryogenic Upper Stage (CUS), forms the third stage of GSLV Mk III.

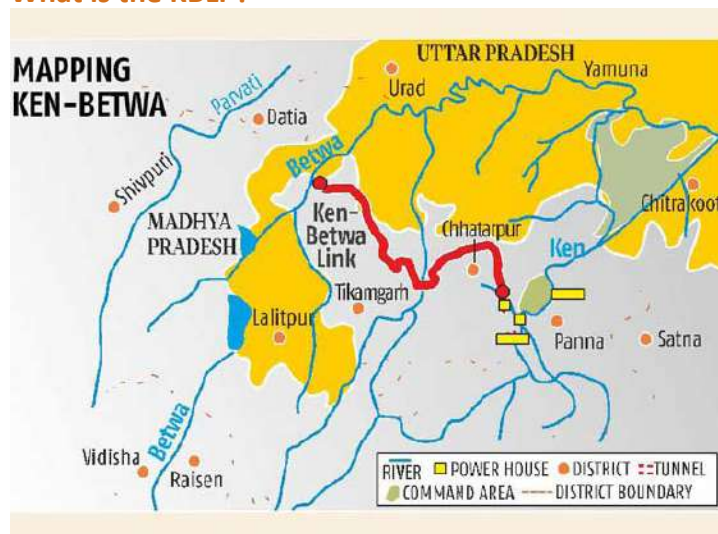
Economy and issues relating to development.

KEN-BETWA RIVER LINK PROJECT

Context:

The Steering Committee of the Ken-Betwa Link Project (KBLP), chaired by the Secretary of the Department of Water Resources, Ministry of Jal Shakti, held its third meeting recently.

What is the KBLP?



- It is a "flagship" project that is critical for the **water security and socio-economic development of the Bundelkhand region** (of MP and UP).
- The link will be in the form of a **canal** that will be fed by the **new Daudhan Dam on the Ken**, to be built **within Panna Tiger Reserve**.
- The dam will generate **103 MW of hydroelectric power** and is expected to **irrigate 6.3 lakh hectares** of land every year.

Concerns:

- **Hydrological and ecological concerns:** The 'surplus and deficit' model has little basis in science (as these could be seasonal phenomena too) and it may en-

danger the water security of the Panna district (Ken - a non-perennial river).

- The project has not yet received a **complete forest clearance**.
- The NGT is currently hearing a challenge to the project's environmental approval.
- The legal problems:
 - Approval by the National Board for Wildlife violates Section 35(6) of the **Wildlife (Protection) Act 1972** - improvement and better management of wildlife.
 - According to the SC, the creation of a high reservoir dam on the Ken River in the Panna National Park and Tiger Reserve for the KBLP is ultra vires to the WPA 1972.
 - The destructive impact of the proposed dam on the flow of water into and outside of the **Ken Gharial Sanctuary** (downstream of the Panna national park) is evident.
- Impact on Panna's tigers and other wildlife:
 - The deep gorges of Panna will be drowned if the new dam is built.
 - **By 2009**, there were no tigers in the Panna Tiger Reserve, **necessitating an incredible effort** that lasted almost a decade to reintroduce them.
 - The key wildlife species that will be affected include **endangered vultures, mahseer fish, and the critically endangered Gangetic gharial** (*Gavialis gangeticus*) in the Ken Gharial Sanctuary.

Way ahead:

- The government is developing a larger '**Panna Tiger Landscape**'.
- An "**independent**" hydrological investigation of the Ken.
- **Restoring Bundelkhand's erstwhile Chandel-period lakes and ponds**.
- The developmental project should not destroy the ecology of fragile ecosystems and important tiger habitats in the country.
- The approach should be **eco-centric** and **not anthropocentric**.

Conclusion:

Due diligence and expert scrutiny during the project-approval stage are cornerstones of sound environmental governance.

Insta Links: [Ken-Betwa link project](#)

Mains Links:

Q. Not many years ago, river linking was a concept but it is

becoming a reality in the country. Discuss the advantages of river linking and its possible impact on the environment. (UPSC 2017)

FIGHTING THE BIG G

Context:

Google began to change the **business model used in India** to push its Android operating system (OS) and the Google Play Store.

- The change was triggered by the **Supreme Court setting January 26** as the deadline for Google to comply with the Competition Commission of India's rulings.

The Changes made by Google:

- In the new model, **instead of creating a bouquet of apps**, smartphone makers can license individual apps from Google.
- Google's search engine **will not necessarily** be the default setting.

What is the 'walled garden approach' adopted by Google:

Android's dominance (under-walled garden approach) is based on a complex model of cross-subsidies. Google offers free services such as a search engine and email, thereby making a huge user base. This user base is then monetised for **advertising revenue**. **Even third-party apps** cannot all wish away Google. Google controls both sides of this advertising ecosystem- the users as well as third-party app developers, making it a walled garden.

Initiatives taken to break Google's monopoly:

- **South Korea:** It imposed curbs on the **proprietary billing system** of Google and Apple.
- **EU's upcoming Digital Markets Act:** It will prevent "**gatekeepers**" from engaging in anti-competitive behaviour. It will no longer be business as usual for the **Android OS ecosystem**

Previously, the **Competition Commission of India (CCI)** had imposed a penalty on Alphabet-owned Google for "**abusing its dominant position**" in markets related to the Android mobile device ecosystem.

- The CCI stated that **Google contravened competition law** due to mandatory pre-installation of the entire **Google Mobile Suite (GMS)** and there was no option to uninstall the same.

What are anti-trust laws?

Antitrust laws are regulations that encourage competition by **limiting the market power of any particular firm**. Essen-

tially, these laws prohibit business practices that unreasonably deprive consumers of the benefits of competition, resulting in higher prices for products and services. In India, The Competition Act, 2002 regulates such activities.

About CCI

The Competition Commission of India (CCI), constituted in **2009** is a **statutory body** of the Government of India responsible for enforcing the Competition Act, 2002. The **Monopolies and Restrictive Trade Practices Act, 1969 (MRTP Act)** was repealed and replaced by the **Competition Act, 2002**, on the recommendations of the **Raghavan committee**.

- It consists of **one Chairperson and six Members** who shall be appointed by the Central Government.
- **The Competition Act, 2002 (amended in 2007)** prohibits **anti-competitive agreements**, and abuse of dominant position by enterprises and regulates combinations (acquisition, acquiring of control and M&A), which cause or are likely to cause an appreciable adverse effect on competition within India.

[Insta Links: Apple faces antitrust case in India over apps issue](#)

Prelims link

1. What is an anti-trust case?
2. CCI- roles, responsibilities and functions
3. Important anti-trust-related cases
4. Competition Commission Act

Mains link:

Q. Ensuring fair competition in the Indian digital market is in the best interest of every stakeholder involved. Comment. (10M)

[Employment](#)

REMOTE WORK SAVED JOBS DURING COVID: ILO REPORT

Context:

- A report titled **'Working Time and Work-Life Balance Around the World'** has been recently released by the International Labour Organisation (ILO).
- This first-ever ILO global report on working time focuses on the actual number of hours of work, working-time arrangements and their implications for work-life balance.

Highlights of the report:

Nature of work during the COVID-19 crisis:

- **Flexible working hours.**
- **Short-time work** and work-sharing measures.
- **Increased working hours** in the healthcare or pharmaceutical industries.
- **Teleworking** contributed to the pandemic response by **reducing social contact**.
- **Great resignation phenomenon:** It is an ongoing economic trend (beginning in early 2021) in which employees (most likely in hospitality, healthcare, and education sectors) have voluntarily resigned from their jobs in mass, in the wake of the pandemic.
 - **The most cited reasons are** work-life imbalances, wage stagnation amid the rising cost of living, limited opportunities for career advancement, hostile work environments, etc.

Impact: Inclusive short-time work schemes with the highest possible allowances -

- Enabled individuals as well as companies, enterprises and industries to **collectively reduce the hours or volume of work**.
- Sustained purchasing power and created the possibility of cushioning the effects of economic crises.
- Laid the ground for a **better and more healthy work-life balance**.
- **Teleworking** helped in maintaining organisational operations and **preserving jobs**.

Suggestions by the ILO:

- ILO member countries need to **prescribe policies** necessary to remedy the weaknesses of working-time instruments that became apparent during the pandemic.
- **Large-scale implementation of telework** nearly everywhere in the world to **change the nature of employment** in the near future.

Conclusion:

- The 'Great Resignation' phenomenon has placed **work-life balance at the forefront of social and labour market issues** in the post-pandemic world.
- There is a substantial amount of evidence that work-life balance policies provide significant benefits to enterprises, and such policies are a **'win-win'** for both employers and employees.

What is 'Great Resignation'?

The Great Resignation, also known as the 'Big Quit' and the 'Great Reshuffle', is an ongoing economic trend in which employees have voluntarily resigned from their jobs en masse, beginning in early 2021 in the wake of the COVID-19 pandemic.

- A record **4.3 million people** resigned in August 2021, up

2,42,000 from July, according to the US Bureau of Labor Statistics (BLS).



Underlying factors:

- **COVID Pandemic** has led to people working from home, and many resigned to take care of their loved ones during periods of sickness.
- **Burnout:** Working from home and being double burdened with psycho-social issues due to isolation and low-leisure time also led to burnout feeling.
- **Anti-work movement:** It grew strong in 2021 and improvement in labour conditions and wage hikes were key demands that not being met resulted in resignation.
- **Gig economy:** Freelance and gig work became strong during the pandemic period and many sought gig works and moonlighting in new fields.
- **Skilling:** moonlighting in new fields also meant leaving the conventional job to acquire new skills.

[Insta Links: New labour codes give a free hand to employers: Unions](#)

Mains Links:

Q. Explore and evaluate the impact of 'Work from Home' on family relationships. (UPSC 2022)

[Inclusive growth and issues.](#)

OXFAM INEQUALITY REPORT ON WEALTH TAX

Context:

- Evidence of "excessive" wealth concentration and uneven income growth is mentioned in the recently released **Oxfam "Survival of the Richest" report**.
- **The gap in income recovery** between the top income categories and those at the bottom as a result of the economic crisis post-COVID-19 pandemic.

India-specific findings in the report:

- There are now 166 billionaires, up from **106** in 2020.
- **The top (30%) earners hold the majority (90%) of the wealth.**

Ramifications of the above findings:

- This can stir the debate for an **equalising wealth tax** (a progressive wealth tax where the tax rate increases as the wealth of an individual increase. The goal is to redistribute wealth and reduce inequality among citizens.)
- Oxfam argues that indirect taxes are regressive and suggests -
 - A **wealth tax** - a tax on unrealised capital gains and higher taxes on corporates.
 - **Tax on incomes, capital gains and wealth are interrelated** and the changes cannot be recommended in isolation.

Tax collection depends upon The mix of taxes that a country raises as a function of its institutional capacity, the structure of the tax base and the desire for simplification.

Case of India - The report raises two important points:

- **The lower corporate tax rate** in lieu of incentives and the introduction of GST - a costly experiment of tax policy in India.
 - The corporate tax cuts brought the statutory tax rate down from 30 to 25.17%, leading to a revenue loss of Rs 1.03 lakh crore.
- The GST and its disproportionate impact on the low-est earners.
 - The **bottom 50% pays six times more indirect tax** as compared to the top 10%.
 - The current income tax system **exempts incomes up to Rs 5 lakh from tax and the GST rate structure places a higher burden on luxuries.**

Issues with the Oxfam report's calculation:

- Although the report carries the right message about **rising inequalities and the need for tax reform**, it gets lost in assumptions.
 - **For example**, India will gain 10% more in taxes than it currently collects indirect taxes from the introduction of the wealth tax.
- Wealth tax has historically been utilised by nations, including India, **but the revenues were dismal**, making it an expensive tax to operate.
- Hence, a **compartmentalised approach to tax policy** that links several taxes that are levied against the same base is meaningless.

Way ahead:

Taxes do not always solve problems, and it is important to consider the impact of other macroeconomic measures like low-interest rates and regulatory actions.

Conclusion:

Rather than depending on a tax that depends heavily on volatile asset values, the same goal can be achieved with a gradual increase in wealth and income of all. This will reduce inequalities without penalising the corporates.

InstaCurious: The **Gini index** measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. For India, it was **35.7 in 2019**(World Bank Data)

Insta Links: [Inequality in India](#)

Mains Links:

Q. "Investment in infrastructure is essential for more rapid and inclusive economic growth." Discuss in light of India's experience. (UPSC 2021)

INCLUSIVE CIRCULAR ECONOMY

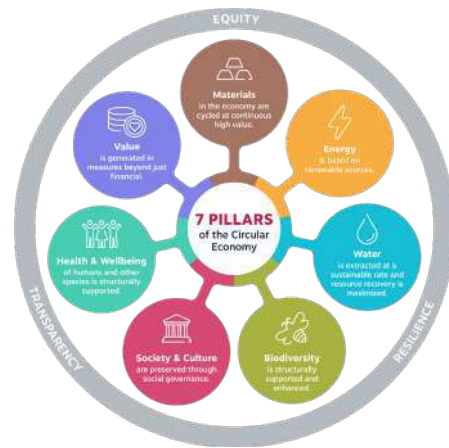
Context:

The United Nations Development Programme (UNDP) launched a campaign to drive an **inclusive circular economy** as part of its initiative to promote sustainability.

Key features of the campaign:

- The project is a scale-up of existing partnership under **UNDP's flagship Plastic Waste Management Programme**.
- **End-to-end management of plastic waste** by promoting:
 - Segregation of waste at the source
 - Collection of the segregated waste
 - Setting up **Material Recovery Facilities (MRFs)** for recycling all kinds of plastic waste.
- **Partnership with the Private sector** will also help build the capacities of Urban Local Bodies for adopting the MRFs or Swachhta Kendra.
- **Collaboration** between **municipal corporations, corporates, Safai Saathis, and people**.
- **Reach out to 100,000 households** for segregation at the source

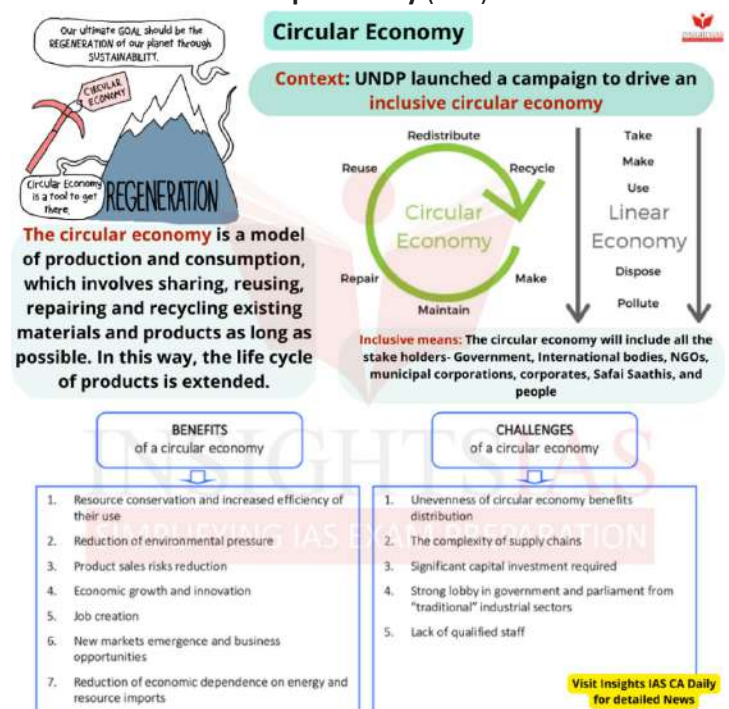
7 Pillars of Circular economy:



Initiatives towards Circular Economy:

- **Global:**
 - Germany and Japan have made the '**Circular Economy**' part of their economic planning
 - China's **Circular Economy Promotion Law**
- **India:**
 - **Recognition of the circular economy concept in the 2022-23 Budget**
 - **Vehicle Scrappage Policy 2022:** Private vehicles older than 20 years will be deregistered from June 1, 2024, if they fail the fitness test or their registration certificate is not renewed.
 - **Niti Aayog** along with the EU has prepared a strategy paper on '**Resource Efficiency**'
 - **Battery Waste Management Rules 2022**
 - **Plastic Waste Management (Amendment) Rules 2022**
 - **e-Waste Management Rules 2022**

Extended Producer Responsibility (EPR) certificates



Inst Curious:

The Kabadiwala (a startup) was founded in 2014 and offered free doorstep scrap collection services to households, retailers, and industries in Bhopal.

Insta Links:

[Clean energy should use the battery of a circular economy](#)

Mains Links:

Q. Explain the concept of the circular economy. Giving examples, discuss its utility in India. (250 Words)

[Government Budgeting.](#)

THE NUTS AND BOLTS OF A UNION BUDGET

Context:

On February 1, Finance Minister Nirmala Sitharaman will present the Union Budget for the next financial year (2023-24). Here are the basics of Union Budget.

Constitutional Provisions

- **Article 112 of Indian Constitution:** The Union Budget for a year is referred to as the **Annual Financial Statement (AFS)**.
- It is a statement of the **estimated receipts and expenditures of the Government in a Financial Year**.
- The Budget Division of the **Department of Economic Affairs** in the Ministry of Finance is the nodal body responsible for preparing the Budget.

Any budget essentially provides some details.

- **The total receipts, Ways and means to raise the revenue** :The total amount of money that the government will raise in the coming year.
- **Total expenditure:** The total amount of money it will spend.
- **Fiscal deficit:** The total amount of money it will borrow from the market to plug the gap between what it spends and what it earns.
- Details of the actual receipts and expenditure of the closing financial year and the reasons for **any deficit or surplus in that year**, and
- The economic and financial policy of the coming year, i.e., **taxation proposals, prospects of revenue, spending programme and introduction of new schemes/projects**.

Forces that shape a Budget

- Demand for a **lower rate of taxation and/or a higher rate of exemptions**. In other words, **people and firms lobby to get their tax burden reduced**.
- Demands from **people/firms wanting higher or newer subsidies**.
- Demands which are antagonistic to the first two categories. They demand that the government **cuts down on its fiscal deficit (essentially the total amount of money the government borrows from the market in order to bridge the gap between its total expenditure and its total receipts)**.

In Parliament, the Budget goes through six stages:

- Presentation of Budget.
- General discussion.
- Scrutiny by Departmental Committees.
- Voting on Demands for Grants.
- Passing an Appropriation Bill.
- Passing of Finance Bill.

Inst Curious:

- **RK Shanmukham Chetty presented the 1st Union Budget of independent India** on Nov 26, 1947.
- Till 2017 Rail Budget and Union Budget came separately (Done through **Acworth Committee – 1924**) but **now both are merged together**.
- **Jawaharlal Nehru, Indira Gandhi and Rajiv Gandhi are the only prime ministers** to have presented a Budget.
- The date of the Union Budget presentation was **changed in 2017 by then finance minister Arun Jaitley from ‘last working day of February’ to ‘February 1’**.
- On 1st Feb 2021, Finance Minister Nirmala Sitharaman **presented the first paperless budget**. This was done due to the ongoing COVID- 19 pandemic in India.

[Insta Links: The budgeting process in India](#)

Prelims Link: UPSC 2016

Q. Which of the following is/are included in the capital budget of the Government of India?

1. Expenditure on acquisition of assets like roads, buildings, machinery, etc,
2. Loans received from foreign governments
3. Loans and advances granted to the States and Union Territories

Select the correct answer using the code given below.

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Solution: D

Mains Link:

Q. Distinguish between Capital Budget and Revenue Budget. Explain the components of both these Budgets. (UPSC 2021)

Agricultural produce

CULTIVATED IDEA: URBAN FARMING

Context:

The “**Draft Citizen’s Policy for Urban Agriculture in Delhi**” by Delhi-based research non-profit People’s Resource Centre, was submitted to the Delhi government to provide a **holistic framework for urban farming**.

Background:

- Produce cultivated in the city provides 60% of Delhi’s demands for meat, 25% of its milk, and 15% of its vegetable requirements.
- However, the National Capital’s land use and farming policies **do not take into account how food is grown and distributed in urban areas**.

Draft Citizen’s Policy for Urban Agriculture in Delhi:

- **Promoting residential and community farming** through rooftop and kitchen gardens,
- Allocating vacant land for agricultural use
- Creating a market
- Developing policies for animal rearing and spreading awareness.

Significance:

- Rapid urbanisation, population explosion and climate change **increase the risk of food shortage**.
- The M S Swaminathan Research Foundation (2010 report) notes that **50% of women and children in urban areas are anaemic** due to a lack of adequate nutrition.
- In 2020, the UN FAO acknowledged that urban and peri-urban farming can contribute to local **food and nutritional needs, enable jobs and reduce poverty**.

Steps taken in India to promote urban agriculture:

- **Pune’s civic administration’s city farming project** to train and encourage people to take up farming.
- **Kerala government’s vegetable development pro-**

gramme to encourage gardening in houses, schools, and government and private institutions.

- **Tamil Nadu government’s “do-it-yourself” kit** for city dwellers to grow vegetables on rooftops, houses and apartment buildings under its **Urban Horticulture Development Scheme**.
- **Bihar** has encouraged **terrace gardening** in five smart cities through subsidies for input costs.

Concerns:

- Lack of a **strong policy for urban farming**.
- **Rapid urbanisation is also a hindrance**. Eg.: Jaunti village in Delhi, has become an ‘urban village’, making its land non-agricultural.

Way ahead:

- **Integrating** all efforts to promote urban farming is the key.
- There is a need to make **urban agriculture viable**.
- **Farming in urban spaces** (water scarcity and pollution) is not easy.
- **Using wastewater** (directly or recycled) can address water scarcity and pollution.
- **Innovative techniques**, say, **hydroponics** (offers a cleaner approach), can be further promoted.
 - Hydroponics is a method of **soilless farming** that uses nutrient solutions to sustain plants.
 - Compared to commercial farming, hydroponics requires 90% less water, which can be reused. One can grow more plants in the space given.

Conclusion:

Urban farming cannot sustain the large population, but can act as a cushion to protect urban residents from inflation, vulnerabilities of weather or crises such as COVID-19. Before more villages become urban, **early interventions can result in a sustainable system**.

Insta Links: [Regenerative agriculture: A step towards water conservation](#)

Mains Links:

Q. How far is the Integrated Farming System (IFS) helpful in sustaining agricultural production? (UPSC 2019)

Prelims Links: (UPSC 2021)

In the context of India’s preparation for Climate-smart Agriculture, consider the following statements:

1. The ‘Climate-Smart Village’ approach in India is a part of a project led by the Climate Change, Agriculture

and Food Security (CCAFS), an international research programme.

2. The project of CCAFS is carried out under the Consultative Group on International Agricultural Research (CGIAR) headquartered in France.

3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

Which of the statements given above are correct?

1. 1 and 2 Only
2. 2 and 3 Only
3. 1 and 3 Only
4. 1, 2 and 3

Ans: 4

Changes in industrial policy and their effects on industrial growth.

ONE NATION-ONE STANDARD

Context:

- The Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, is working on a new industrial policy.
- This will be the third industrial policy (after 1956 and 1991), which is likely to replace the 1991 policy, which was prepared against the backdrop of the balance of payment crisis.

Objectives of the New Industrial Policy:

- In order to address issues and challenges of the industry, the policy has identified the following objectives -
 - Focus on **competitiveness** and **capability**;
 - **Economic integration** and moving up the global value chain;
 - Promoting India as an attractive **investment destination**;
 - **Nurturing innovation** and **entrepreneurship**; and
 - Achieving **global scale** and standards.

The proposals of the New Industrial Policy:

- It seeks to achieve -
 - **One Nation-One Standard**,
 - Promote **startups** in every district,
 - **Create startup innovation zones** at the level of urban local bodies,
 - Formulation of a **national capacity development program**, and
 - **Incentivise Indian speciality products** by creating premium international brands.

- **To increase financing sources**, promote the **Made in India** brand, enhance local value addition and the country's credibility as a source of quality products.
- It has suggested **various ways for wider access to finance** for the industry such as setting up -
 - A **development finance institution** to provide finance at competitive rates and
 - Considering using some part of forex reserves for such funding.
- An **integrated investment promotion strategy** involving district, state, national and international market synergies.
- **Creating a national digital grid**, developing a robust data protection regime, setting up a technology fund, and creating a task force to continuously identify skill gaps.
- **Strengthening of the export finance systems** for enhancing export competitiveness.

Other suggestions in the proposed policy:

- Providing **performance-based loans and incentives** for innovation and green growth;
- Leveraging **fintech**;
- **Encouraging MSMEs** to choose the corporate bond market;
- **Accepting intellectual property rights** as collaterals for loans;
- **Enabling supply chain** financing;
- **Encouraging microfinance institutions** to form co-operative groups and finance micro-enterprises at affordable rates.
- Rolling out **social security schemes for women workers**
- Inclusion of **labour-intensive industries** under the production-linked incentive scheme.

Insta Links: [Why an industrial policy is crucial](#)

Mains Links:

Q. "Industrial growth rate has lagged behind in the overall growth of Gross-Domestic-Product (GDP) in the post-reform period" Give reasons. How far are the recent changes in Industrial Policy capable of increasing the industrial growth rate? (UPSC 2017)

Prelims Links: (UPSC 2018)

Q. Increase in absolute and per capita, real GNP do not connote a higher level of economic development, if
(a) industrial output fails to keep pace with agricultural output.
(b) agricultural output fails to keep pace with industrial output.

(c) poverty and unemployment increase.

(d) imports grow faster than exports.

Ans: c

FAKE NEWS REGULATION

Context:

- The Ministry of Electronics and Information Technology (MeitY) proposed a draft rule - Rule 3(1)(b)(v) of the amended version of the **IT (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021**.
- The proposed rule requires social media platforms to take down content that has been “fact-checked” by the Press Information Bureau’s (PIB) fact-check unit (or any other agency authorised by the Central Government) as false.

Background:

The amended version of the IT Rules 2021 was enlarged to include the removal of fake news from online intermediaries.

The larger issue of fake news in India:

Meaning:

- Fake news is any piece of **misleading maliciously false information** circulating through print media, electronic media or social media.
- ‘**Yellow Journalism**’ and ‘**Tabloid Journalism**’ are the terms used for fake news.

Motive:

- To **increase their viewership and TRP** through eye-catching headlines and cooked-up news.
- To spread **propaganda/personal agenda/image building/defaming** someone.

Impact:

- Negative impact on **law and order** of the state as well as the **safety and security** of the citizens. (31 mob lynchings due to fake news of being child abductors)
- Breed **communal hatred** and disturbs the **communal harmony** in a society.
- Affects the **election outcomes** via fabricated articles, audio, videos, and election campaigns. (Fake news accused of tampering U.S Presidential elections)

Laws to curb fake news:

- Section 66 D of the **IT Act 2008** regulates offences related to electronic communication.
- **The Disaster Management Act 2005** and the Epidemic Diseases Act 1897 (especially during Covid-19)

regulate the circulation of fake news or rumours that can cause panic among citizens.

- **The Indian Penal Code of 1860** regulates fake news that causes riots and information that causes defamation.

Challenges in curbing fake news:

- At present, there are a total of **692 million active internet users** in India, including 351 million from rural India and 341 million from urban India (IAMA Report 2022, titled – Internet in India).
 - **Due to end-to-end encryption** of messages, third parties will not have any access to these messages.
 - Hence, such fake news comes to the attention of the administration only **if it is reported**.
- There is **no dedicated fake news law**.
- **The use of internet shutdowns** to curb the spreading of fake news has been an effective way.

Concerns related to Rule 3(1)(b)(v) of the amended version of the IT Rules 2021:

- Anything contradicted by the government might be used to justify-content takedowns.
- **The PIB’s fact-checking unit** (established in 2019) verifies news about government ministries, departments, and schemes.
 - But **it rarely explains** why information has been identified as false or misleading and, on some occasions, it tweeted incorrect information.

Way ahead

- A very strict fake news law is the need of the hour.
- **Linking Aadhar to social media accounts, as suggested by Attorney General could be helpful.**
- Being a digitally responsible citizen -
 - By just rechecking the information from some authentic sources
 - By applying common sense without getting biased

Some best practices:

- **Facebook has partnered with a fact-checking website** to check the authenticity of messages circulating through it.
- In 2018, **Google news trained 8000 journalists** in different Indian languages to spread awareness about Fake news and fact-checking.

Insta Links: [The picture is clear, it is top-down misinforma-](#)

Mains Links:

Q. What are social networking sites and what security implications do these sites present? (UPSC 2013)

Infrastructure: Energy

RISK OF TRANSITION TOWARDS CLEAN ENERGY

Context:

A study in the **Global Environmental Change journal**, India's financial sector is highly exposed to the risks of the economy transitioning from being largely dependent on fossil fuels to clean energy.

Background:

- **Coal** - accounts for **44% of India's primary energy sources** and **70% of power generation**.
- The coal-fired power plants have an **average age of 13 years** and India has 91,000 MW of new proposed coal capacity in the works, second only to China.
- According to **the Draft National Electricity Plan 2022**, coal's share in the electricity generation mix will decrease to 50% by 2030.
- India's "**Panchamrit**" target to reach **net-zero emissions by 2070** and to source half of its electricity needs from non-fossil fuel sources by 2030.

Highlights of the study:

- **The financial decisions** of Indian banks and institutional investors are forcing the nation to rely on a more expensive, more polluting source of energy. **For example,**
 - **Oil and gas extraction** accounted for 60% of lending to the mining industry, while **petroleum refining** accounted for one-fifth of debt in the manufacturing industry.
 - **Only 17.5% of bank lending** to the power sector has been to renewables.
- Consequently, **India has much higher electricity from carbon sources** than the world average, despite its vast potential for cheap solar, wind, and small hydropower.

Challenges:

- **High-carbon industries** account for 10% of outstanding debt to Indian financial institutions.
 - However, these industries are also heavily indebted and therefore **have the less fi-**

financial capacity to respond to shocks and stresses.

- **India's financial sector is heavily exposed to potential transition risks.**
- **A shortage of expertise in providing apt advice** to the institutions on such a transition.
- **Trillion dollars needed** to meet power generation commitments from non-fossil fuel sources.

Reasons why economy could be at risk:

- **High upfront costs:** The initial investment required to transition to clean energy, such as building solar or wind power plants.
- **Job losses in certain industries** could have negative effects on the economy leading to higher unemployment.
- **Dependence on foreign technology** would rise the import bill, making it unaffordable.
- **Lack of infrastructure** developing which may be costly and time-consuming.
- **Uncertainty of investments and regulations** can make it difficult for companies.

Way ahead:

- **Financiers, regulators and policymakers** need to ensure an orderly transition to net zero.
- RBI is expected to launch India's **first-ever sovereign green bonds auction** worth ₹40 billion.
- **India's presidency of the G-20** focuses on the energy transition and sustainable finance.
- **Systematically incorporate data into financial planning**, with respect to **ESG**

Conclusion:

There is a linkage between financial risk, renewable energy technology budgets, and environmental quality as the transition to clean energy can have an impact on all three areas. Shifting financial resources towards renewables would deliver huge benefits for India like cheaper electricity, cleaner air, and fewer emissions. Thus, on the other side of risk is a **tremendous opportunity**.

InstaCurious:**ESG stands for Environmental, Social, and Governance.**

It refers to a set of standards for a company's operations that socially conscious investors use to screen potential investments.

Environmental standards - company's impact on the natural world.

Social standards - company's impact on its employees, customers, and community.

Governance standards - company's leadership, financial transparency, and ethical behaviour.

Related News:

What is Liquefied Natural Gas (LNG), and how it impacts the climate

Source: [Indian Express](#)

Read related Link: [Europe turns to LNG instead of Russian gas: What is it, how it impacts the climate](#)

[Insta Links: India Ranks Third in Renewable Energy Installations in 2021](#)

Mains Links:

Q. Describe the benefits of deriving electric energy from sunlight in contrast to conventional energy generation. What are the initiatives offered by our government for this purpose? (UPSC 2020)

Prelims Links:

Q. With reference to the Indian Renewable Energy Development Agency Limited (IREDA), which of the following statements is/are correct? (UPSC CSE 2015)

1. It is a Public Limited Government Company.
2. It is a Non-Banking Financial Company.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: C

Science and Technology

THE DANGER OF DEEP FAKES

Context:

The disinformation threat has a new tool in the form of deep fakes.

What are deepfakes?

- **Deepfakes are digital media** - video, audio, and images **edited and manipulated using Artificial Intelligence (AI)** to inflict harm on individuals and institutions.
- **AI-Generated Synthetic media or deepfakes** have clear **benefits** in certain areas, such as accessibility, education, film production, criminal forensics, and artistic expression.
- It can be **exploited** (hyper-realistic digital falsification) **to damage the reputation**, fabricate evidence, defraud the public, and undermine trust in demo-

cratic institutions with **fewer resources** (cloud computing, AI algorithms and abundant data).

Threats:

- **96%** of deepfakes are pornographic videos, **reducing women to sexual objects** and causing emotional distress.
- Deepfake can **depict a person as indulging in antisocial behaviours** and can create **social discord**, **increase polarization**, and can even influence the **election outcome**
- Deepfakes can accelerate the **trust deficit in traditional media** and could be used by **nation-state actors** to create chaos in the target country, undermining trust in institutions and **diplomacy**.
- Misuse by **non-state actors** (terrorist organisations), **to stir anti-state sentiments among people**.
- The threat of the **liar's dividend** - an undesirable truth is dismissed as deepfake or fake news, giving more credibility to denials.
- **Weaponization of deepfakes**, use of fake news and alternative-facts narrative to **dismiss an actual piece of media and truth**.

What countries are doing to combat deep fakes?

- **China:** Any doctored content using the technology should be explicitly labelled so that it can be traced back to its source, as per a new policy.
- **The European Union:** an updated **Code of Practice**, that requires tech companies including Google, Meta, and Twitter to take measures in countering deepfakes on their platforms.
 - Non-compliance - **6% of annual global turnover as fine**.
- **The U.S:** The bipartisan **Deepfake Task Force Act** to assist the Department of Homeland Security (DHS) to counter deepfake technology by conducting an annual study of deep fakes.
- **In India**, there are **no legal rules** against using deep fake technology. However, specific laws can be addressed for misusing the tech, which includes Copyright Violation, Defamation and cybercrimes.

Case of Canada:

- While Canada does not have any regulations to tackle deep fakes, **it is undertaking some of the most cutting-edge AI research** with a number of domestic and foreign actors.
- Also, **Canada is a member and leader** in many related multilateral initiatives (**Paris Call for Trust and Security in Cyberspace, Global Partnership on AI**), which can be utilised to create deepfake policy in different areas.

Solutions:

- **Media literacy** for consumers is the most effective tool to combat disinformation and deep fakes.
- **Meaningful regulations** with a collaborative discussion with all stake holders to disincentivise the creation and distribution of malicious deepfakes.
- **Easy-to-use and accessible technology solutions** to detect deepfakes, authenticate media, and amplify authoritative sources.
- **Social media platforms are taking cognizance** of the deepfake issue, and almost all of them have some policy or acceptable terms of use for deepfakes.

Conclusion:

We must all take responsibility for being critical Internet media consumers, thinking and pausing before sharing on social media, and being part of the solution to this 'infodemic.'

[Insta Links: Countering Deepfakes](#)

[Mains Links:](#)

Q. Use of the internet and social media by non-state actors for subversive activities is a major security concern. How have these been misused in the recent past? Suggest effective guidelines to curb the above threat. (UPSC 2016)

CRYPTO AWARENESS CAMPAIGN

Context:

The Investor Education and Protection Fund (IEPF) will launch an outreach programme soon to **create awareness of cryptocurrencies and online gaming.**

About Investor Education and Protection Fund (IEPF)

- It is managed by the **IEPF Authority**, which was set up in **2016 under the provisions of Section 125 of the Companies Act, of 2013.**
- It comes under the aegis of the **Ministry of Corporate Affairs.**
- The Authority is entrusted with the responsibility of **administration of the IEPF**, which, **besides promoting awareness among investors, makes refunds of shares, unclaimed dividends, matured deposits and debentures and so on to rightful claimants.**

About Cryptocurrency:

A digital currency is one in which transactions are verified and records maintained by a decentralized system using cryptography, rather than by a centralized authority.

Online gaming

- The **Ministry of Electronics and Information Technology (MeitY) has been appointed** the nodal industry for online gaming in India; **for e-sports, the nodal agency is the Department of Sports**, under the Ministry of Youth Affairs and Sports.
- A glance at the rulings of the Supreme Court and several High Courts clearly establishes **'Games of Skill' as legitimate business activities protected under Article 19(1)(g) of the Indian Constitution.** These rulings have also emphasized a clear distinction between 'Games of Skill' and 'Games of Chance'.

Issues with Online Gaming:

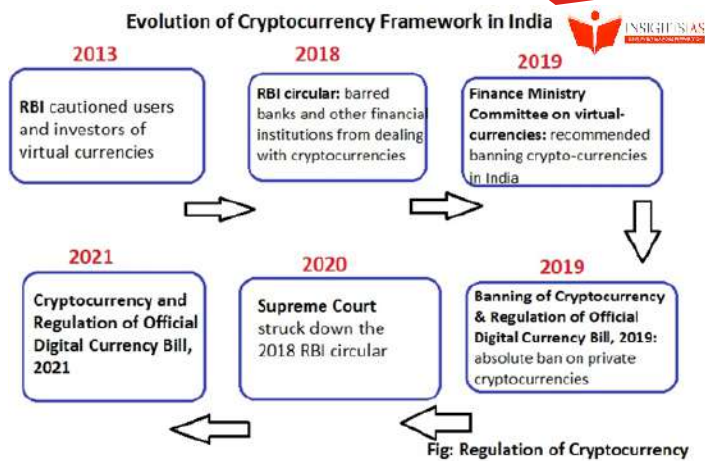
- There is confusion about the **definitions of a 'game of chance' like fantasy games, and a 'game of skill'**, a term, which has been used in the Public Gaming Act (1867) but has not been spelt out.
- There are **risks from cybercrimes** as well.
- Despite court rulings, online skill games have **faced restrictions in a few States due to addiction, financial losses and the thin line between skill and chance.**

How Cryptocurrency creates regulatory hurdles:

- **Cybersecurity threats**
- **Misuse of cryptocurrency** is hard to detect
- Controlling monetary policy like **inflation, growth would become an issue**
- The **anonymity of transactions** may lead to tax evasion
- **Geopolitical issues:** Countries may manipulate their cryptocurrency e.g., Experts say China's eCNY will threaten dollar dominance and can be a tool for a currency war
- The high **volatility of cryptocurrency and the highly fragmented market**

Measures taken to tackle this at the national level.

- India recently decided to **tax cryptocurrencies, a 30% on the transfer of such assets as well as a 1%TDS on every transaction.**
- RBI exploring **DLT (Distributed Ledger Technology) based Central Bank Digital Currency.**
- In July 2022, The Reserve Bank of India (RBI) recommended a ban on cryptocurrencies citing **'destabilizing effects on the country's monetary and fiscal health'.**



Insta Links:

- [Cryptocurrency](#)
- [Rules regarding online gaming](#)

Prelims Link: UPSC 2020

Q. With reference to “Blockchain Technology”, consider the following statements:

1. It is a public ledger that everyone can inspect, but which no single user controls.
2. The structure and design of the blockchain are such that all the data in it are about cryptocurrency only.
3. Applications that depend on the basic features of blockchain can be developed without anybody’s permission.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 only
- (d) 1 and 3 only

Answer: d

Mains Link:

Q. “Internet gaming has turned worse than drugs”. Do you agree? Critically examine the statement in light of the announcement made by the World Health Organization (WHO) to include “gaming disorder” as a mental health condition. (250 words)

TRAVAILS OF TRANS-FAT

Context:

Five billion people globally are exposed to harmful trans-fat, increasing their heart disease and death risk, according to a new report “Countdown to 2023” by the World Health Organization (WHO).

- The report monitors global progress towards the 2023 target for the global elimination of industrial-produced Trans-Fatty Acids (TFA).

About TFA:

- TFAs are **unsaturated fatty acids** that are of two types -
 - **Naturally occurring trans-fat occurs in some dairy and meat products.**
 - **Industrially produced trans-fat adds hydrogen to liquid vegetable oils to make them more solid.** It is found in packaged foods, baked goods, cooking oils and spreads.

Key Findings from the report:

- Trans fat intake is **accountable for up to 500,000 early deaths from coronary heart disease annually.**
- **Nine countries — Australia, Azerbaijan, Bhutan, Ecuador, Egypt, Iran, Nepal, Pakistan and the Republic of Korea —** of the 16 nations with the highest estimated percentage of coronary heart disease fatalities attributed to **trans-fat consumption** do not currently have best-practices strategy.
- **Two best-practices policy options:**
 - **Mandatory national limit of two grams** of industrially produced trans-fat per 100 grams of total fat in all foods.
 - **Mandatory national ban on the production or use of partially hydrogenated oils** as an ingredient in all foods.

Harmful effects of TFA:

- TFAs pose a **higher risk of heart disease than saturated fats** - they raise total cholesterol levels, and **reduce the good cholesterol (HDL), which helps to protect one against heart disease.**
- It is also associated with a higher risk of **developing obesity, type 2 diabetes, metabolic syndrome, insulin resistance, infertility, and certain types of cancers** and can also lead to compromised fetal development causing harm to the foetus.

Steps taken to regulate TFA:

National:

- FSSAI launched a **“Trans Fat-Free” logo for voluntary labelling** to promote TFA-free products in shops for preparations containing TFA not exceeding 0.2 per 100 g/ml.
- Campaign **“Heart Attack Rewind”** to eliminate industrially-produced trans-fat in the food supply by the year 2022.
- FSSAI limits the content to **not more than 2% by mass of total oils and fats from January 2022.**
- **Swasth Bharat Yatra, an initiative started under the “Eat Right” campaign** is a Pan-India cyclothon to engage citizens on issues of food safety, combating food adulteration and healthy diets.

Global:

- **TFA REPLACE strategy by WHO.**

REPLACE					
REVIEW	PROMOTE	LEGISLATE	ASSESS	CREATE	ENFORCE
dietary sources of industrially-produced trans fats and the landscape for required policy change	the replacement of industrially-produced trans fats with healthier fats and oils	or enact regulatory actions to eliminate industrially-produced trans fats	and monitor trans fat content in the food supply and changes in trans fat consumption in the population	awareness of the negative health impact of TFA among policy-makers, producers, suppliers, and the public	compliance with policies and regulations

Environmental Conservation

NEW FOREST (CONSERVATION) RULES VS FOREST RIGHTS ACT

Context:

The conflict between the government and the National Commission for Scheduled Tribes (NCST) over the Forest (Conservation) Rules, 2022, seems to be escalating.

[Insta Links: Trans fatty acids \(TFA\)](#)

Mains Link:

Q. What are Trans Fats? Discuss their impact on health and, measures taken by the government to decrease the consumption of trans fats. (250 words)

Background:

- The Union Environment Ministry notified the Forest (Conservation) Rules, 2022, under the Forest Conservation Act, 1980, thus **replacing the Forest (Conservation) Rules, 2003**
- NCST had raised concerns about the provision in the new rules that **proposes to do away with the consent clause for the diversion of forest land for other purposes** and recommended putting these rules on hold.
- However, the government insisted that the rules were framed under the Forest (Conservation) Act, 1980 and that the NCST's apprehension of these rules being in violation of the Forest Rights Act, 2006, **is not legally admissible**

The Forest (Conservation) Act (FCA), 1980	The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 or the Forest Rights Act (FRA), 2006
<ul style="list-style-type: none"> • It regulates deforestation by prohibiting the felling of forests for any "non-forestry" purpose without prior approval from the central government. • The clearance process includes obtaining permission from local forest rights holders as well as wild-life authorities. • The Centre has the authority to deny such requests or to grant them with legally binding conditions. 	<ul style="list-style-type: none"> • It recognizes forest-dwelling tribal communities' and other traditional forest dwellers' rights to forest resources on which these communities rely for a variety of needs. • It imposes on the Gram Sabha and rights holders the responsibility of biodiversity conservation and protection, by preventing any destructive practices affecting these resources. • Under the Act, the Gram Sabha is a highly empowered body that allows the tribal population to have a decisive say in determining local policies and schemes that affect them.

The Forest Conservation Rules, 2003	The Forest (Conservation) Rules, 2022
<ul style="list-style-type: none"> • There are two stages of approval ('In-Principle' and 'Final', after given conditions are met) prescribed for any application by any entity to use the forest land. • Nodal Officer → Divisional Forest Officer and the District Collector → Conservator of Forests → State Administration → MoEFCC • The District Collector shall complete the process of recognition and vesting of forest rights in accordance with the provisions of the FRA (obtain the consent of each Gram Sabha). 	<ul style="list-style-type: none"> • The Central Government can give its final approval and thereafter leave it to the state government to pass an order for de-reservation or diversion or assignment. • It is then left to the state government now to make sure that the claims of forest dwellers are settled. • However, the collector is not required to obtain the consent of Gram Sabhas before the In-principle approval.

Concern about the new Rules:

The Gram Sabha's approval had significant persuasive power and could influence decisions to proceed with the diversion process. However, the new Rules eroded Gram Sabha's role.

[Insta Links: The Forest \(Conservation\) Rules, 2022](#)

Prelims Links: (UPSC 2019)

Consider the following statements:

1. As per a recent amendment to the Indian Forest Act, of 1927, forest dwellers have the right to sell the bamboo grown in forest areas.
2. As per the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, bamboo is a minor forest produce.
3. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 allows ownership of minor forest produce to forest dwellers.

Which of the statements given above is/are correct?

1. 1 and 2 only
2. 2 and 3 only
3. 3 only
4. 1, 2 and 3

Ans: 2

Explanation: Statement 1 is not correct. Under the original Act, the definition of a tree includes palms, bamboo, stumps, brushwood, and canes. The amendment act amends this definition of the tree to remove the word bamboo.

50 YEARS OF THE STOCKHOLM CONFERENCE

Context:

“Stockholm+50: A healthy planet for the prosperity of all — our responsibility, our opportunity” was held in the year 2022 to mark the **50 years of the Stockholm Conference** (Report of United Nations Conference on the Human Environment).

About Stockholm Conference, 1972

- This was the **first global convergence on the planetary environment and natural resources**.
- Also termed the “**Swedish Initiative**”, the idea of the Stockholm Conference was first proposed by Sweden.
- The theme was **'Only One Earth'**.
- Stockholm Declaration: To build the “**interconnections between development, poverty and the environment**”.
- Action Plan for the Human Environment
 - Global Environmental Assessment Programme (watch plan)
 - Environmental management activities
 - International measures to support assessment and management activities carried out at the national and international levels.

Three Dimensions of the Conference:

- Countries agreed to not “**harm each other's environment or the areas beyond national jurisdiction**”.
- An action plan to **study the threat to Earth's environment**.
- Establishment of an international body called the **UN Environment Programme (UNEP) to bring cooperation among countries**.

- One cannot be truly human and civilized unless one looks upon not only all fellow-men but all creation with the eyes of a friend. ...

-- Indira Gandhi
(the then Prime Minister of India), Stockholm Conference, 1972



Significance:

- The Stockholm Conference of 1972 put **environmental issues on the global agenda for the first time**.
- No country had an environment ministry until 1972.
 - Today, over **176 countries have environmental framework laws**; 150 countries have enshrined **environmental protection or the right to a healthy environment in their constitutions**; and 164 countries have created **cabinet-level bodies responsible for environmental protection**.
- After 1972, the environment **started making headlines and public consciousness increased**.
- Many of today's conventions on environmental crises **trace their origin to the Stockholm Declaration**.
- **Challenges:**
- An **uncoordinated response** from the nations: The world is on track to warm at least 3°C above pre-industrial levels by 2100.
- **Poverty** is the biggest hurdle in the way of adopting sustainable measures for a healthy environment, as **poverty can't be eradicated without the use of science and technology**.

Please Note:

Stockholm Conference is different from Stockholm Convention

Stockholm Convention: It is a global treaty to protect human health and the environment from **persistent organic pollutants (POPs)**.

[Insta Links: 50 years since the Stockholm conference](#)

BEE: POSITIVE IMPACT ON BIODIVERSITY

Context:

A report highlighted, that the biodiversity of the **bee population is essential to preserving the ecosystem function of crop pollination, which is crucial to the availability of food for humans**.

About Bee Cultivation/Apiculture:

- **Apiculture** is the science and culture of **honeybees and their management**.
- As per the FAO, India **ranked eighth** in 2017-18 in the world in terms of honey production.
- National Beekeeping and Honey mission was launched to achieve the goal of **Sweet Revolution**.

Opportunities in the Beekeeping sector

- **Low investment and highly skilled enterprise model**.
- **The demand for good-quality honey has grown**
- **Role in pollination**
- **Scaling up beekeeping will double farmers' income**.

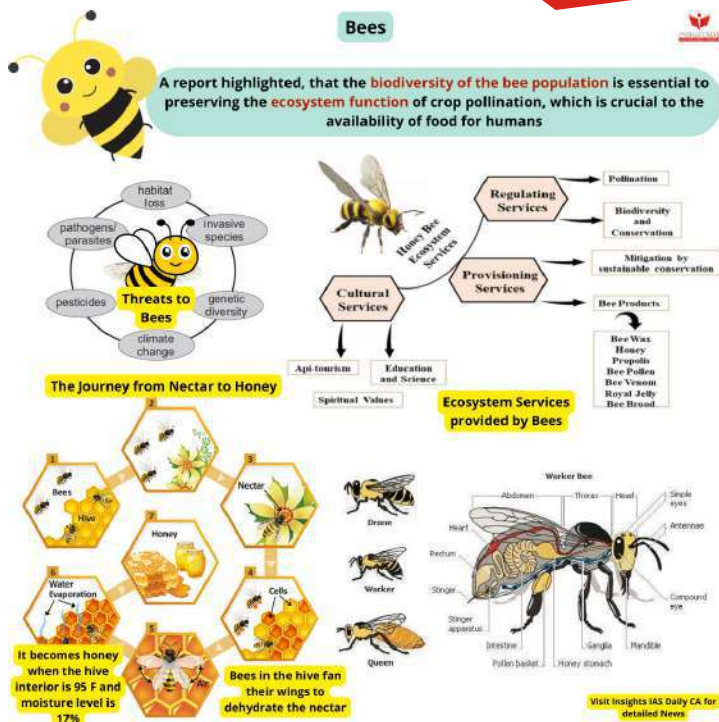


Challenges faced by the Beekeeping sector

- **Indigenous method** of beekeeping: This is the **primitive and unplanned method** of apiculture.
- **Using the Correct Species for Beekeeping**
- **Lack of Technical Knowledge for Efficient Management of Colonies for High Honey Yields**
- **Lack of Infrastructure at the Grass Roots and National Level for Beekeeping**
- **Poor Quality Control for the Production of Honey:** contaminated not only by the use of **sugar syrup in processing** but also through **pesticide and antibiotics use**.
- **Availability of Genetically Superior Queens** for Increased Honey Production
- **Lack of sufficient financial help** from government and lending institutions for the development of beekeeping.
- **No Control on the Use of Pesticides** by Farmers Leading to Death of Bee Colonies in Field Locations.

Recommendations by Beekeeping Development Committee under Bibek Debroy:

- Plantation of **bee-friendly flora at appropriate places** and engaging women SHG in managing such plantations.
- Institutionalizing the **National Bee Board and rechristening it as the Honey and Pollinators Board of India** under the Ministry of Agriculture and Farmers' Welfare.
- Recognition of apiculture as a **subject for advanced research under the aegis of ICAR**.
- **Training and development of beekeepers** by state governments.
- Development of **national and regional infrastructure**
- Simplifying procedures and specifying clear standards for ease of **exporting honey Hi-tech apiaries for commercial bee-farming**
- Research in the **fields of beekeeping, bee-behaviour**



About National Beekeeping & Honey Mission (NBHM)

- NBHM is a Central Sector Scheme, approved under the **Aatma Nirbhar Bharat** announcement, and implemented through **National Bee Board (NBB)**.
- NBHM aims for the overall **promotion & development of scientific beekeeping** in the country to achieve the goal of **'Sweet Revolution'** which is being implemented through NBB.
- Under the scheme, the main thrust is given on **awareness, capacity building/training, focus on women empowerment** through beekeeping and setting up of requisite infrastructural facilities.

Insta Links: [Beekeeping in India](#)

Mains Link:

Q. Discuss the prospects and challenges faced by the Beekeeping sector in the country and explain what needs to be done to realize its full potential of it.

HUMAN DISTURBANCE ALTERING HABITATS, ROUTINES OF ANIMALS

Context:

A new finding on animal behaviours

An animal must be at the right place, at the right time, to avoid predators, find food, and reproduce successfully.

- **As an analogy:** The interactions between the animals in a given ecosystem are like a theatrical production. For the production to be a success, each actor has to be on stage, in the right place, and they must act and deliver their lines at the right time.

Threats:

- As per the new study, **human activities might disturb these ecological interactions** and increase interspecies encounters.
- **Impact of farms:** Wild animals of different species were more likely to come to human-altered landscapes, like farms than in more undisturbed locations, such as national forests.
- **Frequent interaction can lead to intensifying competition** for resources or increasing the risk of interspecies disease transmission.
- Even when the animals do not come face-to-face, simply hearing or smelling a predator can have **"dramatic effects" on the behaviours of prey species**

What is an ecological niche?

In ecology, the term **"niche"** describes the role **an organism plays in a community.**

Related News:

World's first vaccine for honeybees gets the conditional nod in the US

Context: The United States Department of Agriculture (USDA) has granted a **conditional license for a vaccine for honeybees to curb American foulbrood (AFB)**, a fatal bacterial disease for the insect.

About American foulbrood:

- AFB is caused by the **spore-forming bacterium Paenibacillus larvae**.
- Infected broods usually **die at the pre-pupal or pupal stage**.
- The disease cannot be cured, meaning that the **destruction of infected colonies and hives or irradiation of infected material is the only way to manage AFB**.

How the vaccine will work:

The vaccine technology exposes **queen bees to inactive (i.e., "dead") bacteria**, which enables the larvae hatched in the hive to resist infection

- The vaccine is mixed in **queen candy** — the primary food source for both the queen bees and the attendant bees living in cages.
- **Worker bees** consume the **vaccine with the queen candy**, which is then **digested and transferred to the glands that produce the royal jelly**. Worker bees then feed the royal jelly containing the vaccine to the queen bee.
- **The queen digests the royal jelly and the vaccine is transferred to her ovaries**. She is then released into the hive. The vaccine gets transferred to the developing eggs. The developing larvae get vaccinated and are more immune to infection as they hatch.

What is an Ecosystem?

WHAT IS AN ECOSYSTEM?

An ecosystem is a community of living organisms interacting with each other and their non-living environment.

What makes up an ecosystem?

- All living things (plants, animals, and bacteria)
- Non living things (the sun, rocks, and soil)



In another study (DTE), it has been found that:

- Ants may be unable to adapt to global warming, leaving them highly vulnerable to the impacts of climate change.
- The insects are **cold-blooded creatures**, also called **ectotherms**. Their body temperatures depend on **external sources** like sunlight. **Humans (endotherms)**, on the other hand, **maintain their body temperature** without relying on the environment.

Importance of Ants:

- Ants are often called “**ecosystem’s engineers**”. These insects move the soil during nest-building and foraging, affecting the level of nutrients in it.

Functions ants perform to help the environment

- Helps in Aeration of The Soil
- Improve Soil Quality
- Disperse The Seeds of Plants
- Manage Pests Efficiently

and many more...

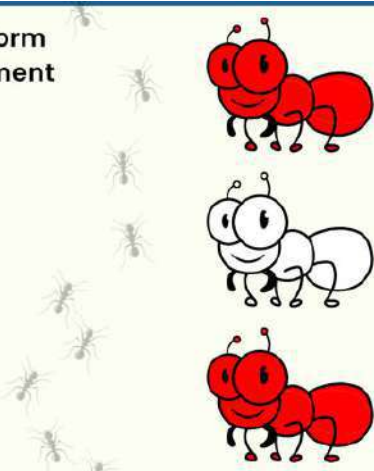


Image Credit: Earth Reminder

Interesting facts about Ants

When foraging, ants leave a scent trail to know where they have been.



www.greenhumour.com

The Asian Weaver Ant can lift 100 times its own body weight!



Images credit: Green Humor

Insta Links

- [Rubber plantations in Tripura affecting monkeys, vegetation, suggests paper](#)
- [Environment](#)

Mains Links:

Q. Conflict between people and animals is one of the main threats to the continued survival of many species. Analyze the causes behind rising cases of man-animal conflict. (15M)

Prelims Links

Q. Which one of the following terms describes not only the physical space occupied by an organism but also its functional role in the community of organisms? (UPSC 2013)

- (a) Ecotone
- (b) Ecological niche
- (c) Habitat
- (d) Home range

Answer: B

Q. Which one of the following is the best description of the term 'ecosystem'? (UPSC 2015)

- (a) A community of organisms interacting with one another
- (b) That part of the Earth which is inhabited by living organisms
- (c) A community of organisms together with the environment in which they live
- (d) The flora and fauna of a geographical area

Answer: C

PROTESTS OVER ESZ CLASSIFICATION

Context:

The creation of the **Ecologically sensitive zones (ESZ)** has sparked protests in Kerala and can be a hint of what is likely to occur in other parts of the country.

- **ESZ Context:** The problem begins with a notification that ought to have been community-specific but which a ministry offered as a 'one size fits all' solution.

Background:

- Protected areas cover **5.26% of India's land area** as 108 national parks and 564 wildlife sanctuaries notified under **the Wildlife (Protection) Act 1972 (WPA)**.
- These protected areas are based on the '**fortress conservation model**'. For example, activities permitted in 'reserve forests' are not permitted in national parks and wildlife sanctuaries.
- Surrounding these protected areas is an area of **approx. 3.4%** of the country's land, falls under the **ESZ regime**.
- Governments have notified 341 ESZs in 29 States and 5 UTs, while another 85 ESZs are awaiting notification.
- Together, protected areas and the ESZs cover **8.66%** of India's land area.

What are ESZ/Ecologically Fragile Areas (EFA)?

Meaning: ESZ is intended to protect 'protected areas' - national parks and wildlife sanctuaries - by effectively creating insulating layers around such protected areas where humans and nature can be at peace with each other.

Objectives of creating ESZ:

- To create a **shock absorber** by regulating and managing the activities around protected areas.
- To serve as a **transition zone** between areas of high protection and areas of lower protection.

Notified and regulated by: They are notified by the Union Ministry of Environment, Forest and Climate Change (MoEF-CC) and regulated under the Environment Protection Act 1986 (though the EPA does not mention the word 'ESZ').

Criteria to designate ESZ:

- Based on species (endemism, rarity, etc)
- Based on the ecosystem (sacred groves, frontier forests, etc)
- Based on geomorphological features (uninhabited islands, origins of rivers, etc)

Extent of ESZ:

- An ESZ's distribution can **vary in breadth and extent**. **For example**, the extent of ESZ from the boundary of a protected area ranges from **0 to 45.82 km** (in Pin Valley National Park, HP).
- The ESZs span notified forests outside protected areas, most of which could also come under gram sabhas' jurisdiction under the FRA.

Issues with ESZ:

Not in sync with FRA and PESA:

- The Forest Rights Act (FRA) 2006, **recognises the customary and traditional rights** (both individual and collective) of forest-dwellers on forest land, including inside protected areas.
 - Under the FRA, a new category of forests called '**community forest resource**' (CFR) has been created and has to be managed by the Gram Sabhas.
- Similarly, the Provisions of **the Panchayat (Extension to Scheduled Areas) Act (PESA) 1996**, empower Gram Sabhas to safeguard and preserve community resources on forest and revenue lands in Scheduled Areas.
- However, the MoEFCC has shown no inclination to amend the Indian Forest Act 1927, the Wildlife (Protection) Act and the EPA 1986 to comply with PESA and FRA.

The case of Kerala:

- **The Western Ghats (WG)** cover 48% of Kerala and nearly 30% of the state is covered by forests.
- **There is also a network of lakes**, canals and wetlands, as well as a 590-kilometre-long coastline, all of which are governed by a set of environmental conservation laws.
- **This leaves little space for its 3.5 crore population**, which has a population density of 900 people per square km (much higher than the national average).
- According to an SC directive, at least one km from the boundary of every protected area in Kerala should be marked as ESZ
- The Kerala State Assembly recently unanimously passed a resolution urging the Central Government to exempt the state's human settlements, farmlands, and public institutions from the ESZ's scope.

Conclusion:

- Mining and other activities have long depleted the nation's natural resources.
- As a result, the government's role should not be limited to that of a "facilitator" of economic activity.
- It must strive to achieve long-term **sustainable de-**

velopment by balancing economic development, environmental conservation and the rights of forest dwellers.

activities of other species like Humans.

Insta Curious:

The **fortress conservation model** is based on the belief that **biodiversity protection** is best achieved by **creating protected areas** where ecosystems can function in isolation from **human disturbance**. It assumes that **local people use natural resources** in irrational and destructive ways, and as a result cause biodiversity loss and environmental degradation.

Insta Links: [What are the Eco-sensitive Zones \(ESZs\)?](#)

Mains Links:

Q. How does the draft Environment Impact Assessment (EIA) Notification, 2020 differ from the existing EIA Notification, 2006? (UPSC 2020)

Prelims Links: (UPSC 2014)

With reference to 'Eco-Sensitive Zones', which of the following statements is/are correct?

1. Eco-Sensitive Zones are the areas that are declared under the Wildlife (Protection) Act, 1972.
2. The purpose of the declaration of Eco-Sensitive Zones is to prohibit all kinds of human activities in those zones except agriculture.

Select the correct answer using the code given below.

1. 1 only
2. 2 only
3. Both 1 and 2
4. Neither 1 nor 2

Ans: 4

ALIEN PLANTS AND TIGER HABITATS

Context:

According to a study conducted by the Wildlife Institute of India (WII), **several alien invasive plants** (like Lantana Camara, Parthenium hysterophorous, Prosopis juliflora, etc) growing together **can have a detrimental effect on the biodiversity in tiger habitats.**

Invasive species:

- Invasive/introduced/alien/exotic species are any **non-native species that significantly modify or disrupt** the ecosystem it colonises.
- Such species may arrive in new areas through natural migration, but they are often introduced by the

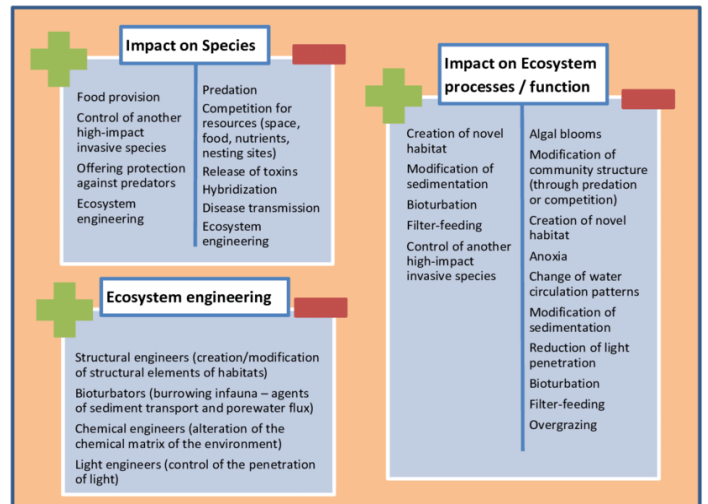
Background:

- The study was conducted in **Kanha Tiger Reserve (MP)**, comparing uninvaded native forests with old-growth invasions of single and multiple alien plants.
- India's biodiverse ecosystems are **threatened by a variety of alien plants**, introduced during British colonisation. **Lantana alone** has pervasively invaded 44% of India's forests.
- Apart from their spread in different ecosystems, **little is known** and even greater confusion when one asks about how alien plants impact native ecosystems.

Highlights of the study:

- Co-occurring invasive plants have a magnified cumulative impact than their individual impacts, **causing ecological homogenisation in invaded regions.**
- Multiple alien species together **affected soil nutrients** and the abundance of rich **grasses and herbs.**
- Depletion of the native plant populations → Reduced forage availability for herbivores like sambar and chital → **diseases in the herbivores** → threaten the sustenance of tiger, leopard and dhole.

What needs to be done? Prioritise restoration investments in the least invaded regions to retain native biodiversity and slowly upscale such restored habitats.



UNDERSTANDING KERALA'S MAN-ELEPHANT CONFLICT

Context:

The larger issue of man-animal conflict needs to be discussed as calls for the capture of an elephant that reacted to overexcited tourists in Munnar, Kerala, grow louder.

Man-Animal Conflict:

- **Meaning:** *Struggles that emerge when the presence or behaviour of wildlife poses an actual or perceived, direct and recurring threat to human interests or needs, leading to disagreements between groups of people and negative impacts on people and/or wildlife.*

Reasons for the conflict:

- **Growing human/animal populations** overlap with established wildlife/human territory, **creating a reduction of resources.**
- **Fragmentation of habitats and corridors** due to legal and illegal changes in land use - clearances for mining or encroachment for agriculture.
- **Agricultural Expansion** and Changing cropping patterns that attract wild animals to farmlands.
- **Habitat degradation** due to the growth of invasive alien species, etc.
- Other Reasons: Infrastructure development, Climate Change, etc.

Suggestions:

- **A Future for All Report 2021** (WWF and UNEP) suggests an approach of **coexistence** between humans and wildlife and the **involvement of local communities.**
- **Periodic awareness campaigns:** To sensitize, guide and advise the general public on man-animal conflict, including dissemination of information through various forms of media.
- **Skill-development programs:** For people living in and around the forest.
- **National Wildlife Action Plan 2017-31:** It has underscored the need for a landscape-level approach, the acceptance of rights of use and entry (into forests), and an emphasis on people's participation in conservation, promoting coexistence **between wildlife and local communities through awareness and education programs, and identifying and declaring critical wildlife habitats and migration corridors and taking measures to protect them from human encroachment.**
- A **landscape-based approach** is a method of conservation and management that focuses on preserving and managing entire ecosystems, rather than individual species or habitats. It takes into account the interconnectivity of different habitats, species, and ecosystem services within a given landscape.
 - A landscape-based approach aims to:
 1. Maintain the ecological integrity and functional diversity of the landscape
 2. Promote the conservation of biodiversity, including endangered species and habitats

3. Support the sustainable use of natural resources by local communities
4. Address the root causes of conservation problems, such as habitat loss, fragmentation, and degradation.

The case of Kerala - A success story in managing man-animal conflict:

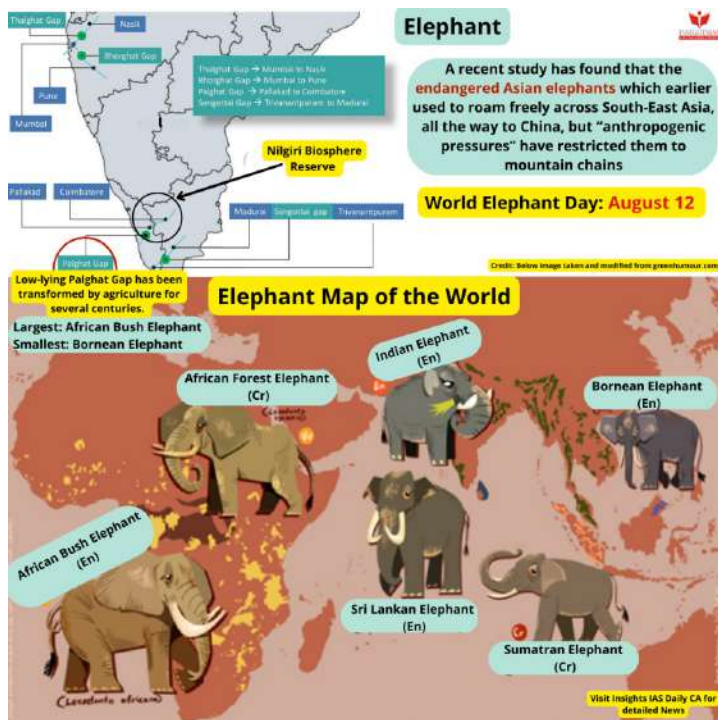
- The magnitude of human-elephant conflict in Kerala is **relatively low when compared with its abundance of wild elephants.**
- Of the estimated nationwide population of **30,000 wild elephants in 2017**, Kerala had about 5,700 (19%). Between 2018-2021, elephants killed 2,036 people in India and Kerala accounted for only 81 (4%) of these deaths.
- **Elephants are far-ranging animals.**
 - But in Kerala,
 - The frontiers between the wilderness and civilisation have remained largely unaltered in recent years.
 - Changes in agricultural practices in cropland. **For example**, coffee, pepper or tea plantations, in which jumbos have little interest.

Conclusion:

Proactive perception management, stricter enforcement by the states and a pragmatic policy for the problem will reduce the incidents of man-animal conflict. Healthy ecosystems and the vital services they provide to people depend on wildlife. Managing human-wildlife conflicts is therefore crucial to achieve the **UN Vision for Biodiversity 2050** in which **'humanity lives in harmony with nature and in which wildlife and other living species are protected'**.

InstaCurious:

Uttar Pradesh has declared man-animal conflict death as a state disaster.



[Insta Links: Man-Animal conflict](#)

FOREST COVER IMPROVEMENT: A TARGET MISSED

Context:

According to data accessed via the RTI, India is lagging behind in the targets to increase the number and quality of tree and forest-cover plantations set in the **Green India Mission (GIM)**.

Background:

- As per the **India State of Forest Report-2021**, forest and tree cover in the country increased by **2,261 square kilometres** since the last assessment in 2019.
- India's total forest and tree cover was **80.9 million hectares**, which accounted for **24.62%** of the geographical area of the country.
- According to India's National Forest Policy (1988), **at least 33%** of the country's total land area should be covered by forests in order to ensure ecological stability.
- India is tenth in the world in terms of the total area covered by forests, **but only 120th in terms of the proportion** of that area covered by forests.
- **17 States and Union Territories** had more than 33% of their area under forest cover.
- The top five States in terms of forest cover as a percentage of their total geographical area were **Mizoram (84.53%)**, Arunachal Pradesh (79.33%), Meghalaya (76%), etc.
- **MP had the largest forest cover**, followed by

Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.

National Mission for a Green India/ GIM:

- It is **one of the eight Missions** under the National Action Plan on Climate Change (NAPCC) launched in **2014** for a 10 years period with an outlay of Rs 60,000 crore.
- It aims at **protecting, restoring and enhancing** India's forest cover and responding to climate change.
- **The target under the Mission is -**
 - Increasing the forest and tree cover by **5 million hectares (ha) in 10 years**.
 - Increasing the quality of the existing forest and tree cover in **another 5 million ha** of forest in non-forest lands in 10 years.
 - Increasing **forest-based livelihood income** for about 3 million households in and around these forest areas.
- It is implemented under the overall administrative control of the **MoEF&CC** and presents a **holistic approach** to greening that considers -
 - Carbon sequestration goals
 - Maintain diverse ecosystem services and provisioning services.
- **Integrated cross-sectoral approach:** Implemented on both public and private lands, with local communities playing a crucial part in planning, decision-making, implementation, and monitoring.

Targets under the GIM: From 2015-16 to 2021-22, the Centre had approved a target of increasing tree/forest cover by 53,377 hectares and improving the quality of the degraded forest by 1,66,656 ha.

What are the challenges?

- **The GIM is able to achieve only 2.8% of its plantation target.** For example, tree/forest cover had increased by 26,287 hectares and forest quality improved by only 1,02,096 hectares as of December 31, 2022.
- **The GIM is grossly underfunded and funds allocated remain underutilised:** the Centre had allocated **₹681 crores but only ₹525 crores** had been utilised.
- **Afforestation** was solely for the purpose of boosting tree count, rather than taking into account soil and weather conditions.
- **Commercial plantations** (like eucalyptus) to enhance green cover, which couldn't make up for natural forests and was vulnerable to **insect infestations because they were monocultures**.

InstaCurious: In its new Nationally Determined Contribution, India pledged to reduce the emissions intensity of its gross domestic product by 45% by 2030, and to get 50% of its electricity from non-fossil fuel-based sources by 2030.

Insta Links: [State of Forest Report 2021](#)

Mains:

Q. Define the concept of the carrying capacity of an ecosystem as relevant to an environment. Explain how understanding this concept is vital while planning for the sustainable development of a region. (UPSC 2019)

Prelims Links: (UPSC 2016)

Which of the following best describe/describes the aim of the 'Green India Mission' of the Government of India?

1. Incorporating environmental benefits and costs into the Union and State Budgets thereby implementing the 'green accounting'
2. Launching the second green revolution to enhance agricultural output so as to ensure food security to one and all in the future
3. Restoring and enhancing forest cover and responding to climate change by a combination of adaptation and mitigation measures

Select the correct answer using the code given below.

1. 1 only
2. 2 and 3 only
3. 3 only
4. 1, 2 and 3

Ans: 3

CHEETAHS FROM SOUTH AFRICA

Context:

India has signed an agreement with South Africa to translocate 12 cheetahs (seven male and five female) to the **Kuno Palpur National Park (KNP)** in Madhya Pradesh.

Background:

- 'Cheetah' (*Acinonyx Jubatus Venaticus*) originates from Sanskrit and means '**the spotted one**'.
- The Cheetah is the **fastest land animal in the world**.
- Its **historical range** includes the **majority of Sub-Saharan Africa and extends eastward to India**.
- It is the **only large carnivore** that went 'Extinct' in India **due to overhunting and habitat loss**.

- The last cheetah died in the Koriya district of present-day Chhattisgarh in 1947 and the species was declared extinct in **1952**.
- According to the Wildlife Institute of India's (WII) "**Action Plan for Reintroduction of Cheetah in India,**" **50 wild cheetahs** that are ideal for starting a new cheetah population would be imported as a founder stock over five years initially.
- The PM of India released the **first batch of eight cheetahs** (five females and three males) from Namibia into a quarantine enclosure at Kuno last year.
- Some modifications have been made to the current **bomas** (wildlife cages constructed often for the treatment or quarantine of animals).

Significance of reintroducing cheetahs:

- In-situ Conservation of species.
- **Beneficial to the entire ecosystem** → save its prey base comprising certain threatened species and endangered species of the grasslands and open forest ecosystems.
- They pose **no danger to humans** or large livestock.

Why is KNP given the highest priority for reintroduction?

- Suitable habitat and adequate prey base.
- Assessed to be capable of supporting 21 cheetahs.
- **Devoid of human settlements:** Villages have been completely relocated from within the park.
- **Enables the coexistence of the four big cats** found in India - the tiger, lion, leopard, and cheetah, as they have in the past.

Why are cheetahs coming from Africa?

- Asiatic cheetahs found in Iran are categorised as critically endangered.
- The **highest genetic variation**, which is essential for a founding population stock, is found in African cheetahs.
- African cheetahs have been determined to be **the ancestors of all other Cheetah** lineages.



Cheetah



Context: India has signed an agreement with South Africa to translocate 12 cheetahs (seven male and five female) to the Kuno Palpur National Park (KNP) in Madhya Pradesh. The fastest land animal in the world, Cheetah, declared extinct in India in 1952.

Cheetahs have lost 90% of their global habitat. They now live in 9% of the historic range.



Asiatic Cheetah with 'red eyes'



Cheetah Tear Marks Act Like Sunglasses, making it easier for them to focus on hunting their prey.

Cheetah: IUCN (Asiatic- Critically Endangered; African- Vulnerable)

- African Cheetah are bigger in size as compared to Asiatic Cheetah, have darker color. Asiatic Cheetah (only 40-50 survive in Iran) usually have 'Red Eyes'.

Leopard: IUCN: Vulnerable

- India has about 12000 leopard (largest number in MP) and there has been "60% increase in the population count of leopards in India from 2014 estimates"

Jaguar: IUCN: Near Threatened

- The largest cat in the Americas, the Jaguar has the strongest bite force of all wild cats, enabling it to bite directly through the skull of its prey. Melanistic (black) Jaguars are common and are often called black panthers.
- A black panther is the melanistic colour variant of the leopard (*Panthera pardus*) and the jaguar (*Panthera onca*).



Cheetah

Small, rounded head with black "tear marks"



Partially exposed claws



Leopard

Relatively Small, angular head



Small, densely packed rosettes



Jaguar

Large, rounded head



Large rosettes with central spot

Relatively short tail

InstaCurious: The other sites recommended for holding and conservation breeding of cheetahs in India, in controlled wild conditions are:

- Nauradehi Wildlife Sanctuary, Madhya Pradesh
- Gandhi Sagar Wildlife Sanctuary – Bhainsrorgarh Wildlife Sanctuary complex, Madhya Pradesh
- Shahgarh bulge in Jaisalmer, Rajasthan
- Mukundara Tiger Reserve as the fenced enclosure, Rajasthan

Inta Links: [Cheetah reintroduction project](#)

Prelims Links: (UPSC 2020)

Which one of the following protected areas is well-known for the conservation of a sub-species of the Indian swamp deer (Barasingha) that thrives well on hard ground and is exclusively graminivorous?

- Kanha National Park
- Manas National Park
- Mudumalai Wildlife Sanctuary
- Tal Chhappar Wildlife Sanctuary

Ans: 1

[Environmental pollution and degradation](#)

NATIONAL CLEAN AIR PROGRAMME

Context: Four years since the Centre launched the National Clean Air Campaign (NCAP), analysts found that progress has been slow and pollution has only incrementally reduced in

most cities.

The Launch: In January 2019, the Ministry of Environment, Forest and Climate Change (MoEFCC) launched the National Clean Air Programme (NCAP) to prepare clean air action plans.

The mandate of the National Clean Air Programme (NCAP) -

- The goal of NCAP (annual average ambient air quality standards at all locations in the country): **20%–30% reduction of PM2.5 and PM10 concentration by taking 2017 as the base year** for the comparison of concentration.
- Under NCAP, **132 non-attainment cities** have been identified across the country based on the **Air Quality data from 2014-2018**.
- Preparation of the city-specific action plans** including measures to strengthen the monitoring network, reduce vehicular/industrial emissions, and increase public awareness.
- Implementation** of the city-specific action plans to be regularly monitored by Committees at the Central and State level namely Steering Committee, Monitoring Committee and Implementation Committee.

Objectives of NCAP

- To augment and evolve effective** and proficient ambient air quality monitoring networks across the country for ensuring a comprehensive and reliable database
- To have efficient data dissemination** and public outreach mechanism for timely measures for the prevention and mitigation of air pollution
- To have a feasible management plan** for the prevention, control and abatement of air pollution.

Performance of National Clean Air Programme: Positive

- Monitoring station:** Out of the targeted **1500 manual monitoring stations** to be installed across the country, **818** have been installed.
- Region-specific programme:** city-specific action plan has been developed for all the major cities of India. For instance, Delhi, Mumbai etc.
 - 131 cities of the country have developed City Action Plans and Micro Action Plans**
- PRANA web portal:** The Portal for Regulation of Air Pollution in Non-Attainment Cities which provides all information related to various policies/programs/schemes/activities of the stakeholders along with the progress made towards improvement in air quality across the country.

- **Improvement:** There has been an overall improvement in Particulate Matter concentration in **95 cities** including 20 cities conforming to the National Ambient Air Quality Standards in the year 2021-22 compared to 2017.

The issue facing NCAP:

- **Unsatisfactory performance:** The CSE in its national analysis of PM2.5 levels in cities for which data is available found that between 2019 and 2021, **only 14 of 43 (NCAP) cities** registered a 10% or more reduction in their PM2.5 level between 2019 and 2021.
 - On the other hand, out of 46 non-NCAP cities, **21 recorded significant improvement** in their annual PM2.5 value with a 5% or more decline between 2019 and 2021.
 - There is **hardly any difference** between the performance of **NCAP and non-NCAP cities between 2019 and 2021.**
- **Funding issue:** For disbursing funds, the Central Pollution Control Board, which coordinates the programme, only considers levels of PM10, the relatively larger, coarser particles. However, PM2.5, the smaller, more dangerous particles, aren't monitored as robustly in all cities, mostly due to the lack of equipment.
- **Compartmentalizing rural-urban areas:** The scheme focuses on air pollution mitigation within cities while ignoring rural air pollution thus compartmentalizing both. But cities like Delhi are significantly affected by rural air pollution, hence making purely city-based efforts less ineffective.
- **Sluggish improvement:** The progress is even more sluggish in equipping all manual stations with PM2.5 monitoring, where only 261 stations have PM2.5 monitoring facilities.
- **Almost a quarter of NCAP cities with real-time monitoring doesn't meet the minimum data completeness requirement:** In 2021, 15 out of the 63 NCAP cities (24 per cent) did not meet the minimum data completeness requirement (60 days of valid 24-hour values in each quarter of the year). In 2019, the number was lower: only 16 per cent did not meet the requirement.
- **No carrying capacity studies:** None of the **132 non-attainment** cities has completed their carrying capacity studies. Carrying capacity is the region's ability to accumulate and disperse emissions while maintaining breathable air quality.
 - In **93 cities**, the study is either undergoing or at the MoU/proposal stage.

Conclusion

It is important that NCAP be **made legally binding on responsible authorities** while setting interim (WHO interim targets) and long-term targets to achieve breathable air equivalent to WHO guideline levels over the next decade.

Further, **enhancing transparency** in the allocation and utilisation of finances and tracking the indicators through publicly available information under the **PRANA web portal** developed by CPCB can be a way forward.

Mains Links:

Q. Highlighting the major mandate and objectives of the National Clean Air Programme (NCAP), evaluate its performance in mitigating pollution in Indian Cities. (15M)

Prelims Links

Consider the following statements:

1. The National Clean Air Programme aims for a reduction in particulate matter concentrations in cities that don't meet the National Ambient Air Quality Standards (NAAQS).
2. India's National Ambient Air Quality Standards (NAAQS) meet the WHO's existing standards.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Solution: a)

The World Health Organisation (WHO) in its first-ever update since 2005 has tightened global air pollution standards in a recognition of the emerging science in the last decade that the impact of air pollution on health is much more serious than earlier envisaged.

The move doesn't immediately impact India as the **National Ambient Air Quality Standards (NAAQS) don't meet the WHO's existing standards.** The government has a dedicated **National Clean Air Programme that aims for a 20% to 30% reduction in particulate matter concentrations by 2024 in 122 cities**, keeping 2017 as the base year for the comparison of concentration. **These are cities that don't meet the NAAQS** when calculated from 2011-2015.

LIGHT POLLUTING THE DARK SKY

Context:

- In 2022 Ladakh administration created the **Hanle Dark Sky Reserve (HDSR)**, the first International Dark Sky Reserve in India.

- The HDSR comprises six hamlets within the **Changthang Wildlife Sanctuary**.
- The **reserve had a responsibility to keep the skies dark**, particularly for the astronomical observatories located in the area.

What is a Dark Sky Reserve?

- An area designated as **free from light pollution**.
- It's a public or private land possessing an **exceptional or distinguished quality of starry nights and nocturnal environment that is specifically protected for its scientific, natural, educational, cultural, heritage and/or public enjoyment**.

Background:

- When SpaceX's Starlink constellation of small satellites started to block ground-based telescopes' views of the Earth, the notion that the **sky is a natural resource** that could be harmed, gained popularity.
- It highlighted the **need for a global agreement** to reduce light pollution.
- This **skyglow is causing significant ecological, health and cultural ramifications**.

What is light pollution and how bad is it?

- Light pollution is **excessive, misdirected or obtrusive artificial (usually outdoor) light** that obstructs starlight in the night sky, interferes with astronomical research, disrupts ecosystems, has adverse health effects and wastes energy.
- Visible light emitted by many sources (except lasers) is **divergent**, so the light emitted could find its way into the sky.
- Almost all surfaces in cities also reflect light, meaning a portion of entirely down-cast light will be **reflected upwards**, contributing to night time light pollution.
- A study found that **non-natural light had increased the brightness of the artificial glow of the night sky, or skyglow, by 9.2-10% every year between 2011 and 2022**.

What is the situation in India?

- **19.5% of India's population** experiences a level of skyglow that keeps the Milky Way out of sight and makes it impossible for human eyes to adjust to the dark.
- The effects include **stimulating the cone cells** (which activate in a well-lit environment/during the day) **in human eyes**.

What are the consequences?

- **Harms wildlife and disrupts ecosystems:** Light pol-

lution poses a serious threat in particular to nocturnal wildlife, having negative impacts on plant and animal physiology. **For example,**

- It can confuse the migratory patterns of animals.
 - It interferes with multiple aspects of insect life and allows insect predators to hunt for longer.
 - Parties to the Convention on Migratory Species have adopted guidelines to address this issue.
- **Adverse effects on human health:** It can disturb circadian rhythms and the production of melatonin, leading to sleep disorders and other health problems (increased risk of breast cancer).
 - **Energy wastage:** lighting is responsible for at least one-fourth of all electricity consumption worldwide, thus adding to carbon footprint.

Way ahead:

Light pollution can be reduced easily by shielding lights properly, by

- Only using light when and where it is required,
- Only use the necessary amount,
- Using energy-efficient bulbs, and
- Using bulbs with the right spectral power distributions.
- **International Best Practice:** The "**Outdoor Lighting Code**" in the United Kingdom, aims to reduce light pollution by encouraging the use of lighting that is only as bright and as long as necessary for the task.

Conclusion:

"The erasure of the night sky acts to erase Indigenous connection to the stars, acting as a form of ongoing cultural and ecological genocide."

InstaCurious:

Components of light pollution include:

- **Glare** – excessive brightness that causes visual discomfort
- **Skyglow** – brightening of the night sky over inhabited areas
- **Light trespass** – light falling where it is not intended or needed
- **Clutter** – bright, confusing, and excessive groupings of light sources

[Insta Links: Environmental Pollution](#)

[Prelims Links: \(UPSC 2020\)](#)

Which of the following are the reasons/factors for exposure to benzene pollution?

1. Automobile exhaust
2. Tobacco smoke
3. Wood burning
4. Using varnished wooden furniture
5. Using products made of polyurethane

Select the correct answer using the code given below:

1. 1, 2 and 3 only
2. 2 and 4 only
3. 1, 3 and 4 only
4. 1, 2, 3, 4 and 5

Ans: 1

FUKUSHIMA WASTEWATER

Context:

Japan is expected to **start flushing 1.25 million tonnes of wastewater from the embattled Fukushima nuclear power plant into the Pacific Ocean** this year, as part of its project to decommission the facility.

About Nuclear Power:

Nuclear power is electricity generated by **power plants that derive their heat from fission in a nuclear reactor**. Except for the reactor, which plays the role of a boiler in a fossil-fuel power plant, a nuclear power plant is **similar to a large coal-fired power plant, with pumps, valves, steam generators, turbines, electric generators, condensers, and associated equipment**.

What was the issue:

- In March 2011, after a magnitude 9 earthquake, a **tsunami flooded the Fukushima Daiichi nuclear power plant in Okuma and damaged its diesel generators**.
- The loss of power suspended the coolant supply to reactors at the facility; the tsunami **also disabled backup systems**.
- The water that the Japanese government wants to flush from the plant was **used to cool the reactors, plus rainwater and groundwater**. It contains radioactive isotopes from the damaged reactors and is thus itself radioactive.
- **Japan has said that it will release this water into the Pacific Ocean over the next 30 years.**

Treated Water:

- The **Tokyo Electric Power Company (TEPCO)**, which operates the Fukushima facility, **has treated the water to remove most radioactive isotopes**.
- Japanese government required the water to **have 1/40th as much tritium as the permitted limit**.

Issues with discharging treated water into the Pacific Ocean:

- Difficult to **remove tritium from the water**.
- Tritium is easily **absorbed by the bodies of living creatures and rapidly distributed via blood**.
- Other radionuclides include isotopes of **ruthenium and plutonium**, which could persist for longer in the bodies of marine creatures and on the seafloor and could not be completely removed.

Other options available with Japan:

- **Store the water for longer and then discharge it as tritium's half-life – the time it takes for its quantity to be halved through radioactive decay – is 12-13 years**. So, at the time of discharge, the water could be less radioactive.

[Insta Link: Nuclear Energy](#)

Mains Link:

Q. Though nuclear energy is a source of clean energy but the vulnerabilities of nuclear reactors make them prone to disasters. Examine.

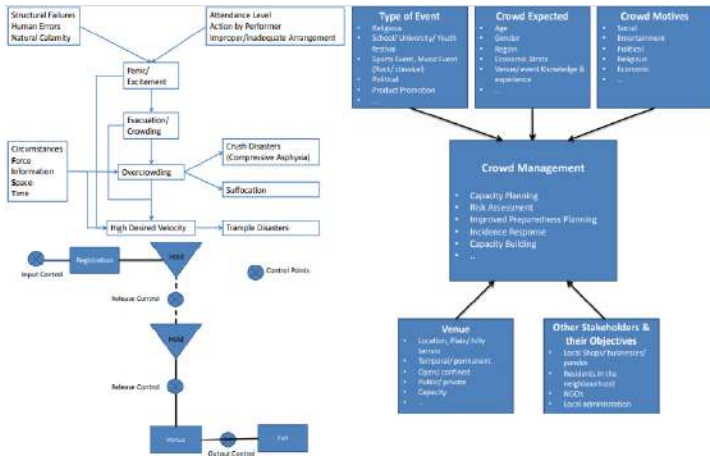
[Disaster and disaster management.](#)

SURGING CROWDS, CHARGES OF POLICE LAXITY

Context:

The two back-to-back stampedes at rallies attended by Telugu Desam Party (TDP) chief have put the spotlight on the crowd and their management.

Crowd process, crowd control and an integrated approach to crowd management: Source National Disaster Management Authority (NDMA)



Pope Benedict XVI's view on Environment conservation:

- Benedict XVI helped to author several books that share his views on the real meaning of progress and development, and what that means for our planet of limited resources.
- Benedict turned heads when he chose electric vehicles for use within the grounds of the Vatican and his summer home of Castel Gandolfo, as well as for the Vatican's police force.
- In 2011, Benedict urged Italian students "to become guardians of nature and follow in the footsteps of St. Francis of Assisi, patron saint of ecology,"

Use of ICT in crowd management:

ICT for Disaster mitigation and Prevention	ICT in Disaster response and relief
Technology <ul style="list-style-type: none"> • GIS, Remote Sensing • Radio, Television, telephone • SMS, UMS, Cell Broadcasting, Internet/Social Media • RFID • Space based sensors and balloons 	Technology <ul style="list-style-type: none"> • PA system, SMS, UMS, Cell Broadcasting, Inter-operability of mobile service providers • Emergency lighting, alarms • RFID Tags • Registration database software • Space based sensors and balloons
Typical Usage <ul style="list-style-type: none"> • Early warning system, Potential Risks, Vulnerabilities • Registration of visitors, Virtual Queues, RFID • Information dissemination • To regulate flow of visitors • Prepositioning of resources 	Typical Usage <ul style="list-style-type: none"> • To ensure rumours do not spread • Registering missing persons • Search and rescue • Keeping track of relief organizations, Camps of displaced persons • Insurance processing • Resource inventory management

Insta Links: Crowd management in temples

Mains Links:

Q. Discuss the recent measures initiated in disaster management by the Government of India departing from the earlier reactive approach. (UPSC 2020)

GS4

Human Values

ROLE OF RELIGIOUS LEADERS IN ADDRESSING CONTEMPORARY ISSUES

Direction:

These examples can be written in GS4 answers – on how religious leaders have a huge impact on the lives of common people.

Context:

Pope Benedict XVI also famously called "The Green Pope", who was the leader of the world's Catholics for almost eight years, died recently.

Child abuse scandals

- Benedict was active in initiating the process to discipline and defrock predator priests.
- He ordered an inquiry into child abuse and kept "penance Fridays" where he would talk with abuse survivors.

Good Examples of Religious leaders from India and around:

Dalai Lama:

- Dalai Lama advocates compassion for animals and frequently urges people to try vegetarianism or at least reduce their consumption of meat.
- Before the 2009 United Nations Climate Change Conference, he urged national leaders to put aside domestic concerns and take collective action against climate change
- At the Culture of Compassion event, the Dalai Lama said - Warm-heartedness is a key factor for healthy individuals, healthy families and healthy communities.
- The Dalai Lama was awarded the Nobel Peace Prize in 1989, and the US Congressional Gold Medal in 2006. Time magazine named the Dalai Lama one of the "Children of Mahatma Gandhi" and Gandhi's spiritual heir to nonviolence.
- Quote: "Ecology should be part of our daily life".

Sri Sri Ravi Shankar (spiritual leader):

- Ravi Shankar is involved in interfaith dialogue and currently sits on the Board of World Religious Leaders for the Elijah Interfaith Institute. Through interfaith summits in 2008 and 2010, he has been engaging faith-based leaders for collective action against HIV.
- He started a prison programme to rehabilitate prison inmates and help them reintegrate into society.
- Sadhguru:

- He advocates for protecting the environment against **climate change**, leading many initiatives like **Project Green Hands (PGH)**, **Rally for Rivers**, **Cauvery Calling**, and the **Journey to Save Soil**.

Dawoodi Bohra (Shia Sect of Islam):

- The Bohras actively participate in **environmental activism** and consider it their religious duty. **Nazafat** (which means 'cleanliness') is an integral component of the Islamic faith, the Bohras engage in **clean-up drives**, **tree planting**, and other such initiatives wherever they reside.
- The Bohra community launched **Project Rise**, a philanthropy focused on the **marginalized and the poor**. Their first initiative, undertaken in collaboration with **Action Against Hunger**, sought to **address malnutrition** among those living in **Palghar and Govandi districts**.
- Ethics for Spiritual Leaders:
- Knowledge of Self
- Acting with genuineness
- Understanding Others
- Winning the trust of everyone
- Practising Spiritualism with the whole heart.

[Insta Links: Morality and Religion](#)

Mains Link:

Q. "Ethics derived from religious texts are of no use to civil servants in a secular state." Do you agree? Comment.

IN GOOD FAITH: PRANAM VS PRAMANA

Context:

The Covid-19 pandemic saw **widespread use of science**, but it also provided a **fertile ground for promoting faith and questioning science**.

Difference between Science and Religion:

- **Freedom to Question vs. Blind Acceptance:** In a science-based society, unlike in a faith-based society, **people have the freedom to question, seek answers and then choose their way forward** based on their own understanding & assessment.
- **Acceptance of Change:** Another important difference **pertains to the acceptance of the change**. Science thrives on change. Whereas, faith and dogma are constants and don't accept questioning.
- **Constant change in Science vs. Constancy in Tradition:** What was scientifically appropriate at a given time and has become a tradition, **may change at a**

later stage. This constant change in scientific thinking is often pointed out as its weakness, and constancy as a strength of tradition.

Etymology of Pranam and Pramana:

- **Pranam:** derived from Sanskrit- "pra" means "**forward, outward, in front, before**" while "ānama" means "**bending or stretching**". Together, pranam means "**bending, bowing in front**" or "prostration". It's a common **Hindu traditional custom of greeting a person**.
- **Pramana**(Sanskrit word), means "**proof**" and adds "**mā**" which means **measurement to the "pra"** and alludes to the concept of **objectivity and science**. It's the means that **can lead to knowledge**. Three of the many pramanas are **pratyakṣa (eyewitness/personal experience)**, **anumāna (logical inference)**, and **śabda (expert opinion)**.
- Examples of how faith undermines Science:
- **Taboos related to menstruation:** Rather than treating it as a biological phenomenon, a lot of **semi-religious customs have been built around it, all adversely affecting a girl's health**.
- Health issues around **childbirth, breastfeeding, and contraception:** a **doctor's scientific advice on breastfeeding (as early as possible, giving of colostrum, exclusivity, no pre-lacteal feed)** and traditional customs recommended by the elders (**waiting till a family member washes breast, use of ghutti, jagery water, discarding of colostrum**).
- **Access to safe abortions:** a fight between faith and science.
- **Heliocentric vs Geocentric theory**
- **The banned practice of Sati.**
- **Racism** – Aryan theory to be superior.

Examples of when science prevails:

- Acceptance of vaccines and modern contraceptive methods
- A scientific theory is **that all humans are the same species** – everyone has red blood and the same internal organs.

Platforms for dialogue & harmonious coexistence between the 2 critical pillars of society:

- Teachers or parents, should **encourage children to ask questions and give them access to resources to enable them to decide for themselves**.
- Health professionals **must not belittle faith**.
- We need to **understand the need for both for our societal well-being** & have more **faith in science as a solver to our pressing problems**.

InstaCurious: In today's society, the 3 forms of *pramana* are under threat due to the rise of:

- Confirmation Bias
- Echo Chambers & filter bubbles.
- Post-Truth society

ETHICAL ANIMAL RESEARCH

Context:

Globally there is concern about ethical issues related to animal research. Recently, a proposed measure in Switzerland would have made that country the first to ban medical and scientific experimentation on animals but it failed to pass with only 21% of voters in favour.

About Animal research:

Animal research or Experimentation involves the use of animals to develop and test the safety of new medicines, drugs, cosmetics, medical procedures and other industry products.

Ethical issues involved in animal research:

- The moral status of an animal.
- Innate rights of animals
- Distinguish between testing on animals and infants or disabled humans
- The inability of the animals to consent.
- Lack of proven benefits to humans, out of these methods.

Arguments in favour of Animal research:

- Life-saving cures and treatments
- No proper alternative for testing.
- Overcome **ethical considerations** involved in the **use of human subjects**
- Shorter life cycles of animals.
- **Animal treatments** are developed during their experimentation

Arguments against Animal research:

- Time- and resource-intensive
- In many cases, do not correctly predict real-world human reactions and do not ensure safety
- **Anatomic, metabolic, and cellular differences** between animals and humans.
- Alternatives to animal testing:
- In vitro methods i.e. using human cell cultures and

tissues e.g. organs-on-a-chip

- In silico methods i.e. **advanced computer-modelling**
- Engagement of human volunteers
- **Using simulators** for medical training.

Guidelines for Animal Research: As followed by Federal Agency and EU

INSIGHTSIAS
DAILY CURRENT AFFAIRS

PRINCIPLE OF 4Rs FOR ANIMAL RESEARCH

- 1 Reduction**
Use less complex animals wherever possible e.g. bacteria over mammals.
Minimize the number of animals used.
Share the results with other researchers
- 2 Refinement**
Use animal subjects/models only to obtain information not already available in the scientific community .
Use less invasive techniques
- 3 Replacement**
Use animal testing only in the absence or no viability of alternative methods.
- 4 Rehabilitation**
referring to care for animals after their role in research is complete.

Visit Insights IAS Daily CA for detailed News

Ethical aspects followed in other countries:

In the U.S., the **Animal Welfare Act** protects all warm-blooded animals except rats, mice and birds bred for research. Rats, mice and birds are protected – along with fish, reptiles and all other vertebrates – by the **Public Health Service Policy**.

The basic national standards for humane treatment, research institutions across 47 countries, including the U.S., may seek **voluntary accreditation by a nonprofit called the Association for Assessment and Accreditation of Laboratory Animal Care**, or AAALAC International. AAALAC accreditation recognizes the maintenance of **high standards of animal care and use**.

Conclusion:

Animal research benefits both humans and animals. Numerous medical advances exist because they were initially studied in animals – from treatments for cancer and neurodegenerative disease to new techniques for surgery, organ transplants and non-invasive imaging and diagnostics.

[Insta Links: A tougher law to prevent cruelty to animals: Need and Concerns](#)

Mains Link:

Q. Discuss how and why compassion can act as an ethical and practical tool in the conservation of wildlife and nature.

Attitude

THE WOMAN WHO DEFIED REALPOLITIK

Context:

New Zealand's Prime Minister, **Jacinda Ardern** who announced her resignation citing burnout, **offered an alternative leadership model rooted in a moral vision rather than political opportunism** and rose to become a global hero of liberalism.

- She is considered a classic example of **ethical leadership**.



About Ethical Leadership:

Ethical leadership is the practice of **demonstrating appropriate conduct inside and outside the office**. It is mainly concerned with **moral development and virtuous behaviour**. Ethical leaders display good values through their words and actions.



Lessons from the life of Jacinda Ardern:

Motherhood is powerful

- Jacinda Ardern became the **second world leader (After Benazir Bhutto)** to ever give birth and subsequently take maternity leave while in office. She said, "I'm just pregnant, not incapacitated".

- **Multitasking:** The Prime Minister then made history and headlines worldwide when **her three-month-old child accompanied her to a United Nations General Assembly in New York City.**

Keeping calm under pressure

- The New Zealand Prime Minister has demonstrated her ability to **stay cool numerous times throughout the coronavirus pandemic, but it was her response to a 5.8 magnitude earthquake** that set the tone for her approach to a crisis. During a live television broadcast, the parliament building she was in was hit with a mammoth natural disaster.
- Her ability to immediately **gather her thoughts and address a crisis can be a learning lesson for all of us.**

Act swiftly, decisively and do not downplay situations

- Her decisiveness during the COVID-19 pandemic had a huge impact on how the **country handled the crisis and the measures she implemented.**
- Not once did she attempt to downplay the severity of the crisis. Instead, **she offered facts, educated herself on the data, and made tough choices that would ultimately allow New Zealand to handle the pandemic astutely and save many lives.**

Responsible leadership: The PM, along with her ministers took a pay cut of 20% for 6 months during the pandemic. In her own statement – **“While it in itself won’t shift the government’s overall fiscal position, it is about leadership”.**

Emotional intelligence

- During the pandemic, Prime Minister **Ardern showed her humane side and fostered the public’s trust by acknowledging the emotional aspect brought on by the crisis.**
- She even went so far as to **reassure children that the Easter Bunny was classified as a key worker and would be able to do their Easter rounds as always.** While this may seem like a small gesture, the fact that she incorporated such an emotional response into her address **showed her humanity and her relatability.**

Effective Communication: The underrated value of listening and asking

- Ardern used **regular Facebook Live sessions to check in with citizens during** their relatively brief time in lockdown.
- In an incredibly informal, chatty manner, she effortlessly demonstrated consideration and empathy, whilst also delivering **some tough messages, and providing clear direction to mobilize effort.**
- To support citizens through lockdown, Ardern also conducted a **series of video interviews in which she conversed with experts, including a psychologist about coping with the stresses of the pandemic,** and an experienced business mentor about support-

ing small businesses.

Clear vision and humility

- Jacinda had earlier **mentioned child poverty as the reason why she joined politics at the age of 17.** She often visited refugee children as a part of working for an international youth organization.

“If you ask me why I’m in politics, my answer would be simple -- children. I genuinely believe our success as politicians should be based on the status of children. We need to change how we measure success and our indicators for action,” she had said in an **ardent speech at the Social Good Summit 2018.**

Trust

- Demonstrate credibility – for instance, by gaining the necessary knowledge and data and/or drawing upon relevant experience
- Show reliability – be honest and do what you say you will do
- Create intimacy – share some of yourself and be interested in others
- Limit self-orientation – keep your self-interest in check



Strength and solidarity are key

- In March 2019, Jacinda Ardern responded to a series of **terrorist attacks on mosques in Christchurch with an approach that supported the people of New Zealand** and quickly banned military-style assault weapons in the country. The leader **refused to name the shooter in order to avoid giving him notoriety** and assisted in uniting not only the people of Christchurch but New Zealand as a whole.
- Ms Ardern **wore a hijab and went to mourn with the grieving families.** By keeping the focus on the victims rather than the perpetrator, she brought a healing touch to an otherwise tense, polarising moment.

Inclusivity

- She appointed **Nanaia Mahuta, a Maori woman,** in the high-profile **portfolio of foreign ministers,** while her party vowed that schools in the country would have the **Māori language integrated into their curriculum by 2025.**

In a world where politics is synonymous with realpolitik, **she demonstrated that politics informed by a moral vision** — doing the right thing rather than what best suits one's interests — **is not unthinkable.**

Quote:

At the heart of her leadership style:

*“Kindness, and not being afraid to be kind, or to focus on, or be really driven by empathy. I think one of the sad things that I’ve seen in political leadership is — because we’ve placed so much emphasis on notions of assertiveness and strength over time — that we’ve probably assumed that it means you can’t have those other qualities of kindness and empathy. **And yet, when you think about all the big challenges that we face in the world, that’s probably the quality we need the most.**”*

Jacinda Ardern

InstaCurious:

Transformational leadership is defined as a leadership approach that causes a change in individuals and social systems. In its ideal form, it creates valuable and positive change in the followers with **the end goal of developing followers into leaders.** It refers to a leadership style that **focuses on inspiring and motivating followers** to not only achieve their goals but also to develop their own leadership potential.

Nolan Committee Recommendations – Find the link below.

[Insta Links: Anonymity or Fame](#)

Mains Link:

Q. What are the basic principles of public life? Illustrate any three of these with suitable examples.

[Influence and relation with thought and behaviour](#)

GUIDELINES TO SOCIAL MEDIA INFLUENCERS

Context:

The Centre has released **endorsement guidelines for celebrities and social media influencers** that mandate compulsory disclosure of monetary or material benefits of a product or a brand they are promoting through their social media

platforms.

- The new guidelines emphasize the increased risk of consumers being **misled by advertisements and unfair trade practices by some individuals on social media platforms.**
- Non-disclosure of brand affiliations by influencers may **invite a penalty of up to Rs 50 lakh.**

What is ‘Endorsement’?

- Endorsements are a **form of advertising that uses famous personalities or celebrities** who command a high degree of recognition, trust, respect, or awareness among the people.
- Advertisers and clients **hope such approval, or endorsement by a celebrity, will influence buyers favourably.**
 - For example, **Sachin Tendulkar endorsing motorcycles and biscuits** can influence young men or children who look up to him as a role model.

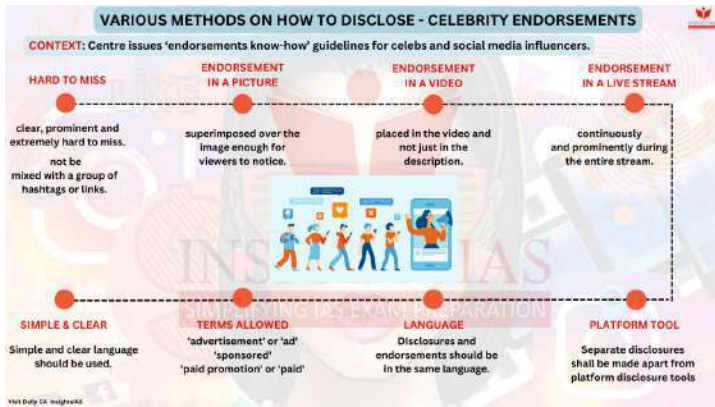
How often do we follow influencers?

- A report by **iCubesWire Survey**, a digital media marketing company, **suggests that a major percentage of Indians choose brands based on the suggestions by influencers.**
- **34 per cent of the respondents of the survey** said they buy products or services after watching the social media posts of influencers. This content can be in the form of **reels on Instagram or videos on popular social media platforms, including YouTube, Facebook, and Twitter, among others.**

Who should disclose: Individuals/groups who have access to an audience and the power to affect their audiences’ purchasing decisions or opinions about a **product, service, brand, or experience, because of the influencer ‘s/celebrity ‘s authority, knowledge, position, or relationship with their audience.**

A material connection could include but is not limited to benefits and incentives, such as:

- Monetary or other compensation.
- Free products with or without any conditions attached, including those received unsolicited, discounts, and gifts.
- Contest and sweepstakes entries.
- Trips or hotel stays.
- Media barter.
- Coverage and awards.
- Any family, personal, or employment relationship.



should be held accountable for misleading advertisements and endorsements? Examine. (250 Words)

InstaCurious:

Ethical consumerism is the practice of making conscious & informed purchasing decisions based on a company's social and environmental impact. It involves considering factors such as a company's labour practices, environmental impact, and contributions to society when making a purchase.

Acts against misleading advertisements in India:

- The new guidelines are in **alignment with the Consumer Protection Act, of 2019**, which was enacted to protect consumers from unfair trade practices and deceptive advertising.
- The department of consumer affairs **published Guidelines for the Prevention of Misleading Advertisements and Endorsements for Misleading Advertisements, 2022**. The criteria for valid advertisements are outlined in these guidelines, as are the responsibilities of manufacturers, service providers, advertisers, and advertising agencies. **These guidelines also addressed celebrities and endorsers. It states that misleading advertising in any form, format, or medium is illegal.**

Global Scenario:

- In the United States**, the Federal Trade Commission (FTC) has guidelines for endorsements and testimonials in advertising, which also apply to social media. These guidelines require that any endorsements or testimonials be truthful and not misleading and that any material connections between the endorser and the advertiser be disclosed.
- In the UK**, the Committee of Advertising Practice (CAP) and the Broadcast Committee of Advertising Practice (BCAP) provide guidance on advertising and sponsorship across all media, including social media influencer marketing.
- Unethical Aspects of Celebrity Endorsement** – We had already covered this in one of our previous articles – Responsibility of Celebrity Endorsers – Find the link below.

Insta Links:

- [Regulating misleading advertisements](#)
- [RESPONSIBILITY OF CELEBRITY ENDORSERS](#)

Mains Link:

Q. Do you think that the brand ambassadors of products

Ethical concerns and dilemmas

UAE'S SULTAN AL JABER AND THE CONTROVERSY

Context:

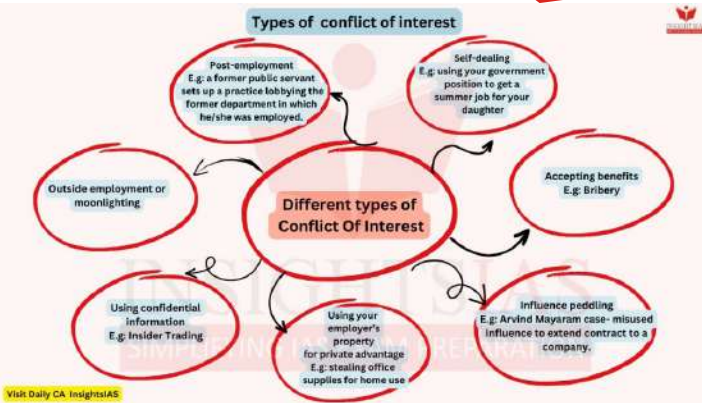
The UAE, which will host **this year's annual climate change conference** has named one of its ministers, **Sultan Al Jaber**, who is also the CEO of an oil company as the president of the conference.

- The fact that the CEO of an oil company has been **named to preside over a conference on climate change when the world is attempting to move away from oil and other fossil fuels is being seen as a conflict of interest.**
- This is the first time that anyone having a direct connection to the fossil fuel industry has been appointed as president of the climate change conference.

Conflict Of Interest:

A "conflict of interest" involves a conflict between the **public duty and private interests of a public official, in which the public official has private-capacity interests**, which could improperly influence the performance of their official duties and responsibilities.

In such a situation, the **judgement of an individual could be impaired**. A conflict of interest can exist in many different situations. **Conflict of interest is seen as a moral issue and not strictly a legal one.**



About Corporate Governance:

- Corporate governance is a set of accepted principles by the **management of the inalienable rights of the shareholders as the actual owner of the corporation and of their own role as trustees on behalf of the shareholders.**
- Gandhian economics stands for a commitment to values, ethical leadership conduct, and transparency and makes a distinction between personal and corporate funds in the management of a company.

The primary case for people's supply chain diversity is always **economic and social justice.**

Mechanism to check Conflict Of Interest:

- **Declaration:** Office bearers may be required to **disclose interests where they hold pecuniary interests** (income from employment, shareholding, and directorship) and non-pecuniary interests (membership of an interest group).
- **Recusal:** In some cases, the office bearers may be asked **not to participate in the discussion or vote on a topic where there may be a conflict of interest.**
- **Incompatibility:** Office bearers may be prohibited from holding the office of profit or some types of private jobs. There may also be **some restrictions related to post-tenure employment.**
- **Regulation of Gifts and Travel.**

Mains Link:

Q. What is meant by conflict of interest? Illustrate with examples, the difference between the actual and potential conflicts of interest (UPSC 2018).

Corporate governance

Five areas of diversity:

Geographic diversity:

- The map of our engineering education capacity reveals **three concentric circles of 28 cities** (3,500 engineering colleges with 33% of capacity), 500 cities (with 2,334 such colleges with 35% of capacity), and the rest spread across India.
- **Less than 20% of incremental annual hires in India's digital industry work in the place where they lived their lives.**
- Software employment is **expanding beyond its current eight cities to 20 new places.**

Gender diversity:

- The Indian software industry is better than others at employing women, **who make up 34% of its employees and 25% of its managers.**
- Women are **now about 50% of software entry-level recruitment.** Given that women are **clearly not 50% of engineering students**, this flow difference indicates that the flexibility, safety, and work environment of the country's software industry is a winning combination.

Cognitive diversity:

- Only **5% of the Indian software industry is staffed with non-engineers**, but our research suggests that 15% of incremental hires are non-engineering graduates.
- The industry is now hiring to **acquire skills in management, design, languages, sociology, anthropology, psychology, etc.**
- This has been heralded by factors like the **advent of 'low-code/no-code' platforms.**

In the Imitation Game (a 2014 film), Alan Turing's character says, **"Sometimes it is the people no one can imagine anything of who do the things no one can imagine."**

SOFTWARE SECTOR'S ANTYODAYA APPROACH

Context:

Our **software employers have always been more gender inclusive than the rest of Corporate India**, but market challenges this year have made **their recruitment more inclusive & forced a bold re-imagination of their people supply chains in five ways.**

- Mahatma Gandhi often talked about **Antyodaya (the rise of the last person in the line) and Sarvodaya (the rise of all).**

'It is wrong to think that business is incompatible with ethics. I know that it is perfectly possible to carry on one's business profitably, and yet honestly and truthfully.' – **Mahatma Gandhi**

Workplace diversity:

- Pre-covid, only 5% of software employees did not do their daily work from a company office or client site.
- However, research suggests the rise of remote working means this will rise to 20% in the next decade.

Contract diversity:

- Software employers are moving to **multiple concentric circles of employment contracts: full-time, permanent, part-time, consultant, gig, direct fixed term contract, third-party contract**, etc.
- Contract diversity varies between six software employers: global service companies, Indian service companies, global captives, domestic market unicorns, Indian software as service companies, and Indian non-tech companies.
- Contract diversity creates **better matches between employers and potential employees**, besides raising longevity, memory, and productivity.

Great books, like **The TCS Story by S. Ramadorai, Maverick Effect by Harish Mehta and Engineered in India by B.V.R. Mohan Reddy** highlight how supply chain innovations helped India's software exports become five times higher than our textile exports.

Conclusion:

As India's software industry prepares to hire more people in the next 10 years than in the last 50, it has begun an incredible journey of Antyodaya in self-interest that will make its competitive advantage even stronger.

Jana Sangh co-founder Deen Dayal Upadhyay suggested, "The measurement of economic plans and economic growth cannot happen with those who have risen above on the economic ladder but of those who are at the bottom."

Insta Curious:

DEI Governance (Diversity, Equity and Inclusion Governance): It refers to the practices and policies that companies put in place to **promote diversity, equity, and inclusion** within their organization. It ensures that the company's decision-making and operations are **inclusive and reflect the diversity of the stakeholders**. It also helps to ensure that all employees and stakeholders are treated fairly and with respect regardless of their background.

The goal of DEI governance is to create a culture where everyone feels valued and respected, where different perspectives and ideas are welcomed, and where all employees have an equal opportunity to succeed. This can include measures such as setting diversity targets for hiring and promotions and implementing anti-discrimination policies.

Insta Links:

[ICICI Videocon fraud – An issue of Corporate Ethics](#)

Mains Link:

Q. What are the diverse ethical challenges confronting corporates today? How focus on corporate ethics and corporate governance can help in addressing these challenges? Elucidate. (250 words)

BIG TECH & NEWS PUBLISHERS

Context:

According to the Information and Broadcasting (I&B) Ministry, as creators of original content, publishers of digital news platforms should receive a fair share of the revenue from big-tech platforms that act as aggregators.

Background:

- The statement was made at the **Digital News Publishers Association (DNPA)** media conference. DNPA is the umbrella organisation for the digital platforms of 17 top news publishers.
- Big Tech has enabled unparalleled reach, engagement, and innovation in the news media. This has created an **imbalance in bargaining power between Big Tech and News media** platforms.

Issues faced by the news industry:

- Post-Covid the **financial health** of both the digital news industry and its parent - the print news industry, is under strain.
- This led to journalists losing jobs → **journalism reducing in quality** → a negative feedback loop.
- **The changing dynamics of the news publishing industry** (with technological changes), their businesses and their impact on the social lives of citizens have raised questions.
- It is obvious that if the traditional news industry continues to suffer, **the future of journalism/Fourth Pillar will suffer** as well.

Suggestions:

- **A fair share of the revenue** from the Big Tech platforms (aggregator of the content) to original creators.
- **Political Will:** Political support across party lines is essential in markets like India to level the playing field between Big Tech and the news media
- **The upcoming Digital India Act** will address this issue of disproportionate control and the imbalance

in the dynamics between content creation and content creators' monetisation requirements – and the power that adtech companies and adtech platforms have.

International Scenario:

- **Best practices:** Australia, Canada, France and the EU, through legislation and strengthening of their competition commissions have ensured a fair split of revenue among the creators of news content and the aggregators.
- **The Australian example:** It has developed the landmark **News Media Bargaining Code**, which will ensure that news media businesses are fairly remunerated for the use of their content by digital platforms, such as Google and Facebook. The code aims to address the **bargaining power imbalance between news media businesses and these digital platforms** by requiring them to negotiate payment for the use of news content.
- **European Union: The Copyright Directive** was adopted in 2019, which includes provisions that require digital platforms to negotiate fair and proportionate remuneration for the use of copyrighted content, including news.
- **France:** It passed a law to enforce the **European Copyright Directive**— which granted '**neighbouring rights**' to intellectual property owners, potentially allowing news publishers to negotiate agreements with Big Tech platforms for featuring their content.

Way ahead:

- **A policy response to curb unfair competition**, which is reducing revenues, profitability and funding for quality journalism.
- **Political support is critical in markets** such as India because, unlike in countries such as Australia, the media market was not concentrated, reducing each publisher's bargaining power.

Conclusion:

In a liberal and large democracy like India, it is important to have diverse and vigorous news media. Thus, for quality journalism, credible content and good governance and to secure the future of the **4th pillar of our democracy**, issues faced by the news industry need to be addressed as soon as possible.

InstaCurious:

Neighbouring rights are a type of intellectual property rights that protect the rights of performers, producers of phonograms, and broadcasting organizations. These rights are designed to ensure that the creators and performers of creative works are **fairly compensated** for the use of their works. **This concept of "ancillary copyright" or "neighbouring rights" creates a framework for news media to negotiate licensing fees with platforms that use their content.**

Insta Links: [New India Debate - Role of Media In India](#)

Mains Links:

Q. Though 100 per cent FDI is already allowed in non-news media like a trade publications and general entertainment channels, the government is mulling over the proposal for increased FDI in news media for quite some time. What difference would an increase in FDI make? Critically evaluate the pros and cons. (UPSC 2014)

FACTS FOR PRELIMS

GS1

Indian Heritage and Culture

"VIRAASAT"- CELEBRATING 75 HAND-WOVEN SARIS OF INDIA

Context:

The Ministry of Textiles is organizing the festival second phase of the **Sari Festival "VIRAASAT"**

A social media campaign has been launched under the common hashtag **#MySariMyPride** to support our handloom weavers. Coinciding with the **75 years of Independence, "Azadi ka Amrit Mahotsav"** there will be an **exhibition-cum-sale of Handloom Saris by 75 handloom weavers**. A series of activities are planned for the visiting public such as:

- **Viraasat-Celebrating the heritage:** Curated display of handloom saris.
- **Viraasat-Ek Dharohar:** Direct retail of saris by weavers
- **Viraasat Ke Dhage:** Live loom demonstration

- **Viraasat–kal se kal tak** : Workshops and talks on sari and sustainability
- **Viraasat–Nritya Sanskriti**: Famous Folk dances of Indian culture



PARASNATH HILL AND SHETRUNJAY HILL

Context:

Members of the Jain community staged protests across the country over demands related to two holy sites — **Sammed Shikhar on Parasnath hill in Jharkhand** and **Shetrunjay hill in Palitana of Gujarat**.

Sammed Shikharji Temple:

- It is believed that **20 out of 24 Tirthankars** (Jain spiritual leaders) attained salvation here.
- It is located on the **Parasnath Hills in the Giridih district of Jharkhand**.
- It is important for both the **Digambara and Swethambara** sects of Jainism.
- The hill is the **highest mountain** in Jharkhand.
- The Hill is named after **Parasnath** (the 23rd Tirthankar)
- Issue: **Parasnath hill being declared a tourist spot and an eco-sensitive zone**, neither the Centre nor the state **consulted the main stakeholders**.

Shetrunjay hill:

- Situated on the banks of the **Shetrunji river**
- Home to **865 Jain temples**
- **A holy place for Shwetambara Jains**.
- Issue: **Vandalising of a shrine and related security**

concerns.



SAGOL KANGJEI

Context:

Home Minister inaugurated a **122-foot-tall statue of a polo player astride a Manipur Pony** in Imphal.

Background:

- Modern polo is said to have **originated from Sagol Kangjei**, a sport indigenous to Manipur, in which **players ride horses, specifically the Manipur Ponies**, which are referenced in records dating back to the **14th century**.
- **Marjing** is considered the **God of polo** and features a pony as his carrier.
- **The Lai-Haraoba festival** of the state depicts the life and times of **Khori-phaba**, the polo-playing god of sports.
- The Manipur Pony is one of **five recognised equine breeds of India** and has a powerful cultural significance for Manipuri society.
- The **Marjing Polo Complex** has been developed as a **way to conserve the Manipur Pony**.

‘MUSIC IN THE PARK’

Context:

SPIC MACAY organizes its very popular **‘Music in the Park’ series this year under the name “Shruti Amrut”** in collaboration with the Ministry of Culture and the New Delhi Municipal Council.

About SPIC MACAY:

- SPIC MACAY- **The Society for Promotion of Indian Classical Music and Culture amongst youth** is a voluntary youth movement that promotes the **tangible & intangible aspects of Indian & world heritage**.

- It organizes programs and workshops on Indian Classical, Folk Music and dance, Yoga, meditation, crafts, and other aspects of Indian culture.
- It is a movement started in **1977** and has chapters in **over 850 towns across the world**.

THIRUVALLUVAR DAY

Context:

The Prime Minister, has paid **homage to Thiruvalluvar on Thiruvalluvar Day** and recalled his noble thoughts. He also urged the youth to read the Kural.

About Thiruvalluvar:

- Thiruvalluvar, also called **Valluvar**, was a **Tamil poet-saint**.
- He contributed the **Tirukkural** or 'Kural' to the **Sangam literature**.
- Tirukkural is comprised of **133 sections of 10 couplets each divided into three books: Aram (virtue), Porul (government and society), and Kamam (love)**.

PILGRIMAGE REJUVENATION AND SPIRITUAL HERITAGE AUGMENTATION DRIVE (PRASHAD)

Context:

The citizens' committee to save Chamundi Hills and its environment has resolved to seek permission from the heritage committee before beginning PRASHAD development work on the hilltop.

Background:

- The Chamundi Hills, which are about 3,489 ft. above sea level, is located 13 km east of **Mysore, Karnataka**, and the name comes from the Chamundeshwari Temple at the peak.
- Given Chamundi Hills' environmental sensitivity, **there have been calls for its preservation through projects that are not harmful to the local ecology**, such as encouraging the use of public transportation.

About the PRASAD Scheme:

- The Government of India launched the PRASAD scheme in the year **2014-2015** under the **Ministry of Tourism**.
- This scheme focuses on **developing and identifying pilgrimage sites across India** for enriching the religious tourism experience.

- It aims to **integrate pilgrimage destinations in a prioritised, planned and sustainable manner** to provide a complete religious tourism experience.

BUDDHIST MONASTERY COMPLEX AT BHARATPUR

Context:

Recent excavations at **Bharatpur in West Bengal's Paschim Bardhaman district** have revealed the presence of a Buddhist monastery.

Findings from the previous excavations (between 1972 and 1975)

- **A large Buddhist stupa** was found
- Black and red ware pottery from the Chalcolithic Age
- **Five beautiful seated sculptures of the Buddha** in Bhumisparsha Mudra -- with all five fingers of the right hand extended to touch the ground -- were found

About Buddhist stupa:

A Buddhist stupa is a **commemorative monument usually housing sacred relics** associated with the Buddha

About Bhumisparsh Mudra: It symbolizes the **Buddha's enlightenment under the bodhi tree**, when he summoned the earth goddess, Sthavara, to bear witness to his attainment of enlightenment.

About Chalcolithic Period:

The Chalcolithic or Copper Age is the **transitional period between the Neolithic and the Bronze Age**. It is taken to begin around the **mid-5th millennium BC** and ends with the beginning of the Bronze Age proper, in the late 4th to 3rd millennium BC, depending on the region



ANDAMAN ISLANDS NAMED AFTER PARAM VIR CHAKRA RECIPIENTS

Context:

PM Modi named the **21 largest unnamed islands of Andaman & Nicobar Islands** after India's 21 Param Vir Chakra awardees.

- The ceremony was organised on the occasion of **Parakram Diwas, Netaji Subhas Chandra Bose's birth anniversary**
- Previously, **Ross Island was renamed Netaji Subhash Chandra Bose Dweep** in 2018

About Param Vir Chakra

The Param Vir Chakra is **India's highest military decoration**, awarded for displaying distinguished acts of valour during wartime. Param Vir Chakra translates as the **"Wheel of the Ultimate Brave"**, and the award is granted for **"most conspicuous bravery in the presence of the enemy"**. It was **1st awarded in 1947 and last awarded in 1999**

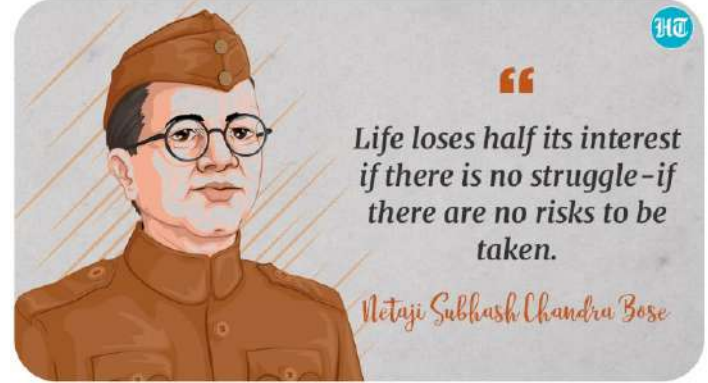
About Subhas Chandra Bose:

- **Personal:**
 - **Birth:** He was born on 23rd January 1897, in Cuttack
 - He was highly influenced by **Vivekananda's teachings** and considered him his **spiritual Guru**.
 - His **political** mentor was **Chittaranjan Das**.
- **Freedom struggle**
 - **Newspapers:** Chittaranjan Das's newspaper 'Forward' (as Editor) and his own newspaper, Swaraj.
 - **Slogans:** 'Jai Hind', 'Give me blood and I will give you freedom', 'Chalo Dilli', 'Itmad (Faith), Ittefaq (Unity) and Kurban (Sacrifice)
 - Bose was the first person to address Mahatma Gandhi as the **Father of the Nation**
 - He opposed the **Motilal Nehru Report (dominion status for India)** and wanted complete independence.
 - Became congress president at **Haripura** in 1938.
 - He founded a new party, **'the Forward Bloc'** (to consolidate the political left in Bengal)
 - **Indian National Army:** He announced the formation of the **Azad Hind Government** and the Indian National Army on 21st October 1943.
 - The INA was first formed under **Mohan Singh and Japanese Major Iwaichi Fujiwara** and comprised Indian prisoners of war of the British-Indian Army captured by Japan in the Malayan campaign and at Singapore.
- **Other Honors in his name:**
 - **Subhas Chandra Bose Aapda Prabandhan Puraskar** (disaster management)

- His birthday is celebrated as 'Parakram Diwas' on 23rd January.

Ethical Lessons from his life:

- **Courage:** Indira Gandhi said Subhas Chandra Bose's 'restless and dynamic spirit led him to a path that was somewhat different from our own', but 'he was a path of courage'.
- Value of **sacrifice**
- Value of **Struggle**
- **Patriotism**



ASSAM'S CHARAIDEO MOIDAMS

Context:

Central government has put forth the name of **Assam's Charaideo moidams burial sites** in addition to United Nations Educational, Scientific and Cultural Organization's (UNESCO) World Heritage Sites list for 2023-24.

- If selected it will be the only cultural heritage site in the North East to get the coveted status

What is Charaideo Moidams?

It is also known as the 'Pyramids of Assam' and was the original capital of the Ahom Kings. It contains **sacred burial grounds of Ahom kings and queens** and is also the place of the ancestral Gods of the Ahoms.

- **Che-Rai-Doi:** "Che" means city or town, "Rai" means "to shine" and "Doi" means hill. In short, Charaideo means, **"a shining town situated on a hilltop."**
- A moidam is a tumulus – **a mound of earth** raised over a grave
- **Built by:** Chaolung Sukhapa (founder of the Ahom dynasty in about 1253 CE)
- **Located at** around 30 Km from the historical Sivasaagar town in Assam at the foothills of Nagaland
- **Features:** It comprises a **massive underground vault with one or more chambers having domical superstructure** and covered by a heap of earthen mounds and externally it appears a hemispherical mound.
 - 90 royal burials at Charaideo in total

About Ahom Kingdom:

It was established in **1228 in the Brahmaputra valley** of Assam, the Ahom kingdom retained its sovereignty for 600 years. The Ahoms ruled the land till the province was annexed to British India in **1826** with the signing of the **Treaty of Yandaboo**.

- The Ahom state depended upon forced labour (Called **Paiks**).
- Recently, **Ahom general and folk hero Lachit Borphukan's 400th birth anniversary** was celebrated. Traditionally Ahoms are members of the Great Tai (Tai-Yai) group of people.



MONUMENT MITRA SCHEME

Context:

The government to hand over around **1,000 monuments** to the private sector for their upkeep under the **Monument Mitra Scheme**.

About Monument Mitra Scheme / Adopt A Heritage:

- The Scheme was started under the **Ministry of Tourism**.
- It is now transferred to the **Ministry of Culture** in respect of the monuments under the **Archaeological Survey of India, the ASI**.
- Applies to all **Centrally protected heritage properties**.
- Aims at **ensuring quality & inclusive provision of amenities and facilities across heritage, natural, & tourist sites** through the active participation of **private and public sector organizations and individuals**.

- These organizations would be known as **"Monument Mitras"** for their collaboration initiative.

ETIKOPPAKA TOY CRAFT

Context:

An artist from **Andhra Pradesh** was conferred Padma Shri – for his **work on Etikoppaka wooden toy craft** which is also a **GI-tagged product** from the state.

About Etikoppaka toys:

- The art of making traditional wooden Etikoppaka toys is more than **400 years old**.
- Also known as **turned wood Lacquer craft**.
- The toys are unique in shape and form.
- They are made of **wood and painted with natural dyes**.
- The wood used is from the '**Ankudi Karra**' (**Wrightia tinctoria**) tree which is soft.
- The natural dyes are prepared from **seeds, lacquer, bark, roots, and leaves**.
- Other GI products from Andhra Pradesh **Kondapalli toys, Tirupati laddu, Bobbili Veena, Srikalahasthi Kalamkari, Uppada Jamdani sarees, and Shadow puppets**.



CRITERIA FOR DECLARING NATIONAL MONUMENTS

Context:

The **Economic Advisory Council to the Prime Minister (EAC-PM)** has suggested that the government should come up with a **detailed procedure for declaring 'Monuments of National Importance'** (MNI)

'Monuments of National Importance - Urgent Need for Rationalisation':

- **Absence of definition of term 'National Importance'**
- **Allocation of funds for the protection of MNI should**

be increased

- ASI should **publish a book of notifications** for all MNI
- **Remove unimportant ones:** E.g., around 75 British cemeteries/graves are considered as MNI
- **24 monuments** of national importance are **untraceable**, but still considered as MNI
- **Minor monuments and antiquities** should be **denotified** as MNI and monuments with local importance should be transferred to **respective states for protection**
- **Over 60 per cent of MNI are located in just 5 states** - Uttar Pradesh, Karnataka, Tamil Nadu, Madhya Pradesh and Maharashtra. While the city of Delhi alone has 173 MNI

India currently has 3,695 MNI that are under the protection of ASI. The **Ancient Monuments and Archaeological Sites and Remains Act (AMASR Act), 1958, (amended in 2010)** provides for the declaration and conservation of ancient and historical monuments and archaeological sites and remains of national importance. **The Central Government** is authorised to maintain, protect and promote the monuments.

Criteria for declaration of the monument as national importance

- Ancient monument or archaeological site is **not less than 100 years old**
- It has a **special historical, archaeological or artistic interest**
- **No objection** from interested public

RAMCHARITMANAS OF TULSIDAS

Context:

In news due to a recent controversial statement made by a state minister against Ramcharitmanas.

The Ramcharitmanas:

- The **poem** was written in the **16th century** in the **Awadhi** dialect.
- It is divided into **seven chapters** (Kand) that tell the **story of Lord Ram from birth to his becoming King of Ayodhya**.
- The Ramcharitmanas is based on the **Ramayana** - sage Valmiki's great epic.

Goswami Tulsidas:

- Tulsidas, a Brahmin whose original name was **Ram Bola Dubey**, composed the **Ramcharitmanas** on the bank of the Ganga in Varanasi.
- Tulsidas was a contemporary of **Emperor Akbar**, and it is believed that he was an acquaintance of Ab-durrahim Khan-e-Khanan, the son of Akbar's com-

mander **Bairam Khan**.

- Tulsidas made the story of Lord Ram popular among the masses because he wrote in the **regional dialect that most people understood**.
- This attracted the wrath of ancient Sanskrit scholars, and Tulsidas recorded his pain in his **Kavitawali**.



SHUMANG LEELA: MANIPUR

Context:

Shumang Leela is a traditional form of **theatre** where the roles of women are played by men, called **Nupi Shabis**.

- In the case of women's theatre groups, the roles of men are played by women.


About Shumang Leela:

- **'Shumang'** means 'open courtyard' and **'Leela'** means play and the literal meaning of Shumang Leela is "play of the open courtyard".
- **Origin:** It started as a comic genre presented before the kings and noblemen.
- **Values that the theatre form shows:** It attempts to preserve and promote humanism, brotherhood, tolerance, confidence, devotion, truth and justice through its performances.
 - It is a powerful medium for **mass education** besides giving entertainment and relaxation.
 - It has been trying to focus on the issues of **moral values, unity and integrity**

MUGHAL GARDENS: NOW AMRIT UDYAN

Context:

The iconic Mughal Gardens at the Rashtrapati Bhavan (President's House) in Delhi have been renamed as 'Amrit Udyan'




Amrit Udyan

Mughal Gardens at the President's House in Delhi have been renamed as 'Amrit Udyan'

Why renaming of Mughal Garden?

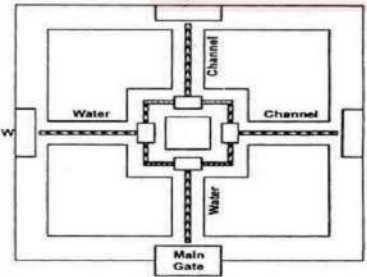
- **To give a new identity to the garden:** 'Amrit Udyan' will indicate the collective identity of all the gardens at Rashtrapati Bhavan. Previously, there were just descriptive identities.
- **Shed colonial legacies:** New name sheds symbol of a colonial relic and reflects India's aspirations for the Amrit Kaal



Features added later:

- **Nutrition Garden, popularly known as Dalikhana:** It was added by C Rajagopalachari, the last Governor General of India, during a period of food shortage in the country.
- **Cactus Garden:** President R Venkatraman added a cactus garden
- **From the musical garden to the spiritual garden:** APJ Abdul Kalam added many theme-based gardens

Visit Insights IAS CA Daily for detailed News



Char-Bagh (Four-Quartered Garden) Plan

History of the Garden:

- At the time of the **shifting of the Indian capital from Calcutta to Delhi (in 1911)**, about 4,000 acres of land were acquired to construct the Viceroy's House and a Mughal-style Garden.
- **Sir Edwin Lutyens** was given the task of designing the building on Raisina Hill.

Persian Char Bagh style

The **Mughals (1526-1858)** were known to appreciate gardens e.g., Babur (in Babur Nama) says that his favourite kind of garden is the **Persian char Bagh style** (literally, four gardens).

- **Charbagh is a Persian-style garden layout**, in which the main building is put at the centre of a quadrilateral garden, divided by walkways or flowing water into four smaller parts.
 - This style was brought to India by the Mughals
- **Humayun's tomb, Nishat Bagh (Sri Nagar) and Taj Mahal** are the examples of this style.
- The **char Bagh structure** was intended to create a representation of heaven- in which humans co-exist in perfect harmony with all elements of nature
- **Waterways** demarcate the various quadrants of the garden.
- **Fountains** were often built, symbolising the "cycle

of life."

Games

INFORMATION RELATED TO HOCKEY

Context:

As the FIH Hockey World Cup kicked off in Odisha (in Bhubaneswar and Rourkela), here is little information about the game.

About Hockey:

- Field hockey is a team sport played between **two teams of 11 players each** on a rectangular field with white lines on the **blue AstroTurf**.
- **To score a goal, the scorer has to enter the opposition D** – the D-shaped box 16 yards in front of the goal. A shot from outside the D is not counted.
- **Types of hockey hit:** Scoop, Flick, Tomahawk (reverse backhand), Jink
- **Fouls:** The ball touching your feet, tackling from behind, third-party **interference** (two players are not allowed to tackle an attacking player at the same time), **obstruction** (when a player or a stick comes in between the ball and the other player) and dangerous play.
- **Fouls are penalized in different ways:** Free hits, Penalty Corners, Penalty strokes

Is Hockey the National Game of India?

Hockey was **believed to be the national game of India** for decades, but the **Government of India** has clarified that **hockey isn't and never was the official national game of India. In fact, India does not have a national game.**

India's Performance in Men's Hockey

- India was the **first non-European team** to be a part of the International Hockey Federation.
- India's hockey team is the **most successful team ever in the Olympics**, having won a total of **eight** gold medals
- India also has the **best overall performance in Olympic history** with 83 victories out of the 134 matches played.
- They have also **scored more goals** in the Olympics than any other team.
- They are also the only team ever to **win the Olympics without conceding a single goal**, having done so in 1928 and 1956.
- **Major player: Major Dhyan Chand** was an Indian field hockey player, widely regarded as one of the greatest field hockey players in history.

PURPLE FEST

Context:

The first-of-its-kind inclusive festival in India, 'Purple Fest: Celebrating Diversity' in Goa.

About Purple Fest Goa

- It is first of its kind inclusive festival in India that **embraces, expresses and celebrates persons with disabilities**.
- Aimed at furthering the **spirit of inclusion**, the Purple Fest will feature a variety of exciting live **performances, sporting events, grand exhibitions, immersive experience zones, accessible movie screenings, & discussions on vital subjects like inclusive education, tourism, employment, & independent living**.
- In recent days, **purple colour has been associated with disability** and denotes the contribution of a wider community of disabled people workforce.

MAGH BIHU

Context:

Prime Minister greeted the people on the occasion of Magh Bihu.

About Magh Bihu:

- It is a harvest **festival of Assam where people express gratitude** for a good harvest and marks the end of the harvest season.
- It believes in sharing the gifts of nature as a community and strengthening a sense of identity and belonging.
- The festival of Bihu has three forms: **Bohag Bihu, Kati Bihu, and Magh Bihu**. Each of these falls in the agriculture calendar.

This day is considered auspicious in the Hindu lunar year as well and **is known as the Makar Sankranti**, i.e., the day when the sun begins its northward journey or **Uttarayan and transitions into the Hindu zodiac sign of Makara**.

On this day the Sun God is worshipped in various parts of India in the form of different festivals such as **Pongal (Tamil Nadu), Maghi (Punjab), and Uttarayan (Gujarat)**

Maghi Mela has been celebrated in the city of **Sri Muktsar Sahib in Punjab for centuries in memory of 40 Sikh warriors who were killed fighting the Mughals in the Battle of**

Khidrana in 1705. It was after this battle that Khidrana was named Muktsar, or the pool of liberation.

Gangasagar mela

Gangasagar Mela is known as the **world's second-largest human congregation** after Kumbh. The event is organized every year during **Makar Sankranti**. The mela is held at **Sagar Island (West Bengal)**. Recently, West Bengal has demanded **National Mela status for Gangasagar mela**.

BHARAT PARV 2023

Context:

The six-day mega event "**Bharat Parv**" is being organized by the Government of India, as part of the **Republic Day Celebrations**.

About Bharat Parv:

- Bharat Parv was previously held from **2016 and virtually in the year 2021**
- The physical event is being organized after a gap of 2 years.
- The event would have a **Food Festival, Handicraft mela, folk and tribal dance performances, performances by cultural troupes, a Display of Republic Day Tableaux, illumination of Red Fort etc.**
- Branding and promotion of **Dekho Apna Desh, Ek Bharat Shrestha Bharat, G20 and Mission LIFE** would be undertaken during the event.
- **Ministry of Tourism has been designated as the nodal Ministry for the event**, the highlights of which include showcasing of the best Republic Day Parade tableaux at the venue, cultural performances by the Zonal Cultural Centres as well as cultural troupes from States/ UTs, a pan – India Food Court and a pan – India Crafts Bazaar.

Significance Of Bharat Parv:

- To Promote the **Spirit Of Freedom**
- To **celebrate independence and the history of India**.
- **Extension Of Republic Day Events**.
- Promoting India's **Food Diversity**
- Promoting **Vocals for Local**

[Modern History/Personality](#)

SWAMI SAHAJANAND SARASWATI

Context:

Celebrations commemorating farmer leader Swami Sahajanand Saraswati's birth anniversary

Swami Sahajanand Saraswati:

- He (real name Navrang Rai) was an ascetic, a nationalist and a peasant leader of India.
- **The Bihar Provincial Kisan Sabha (BPKS)** was founded by Saraswati in **1929** to address peasants' complaints about zamindari attacks on their occupancy rights, and served as the foundation for the farmers' movements in India.
- **The All-India Kisan Sabha (AIKS)** was established at the Lucknow session of the Indian National Congress in April **1936**, with **Saraswati chosen as its first President**.
- Subhash Chandra Bose and the All India Forward Bloc decided to observe April 28 as All-India Swami Sahajanand Day in protest of his arrest by the British Raj during the **Quit India Movement**.

ARCHITECT BV DOSHI PASSES AWAY

Context:

Renowned architect of **post-Independent India**, **Balkrishna Doshi** died on January 24.

His Contribution:

- To the evolution of architecture:
 - Founder of **Ahmedabad's School of Architecture**
 - Having worked under **Le Corbusier and Louis Kahn**, he is a pioneer of modernist architecture in India
 - He established **Indian architecture on the global platform** through his humanist approach to design
- **Infrastructure projects:** Designer of IIM Bangalore, IIM Udaipur, NIFT Delhi, Amdavad ni Gufa, CEPT University, NIFT Delhi and the **Aranya Low-Cost Housing development in Indore** which was awarded the **Aga Khan Award for Architecture**.
- Awards
 - **2018:** He became the **first Indian architect to receive the Pritzker Architecture Prize**, which is considered one of the most prestigious prizes in architecture.
 - **2020:** Padma Shri and the Padma Bhushan.
 - Royal Institute of British Architects **Royal Gold Medal for 2022**

Ethical lessons from his life:

- **Innovations**
- **Creativity**
- **Humanity:** BV Doshi gave Indian architecture a human face.
- **Compassion:** Designing houses for poor

About Pritzker Architecture Prize (regarded Nobel Prize for Architecture)

The Pritzker Architecture Prize (est. 1979) is an international architecture award presented annually "to honour a **living architect or architects** whose built work demonstrates a combination of those qualities of talent, vision and commitment.

Geography

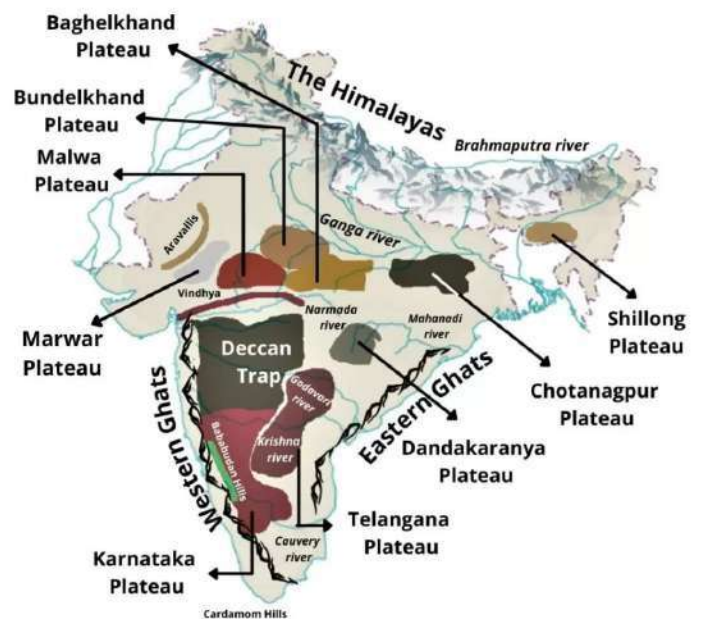
NEW PLATEAU DISCOVERED

Context:

A rare low-altitude basalt plateau housing **76 species of plants and shrubs from 24 different families** was discovered in the Thane region in the Western Ghats.

How Plateaus are the repository of information:

- Plateaus in the Western Ghats are significant because of the predominance of **endemic species**. They are classified as a **type of rock outcrop** and **provide a unique and challenging environment for species to adapt**.
- These outcrops have **seasonal water availability, limited soil, and nutrients**, making them ideal laboratories to study the effects of climate change on species survival.
- It can help **increase awareness of the conservation needs of rock outcrops** and their immense **biodiversity value** in the global context.



RARE DINOSAUR EGGS FOUND IN NARMADA VALLEY

Context:

A group of Indian researchers found rare cases of **fossilized dinosaur eggs — an egg within an egg** — among 256 newly discovered eggs from the Narmada Valley.

About findings:

- The discovery suggests that Titanosaurs — **one of the largest dinosaurs to have roamed the Earth** — displayed a notable reproductive trait unique to modern-day birds.
- The egg has two yolks; **this feature can be seen in birds, suggesting they share similar reproductive traits.**

Region where these fossils were found:

- This region falls between the easternmost **Lameta exposures at Jabalpur in the upper Narmada Valley (central India) and Balasinor in the west in the lower Narmada Valley** (western central India),
- Lameta exposure is a **sedimentary rock formation known for its dinosaur fossils.**
- The Bhedaghat-Lamheta Ghat in Narmada valley has made it to the [tentative list of UNESCO's world heritage sites.](#)

OVER 90 FOSSIL NESTS BELONGING TO INDIA'S LARGEST DINOSAURS UNCOVERED

Context:

Researchers have **uncovered 92 nesting sites containing a total of 256 fossil eggs** in central India's Narmada Valley belonging to **titanosaurs.**

About Titanosaurs:

- They were among the **largest dinosaurs to have ever lived.**
- Titanosaurs were a **diverse group of sauropod dinosaurs**, including genera from all seven continents.
- These were the **last surviving group of long-necked sauropods**, with taxa still thriving at the time of the extinction event at the end of the Cretaceous.

About the findings:

- Researchers **six different egg species**, suggesting a **higher diversity of titanosaurs** than is represented by skeletal remains from this region.
- These dinosaurs buried their eggs in shallow pits

like modern-day crocodiles.

- Certain pathologies found in the eggs, such as a **rare case of "egg-in-egg"**, indicate that titanosaur sauropods had a **reproductive physiology that parallels that of birds and possibly laid their eggs in a sequential manner as seen in modern birds.**

About Narmada River:

The Narmada, **the largest west-flowing river of the Peninsula**, rises near the Amarkantak range of mountains in Madhya Pradesh. It is the fifth-largest river in the country and the largest one in Gujarat.

EARTH'S INNER CORE

Context:

Research suggested that Earth's inner core, a hot iron ball the size of Pluto, **has stopped spinning faster than the planet's surface and might now be rotating slower than it.**

How does the core spin:

- The inner core rotates **within the liquid outer core.**
- The solid inner core is **suspended, floating, in the molten outer core.**
- The inner core's **independent rotation is caused by a process called convection.**
- Its movement is caused by the outer core's magnetic torque and balanced by gravitational force.
- The **mantle's immense gravitational pull** may be the reason for the pause and shift in the inner core's rotation.

How do we study the inner core:

Scientists rely on **seismic waves created by earthquakes or sometimes nuclear explosions** —to know about the structure of the interior of the Earth.

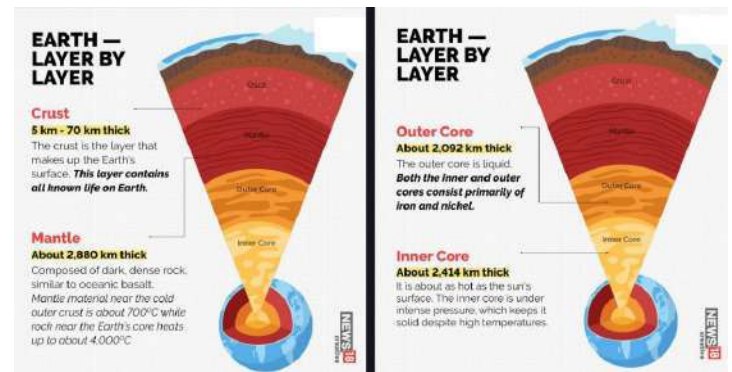


Image Credits: News 18

MAPPING

Maps (in News)



Croatia Joins Eurozone

Croatia switched to the euro and entered Europe's **borderless zone**. It joined the EU in 2013, but to **adopt the euro** the country had to fulfill a set of strict economic conditions, including having a stable exchange rate, controlled inflation and sound public spending. It has given up its **kuna currency** and became the **20th member** of the eurozone. It is also now the **27th nation** in the **passport-free Schengen zone**. **Schengen Area** signifies a zone where there is free and unrestricted movement of people and goods.

Croatia is the **crenshaw-shaped country** and features **low mountains and highlands** near the **Adriatic sea coastline**. It gained its independence from **Yugoslavia** after a bitter war and **Dayton agreement** in 1995



Brazil: Lula becomes Brazil's President for 3rd time

Luiz Inácio Lula da Silva (77 years old), the leftist leader who is known simply as **Lula**, has become the president of Brazil to serve an **unprecedented third term**.

Lula is a charismatic leader who is said to have studied only till **5th grade**, and is credited for **sweeping social welfare programmes**, which raised millions of people out of poverty.

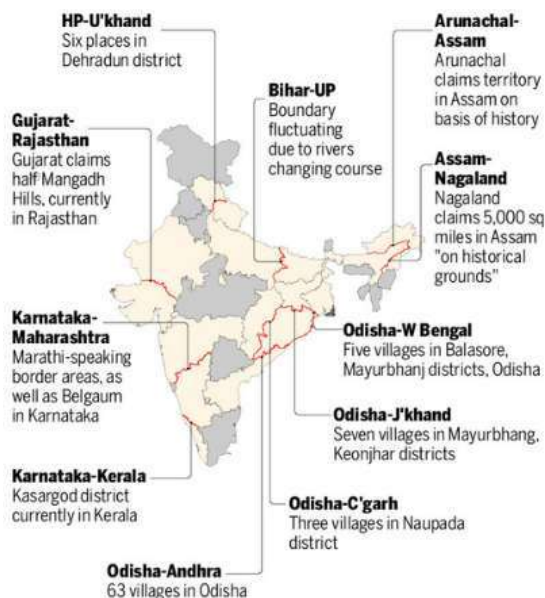
When he left office at the end of **2010**, he had an approval rating of **90%**. However, he had to go to prison on corruption charges in 2018. It was in **March 2021** that Lula's conviction was overturned by Brazil's Supreme Court, paving the way for his return to political life.

India has had excellent relations with Brazil under Lula.

Brazil is well known for its **dense forests**, including the **Amazon** (world's largest jungle), in the north. But there are also dry grasslands (called **pampas**), rugged hills, pine forests, sprawling wetlands (**Pantanal**- world's largest tropical wetland area and flooded grasslands), immense plateaus, and a long coastal plain. **Pico da Neblina** is the highest peak in Brazil.

Visit Insights IAS Daily CA for detailed News

STATES WITH BORDER DISPUTES



Maps (in News)

Odisha-Andhra dispute

THE KOTIA DISPUTE

- Kotia gram panchayat has been in Odisha since **1936**
- In **1953**, Andhra Pradesh claimed Kotia to be part of state
- Ongoing tussle over **21** out of **28** villages in Kotia
- **2006**: SC orders status quo on the issue



4,448 people live in **21** villages

1,600 eligible voters

The **Odisha government** may allow officers to reach **Kotia**, a territory claimed by both Odisha and Andhra Pradesh, using **flight service** to review the progress on developmental activities.

Both Odisha and Andhra Pradesh have been claiming **jurisdictional authority over the villages under the Kotia Gram Panchayat in Koraput district (Odisha)**. Both the state governments have announced a special package to ensure development of the bordering villages in the hilly terrain

KOTIA'S IDENTITY CRISIS



Guyana

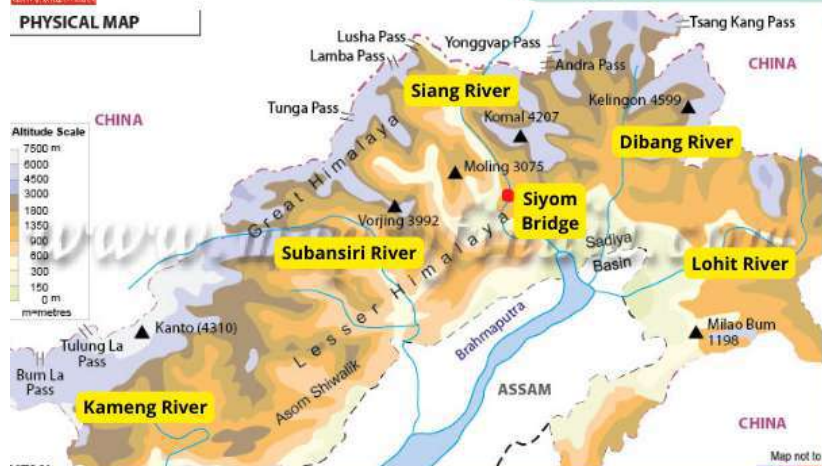
Guyana's President Mohamed Irfaan Ali is among 21 recipients of the 17th Pravasi Bharatiya Samman Award (PBSA) to be held in **Indore** (Madhya Pradesh).

Guyana, a country on **South America's North Atlantic coast**, is defined by its **dense rainforest**. English-speaking, with cricket and calypso music, it's culturally connected to the **Caribbean region**. Its capital, **Georgetown**, is known for British colonial architecture

Famous river: Essequibo river originates in the Acarai Mountains near the Brazil-Guyana border and flows to the north for **1,014 kilometres**

Visit Insights IAS Daily CA for detailed News

Maps (in News)



Siyom Bridge: Arunachal Pradesh

It is a **100 m strategic bridge** on the **Along-Yingkiong Road** over the Siyom river in Siang district leading to China border. This bridge is crucial for troops to reach the **Line of Actual Control (LAC)** in the central part of Arunachal Pradesh, primarily the Tuting subdivision bordering China.

Previously, **Bailey suspension bridge** across the Siyom river used to connect the region before a flash flood washed it away in June 2021.

Arunachal Pradesh lies in the **foothills of the Himalayas** in northeast India. It borders Bhutan, China, Myanmar, Assam, and Nagaland. Its highest point is **Kangto Mountain (7060 m)**. The state has **evergreen forest cover of over 82 per cent**. Its climate ranges from sub-tropical in the south to **Alpine in the north**.

Al-Aqsa mosque: Israel

Israel's far-right National Security Minister briefly visited the compound that **houses the Al-Aqsa Mosque in Jerusalem**, a move condemned by Palestinians as provocative and despite warnings it could lead to violence.

The Al-Aqsa compound, known to **Muslims as the Noble Sanctuary**, is **Islam's third-holiest site**. It is also **Judaism's most sacred site**, a vestige of two ancient temples of the faith.

Located in **East Jerusalem**, which Israel captured along with the **West Bank and Gaza Strip in a 1967 war**, the compound further serves as a focus of Palestinian hopes of founding a state in those territories. Israel deems all of **Jerusalem its indivisible capital** - a status not recognized internationally. Israel is located at the eastern end of the **Mediterranean Sea in Western Asia**.

It is a small country with **Negev desert** in the south. **Jordan River** is the most famous river which merges with the dead sea in the **Jordan Rift valley**.



Al-Aqsa mosque

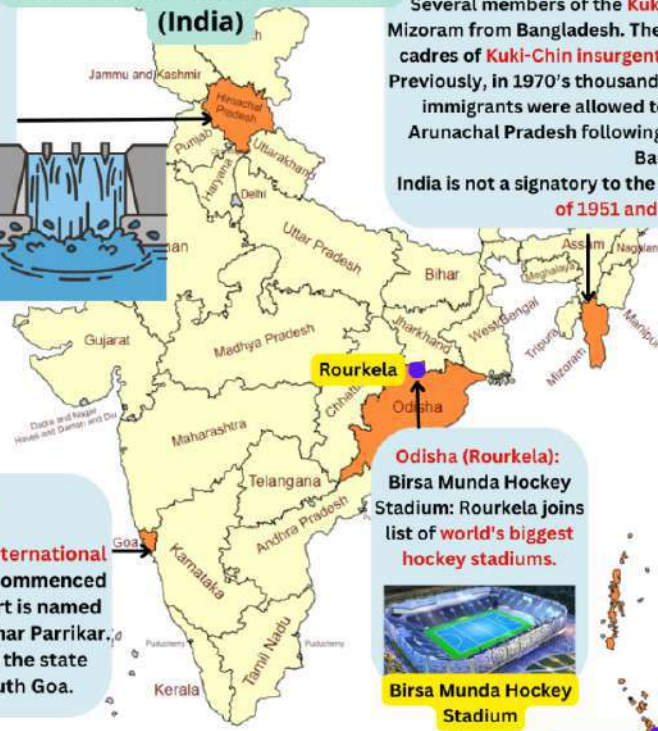
Visit Insights IAS Daily CA for

Himachal Pradesh: Sunni Dam Project

Central government has approved the investment for **382 MW Sunni Dam Hydro Electric Project** in Himachal Pradesh by SJVN Limited. It is a **Run of River project**. It is being executed on the **Sutlej** in **Shimla and Mandi districts** and it would have a 71-metre-high concrete gravity dam and six generating units in its surface power house.



Places in News for this Week (India)



Refugee crisis: Mizoram-Bangladesh border
Several members of the **Kuki-Chin community** are pouring into Mizoram from Bangladesh. There have been heavy fighting between cadres of **Kuki-Chin insurgent groups** in neighboring Bangladesh. Previously, in 1970's thousands of Bangladeshi Chakma (Buddhists) immigrants were allowed to enter and settle in Mizoram and Arunachal Pradesh following the construction of Kaptai Dam in Bangladesh.
India is not a signatory to the **United Nations Refugee Convention of 1951 and its 1967 Protocol**.



Kuki-Chin Refugees

Goa: Manohar Airport

The newly inaugurated **Manohar International Airport at Mopa in North Goa** has commenced commercial operations. The airport is named after late Goa Chief Minister **Manohar Parrikar**. This will be the second airport in the state after the **Dabolim** airport in South Goa.



Late Goa Chief Minister Manohar Parrikar

Visit Insights IAS Daily CA for detailed News

Odisha (Rourkela): Birsra Munda Hockey Stadium: Rourkela joins list of world's biggest hockey stadiums.



Birsra Munda Hockey Stadium

A&N: Indira Point
It is along the **Great Channel**, popularly referred to as the **'Six Degree Channel'**, which is a major shipping lane for international traffic. **Indira Point**, the southernmost point of India's territory, is a village in the Nicobar district at Great Nicobar Island of Andaman and Nicobar Islands in India. It is not visible today because it was submerged under the sea in the **2004 Tsunami**. It was named after former **Prime Minister Indira Gandhi**.

Indira Point

Places in News for this Week (World)



Hawaii Island

Hawaii: Kilauea Volcano
The **Kilauea volcano** in Hawaii has begun erupting less than one month after it and its larger neighbour **Mauna Loa** stopped releasing lava from a previous eruption. The Hawaiian Islands (in the middle of Pacific Plate) are believed to be formed from **'hot spot' volcanism**. Two of the world's most active volcanoes - Kilauea and Mauna Loa - can be found on Hawai'i Island.

Visit Insights IAS Daily CA for detailed News

Guyana and Surinam
Guyana, Suriname Presidents to attend **Pravasi Bharatiya Divas**. India has good relations with Suriname and Guyana, reinforced by cultural and people to people contact bridged by Indian **Diaspora's arrival dating back to 142 years**.
Suriname is involved in territorial disputes with both Guyana and French Guiana that are legacies of colonial rule.



Ales Byalyatski

Belarus: Ales Byalyatski jailed
Nobel Peace Prize laureate **Ales Byalyatski** went on trial in Belarus, facing up to 12 years in jail in a case his allies see as political retribution for his rights work.
Byalyatski shared the **Nobel Peace Prize** with Russian rights group **Memorial** and **Ukraine's Center for Civil Liberties**.
Russia is Belarus' largest and most important economic and political partner. **Alexander Lukashenko** has been the first and only president of Belarus since the establishment of the office on 20 July 1994.

Sudan: Indian Peacekeeping meeting
India is set to deploy an **all-woman platoon of peacekeepers** as part of a battalion to the **United Nations Interim Security Force in Abyei** (on the border between South Sudan and Sudan), which will be India's largest single unit of women peacekeepers in a U.N. mission since the deployment of the **first-ever all women's contingent in Liberia in 2007**. India is one of the largest troop-contributing nations to the U.N. peacekeeping missions.

Argentina: lithium mines

India has identified two lithium mines and one copper mine in Argentina, and it may acquire or lease them soon. **KABIL** (a CPSE) aims to ensure consistent supply of critical and strategic minerals in the domestic market.
Together with Chile and Bolivia, Argentina forms the so-called **"Lithium Triangle"** and is currently the fourth largest producer. Australia is the top lithium producer globally.
Lithium is found in **cedemine** rock formation (in Australia) and in brine form (in South American countries), which is called **salar** in Latin America.



Salar



Places in News (India)

Haryana: Aravalli Safari park

It is feared that the **world's largest, 10000 acre Aravalli safari park project** proposed by Haryana Government (in Nuh and Gurugram districts) will fragment natural habitats, increase waste generation and destroy the region's fragile ecosystem.

Aravalli Bachao Citizens Movement (a network of environmentalists and activists) have been working to save the Aravallis.

The Aravallis is one of the **oldest fold mountains** of the world (elevation 300m to 900m). They stretch for a distance of 800 km, spanning **Haryana, Rajasthan, Gujarat, and Delhi**. The highest peak is **Guru Shikhar** on Mount Abu at 1,722 m.



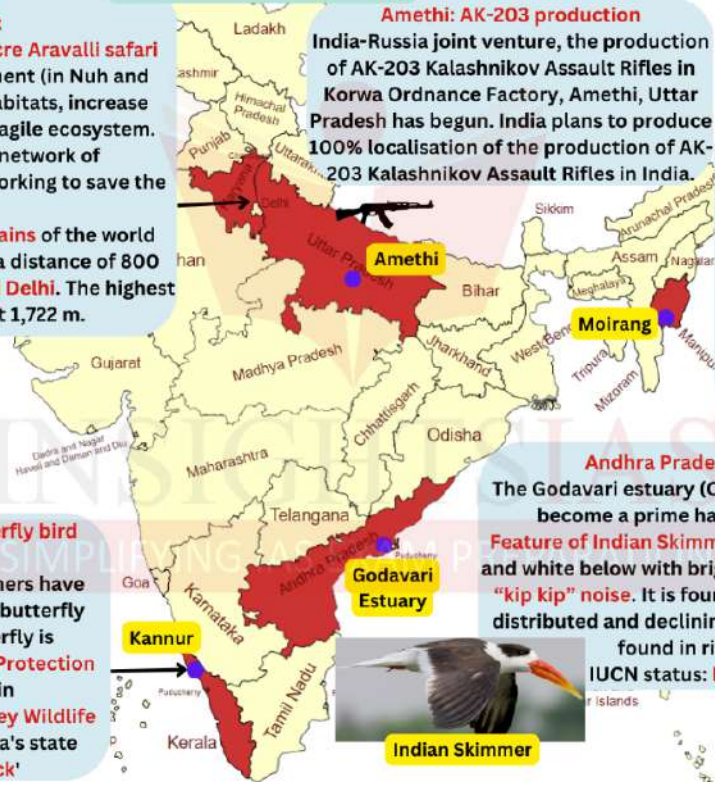
White Tufted Royal Butterfly

Kannur (Kerala): White Tufted Royal Butterfly bird

A team of butterfly observers and researchers have found **White Tufted Royal Butterfly**, a rare butterfly species at Kalliyad in Kannur. The butterfly is protected under **Schedule 2 of the Wildlife Protection Act**. The species had been spotted in Agasthyakoodam in 2017 and the **Shendurney Wildlife Sanctuary (Kollam, Kerala)** in 2018. Kerala's state butterfly is '**Malabar banded Peacock**'

Amethi: AK-203 production

India-Russia joint venture, the production of **AK-203 Kalashnikov Assault Rifles** in Korwa Ordnance Factory, Amethi, Uttar Pradesh has begun. India plans to produce **100% localisation** of the production of **AK-203 Kalashnikov Assault Rifles** in India.



Manipur: Moirang

Union Home Minister recently visited the **Indian National Army (INA) headquarters at Moirang in Manipur's Bishnupur** district and hoisted the national flag.

In Moirang, INA had hoisted the tricolour for the first time on Indian soil. Also, Manipur is considered the birthplace of the **Polo game**.

Andhra Pradesh: Godavari Estuary

The Godavari estuary (Coringa Wildlife Sanctuary) has become a prime habitat for Indian Skimmer.

Feature of Indian Skimmer: Unmistakable; black above and white below with bright orange bill. It makes a sharp "**kip kip**" noise. It is found in southern Asia, where it is distributed and declining in numbers. They are mainly found in rivers or estuaries.

IUCN status: **Endangered species**



Indian Skimmer

Visit Insights IAS Daily CA for detailed News

Places in News (World)

Canada: Guidelines on Alcohol consumption

Canadian health officials issued a guidelines saying that **no amount is healthy and recommended that people reduce drinking as much as possible**.

Drinking alcohol, even in small quantity, is damaging to everyone, regardless of age, sex, gender, ethnicity, tolerance for alcohol or lifestyle.

Peru: Anti-government rally

Peru has been confronted with an over a month violent protests by the antigovernment protestors who are demanding the resignation of newly appointed President Dina Boluarte and conduct of fresh elections.

President Dina Boluarte was selected its first female President Dina Boluarte by replacing the leftist Pedro Castillo. Peru is a country in South America that's home to a section of Amazon rainforest and Machu Picchu, an ancient Incan city high in the Andes mountains.

France: Anti-Pension reform protests

More than 2 million people protested in France against the government's controversial plan to push back the retirement age from 62 to 64. Government insists that raising the age of retirement is necessary to tackle a deficit in pension funding.

Egypt: President to be chief guest

Egyptian President Abdel Fattah el-Sisi will be the first chief guest from his country at India's Republic Day celebrations. 2022 marked the 75 years of diplomatic ties between India and Egypt.

Uganda: End of Ebola disease

Uganda declares end of Ebola disease outbreak caused by Sudan ebolavirus, less than four months after the first case was confirmed by Uganda.

Sweden: Rare Earth Found

Europe's largest known deposit of rare earth elements has been found in Sweden. This will be helpful to diversify sources to reduce Europe's dependence on Chinese Rare earth Metal (98% currently). **Minerals Security Partnership(MSP)** was formed in 2022 by US and 10 other partners to secure the supply chains of critical minerals.

China-Bhutan Border talk

Officials from China and Bhutan held boundary talks in the southwestern Chinese city of Kunming. China has claimed areas along Bhutan's eastern borders in Sakteng wildlife sanctuary, which borders India's state of Arunachal Pradesh.

SAGE: Oman-Iran-India Pipeline

South Asia Gas Enterprise (SAGE) is a deepwater pipeline from the Middle East – bypassing Pakistan to transport gas from Chabahar in Iran and Ra's al Jifan in Oman to Porbandar in Gujarat state. However, the UN resolution last March (2022) had put the deep-sea gas pipeline into diplomatic roadblock.

New Zealand: PM will resign

New Zealand Prime Minister Jacinda Ardern has declared that she would be stepping down from her role ahead of this year's election. Ardern, 42, became the youngest female head of government in the world when she was elected prime minister in 2017, at the age of 37

Visit Insights IAS Daily CA for detailed News

Places in News (India)

Odisha: Simlipal National Park

Over the last few years, Simlipal National Park and the tiger reserve in Odisha's Mayurbhanj district have become a hunting ground for animal poachers. The park is part of the Simlipal-Kuldiha-Hadgarh Elephant Reserve, also known as the Mayurbhanj Elephant Reserve. The park gets its name from the abundance of semul (red silk cotton trees) that bloom here. It has been a member of the UNESCO World Network of Biosphere Reserves since 2009.

Waterfalls: Joranda and Barehipani.
Tribes: Erenga Kharias and the Mankirdias



Semul Tree

Odisha: Puri's Jagannath Temple

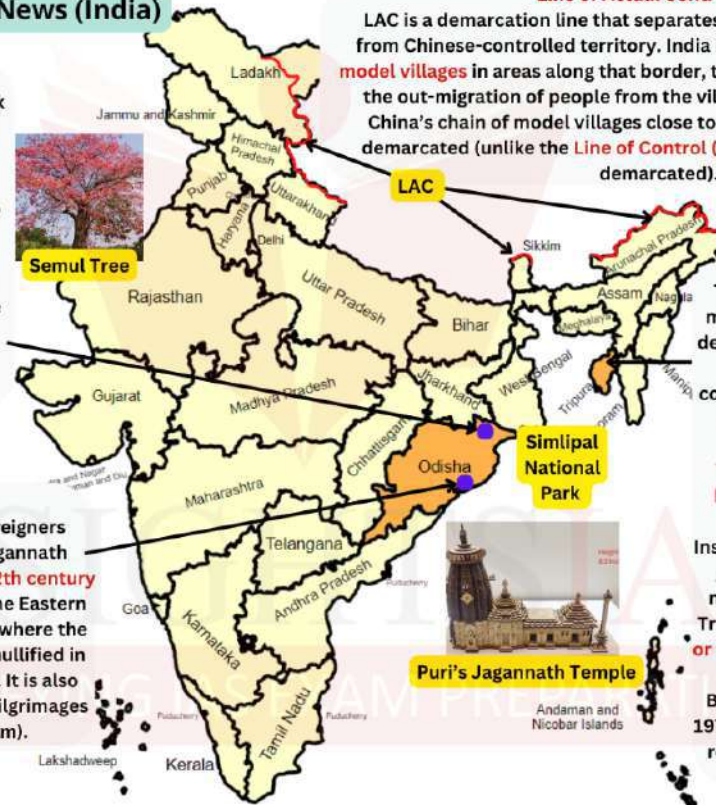
Odisha's Governor has said he believes foreigners should be allowed to enter the Temple. Jagannath Temple is believed to be constructed in the 12th century by King Anantavarman Chodaganga Deva of the Eastern Ganga Dynasty. It is called 'Yamanika Tirtha' where the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath. It is also "White Pagoda" and is a part of Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram).



Puri's Jagannath Temple

Line of Actual Control (LAC)

LAC is a demarcation line that separates Indian-controlled territory from Chinese-controlled territory. India is developing 130 villages as model villages in areas along that border, to increase amenities and stop the out-migration of people from the villages. This is in response to China's chain of model villages close to the LAC. LAC is not clearly demarcated (unlike the Line of Control (LOC) with Pakistan which is demarcated).



Tripura: Greater Tripaland

TIPRA Motha Party (led by a former member of Tripura's royal family) are demanding a separate state of 'Greater Tripaland' for the indigenous communities of the northeastern state (under Article 2 and 3 of the Indian Constitution).

Tripura was a kingdom ruled by the Manikya dynasty from the late 13th century until the signing of the Instrument of Accession with the Indian government in 1949. Among the 19 notified Scheduled Tribes in Tripura, Tripuris are the largest followed by Bru or Reang and Jamatias. However, due to migration from neighbouring Bangladesh (mainly between 1947 to 1971), the Population of the tribals has reduced to nearly 32% (2011 Census) from 63% (in 1881)

Visit Insights IAS Daily CA for detailed News

USA

The USA designated the Russian firm Wagner Group as a criminal organization. Wagner Group (PMC Wagner) had taken delivery of an arms shipment from North Korea to help bolster Russian forces in Ukraine. The Wagner Group is a Russian paramilitary organization consisting of a private military company, a network of mercenaries, or a de facto private army of Russian President Vladimir Putin.



Chile: Mapuche

The Mapuche are indigenous inhabitants of Chile and Argentina, who were originally from the forests of the southern Andes. The new constitution to empower Chile's Indigenous people (80 per cent of whom are Mapuche) was defeated in September last year (2022).

Places in News (World)

Russia & Estonia expel each other's ambassadors:

From 1940 until 1991, Estonia was under Soviet occupation and fear Russia might also attempt to reoccupy Estonia.

Netherland

The Dutch government plans to close the Earthquake-prone Groningen gas field this year due to safety concerns. Groningen is the largest gas field in Europe.

Malawi

Malawi had almost eradicated cholera. But now more than 900 people died of it over the past 11 months. Cholera is a bacterial disease usually spread through contaminated water. Cholera causes severe diarrhoea and dehydration. Left untreated, cholera can be fatal within hours

Tanks for Ukraine

Poland, Canada, Norway and Spain have said they will be sending additional 60 tanks to Ukraine including German-made Leopard 2 tank.

Yellow-Band Disease

Tanzania: Lake Victoria Lake Victoria is Africa's largest lake by area, the world's second-largest freshwater lake by surface area after Lake Superior in North America. It has been suffering from a variety of unsustainable human activities over the last five decades. It is shared by three countries — Tanzania, Uganda and Kenya.



Thailand: Yellow-Band Disease

Yellow band disease is killing corals over the sea floor of Thailand due to overfishing, pollution and rising water temperature. Yellow-band disease (by pathogens such as bacteria and fungi) - named for the colour it turns corals before destroying them. There is no known cure. The disease's impact cannot be reversed, unlike the effects of coral bleaching.



Visit Insights IAS Daily CA for detailed News

CRITERIA CHANGE IN GENDER GAP REPORTS

Context:

The World Economic Forum (WEF) will take into account the **participation of women** at the **panchayat level to rank countries** in its future Global Gender Gap reports.

- This will improve India's position at the global level (currently **India ranks 135 Out Of 146** in the 2022 Gender Gap report)
- Previously, India had reiterated the "flaws" in the ranking system.

The Global Gender Gap Index benchmarks the current state and evolution of gender parity across four key dimensions:

- Economic Participation and Opportunity
- Educational Attainment
- Health and Survival
- Political Empowerment

About Global Gender Gap Index:

It is the longest-standing index which tracks progress towards closing Gender gaps over time since its inception in 2006.

About WEF:

The World Economic Forum is an international **non-governmental** and lobbying organisation based in Switzerland. It was founded on 24 January 1971 by German engineer and economist Klaus Schwab.

trance. But in JEE, the results have long highlighted glaring gendered disparity. This year, for the first time, **women make up 30% of the IIT-JEE applicant pool.**

In India, women make up **43% of the STEM education pool**, one of the highest ratios in the world.

MIGRATION EVENTS THAT BROUGHT GENETIC DIVERSITY

Context:

Tibeto-Burman communities were pre-historic Himalayan settlers, and their East Asian ancestry can be traced back to **Neolithic immigration**, mostly from Tibet around 8000 Years Ago, says a genetic study of the population.

Impact of this migration: The migration led to genetic drift, endogamy, admixture, isolation, and natural selection that have contributed to genetic diversity among the Nepalese population

Origin of Modern Human

Modern humans originated in Africa within the past 200,000 years and evolved from their most likely recent common ancestor, Homo erectus ('upright man')

GS2

Polity

E-SCR PROJECT

Context:

Electronic Supreme Court Reports (e-SCR) project has been launched to provide the digital version of the SC's judgements in the manner as they are reported in the official law report '**Supreme Court Reports**'

The report aims to provide the **entire judgement of SC** (from inception in 1950 to date)

The eCourts Mission Mode Project is a national **eGovernance project for Information and Communication Technology (ICT)** enablement of district & subordinate courts of the country. The objective of the project is to provide designated services to litigants, lawyers and the judiciary through ICT enablement of courts.

The gender score | India ranked 135 in gender parity out of 146 countries, according to the Global Gender Gap Report 2022 released by the World Economic Forum. A look at India's ranking in the four sub-indexes based on which the overall ranking was determined

India	Rank 2022*
Global gender gap index	135
Economic participation and opportunity	143
Educational attainment	107
Health and survival	146
Political empowerment	48

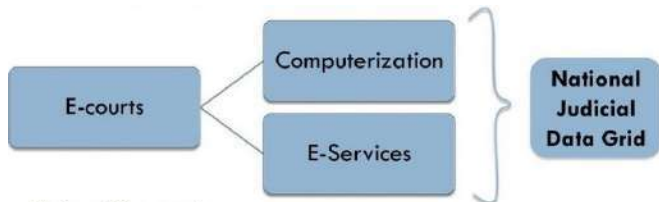
*out of 146 countries



Related news

Good news for gender parity in science

Girls routinely outperform boys in boards and medical en-



Main achievements:

- 92% courts computerised and on NJDG
- Video Conferencing in 500 courts & 347 jails
- Case status information online
- SMS service for parties, lawyers. NJDG mobile app



STATE FINANCES: A STUDY OF BUDGETS OF 2022-23

Context:

In its latest report titled 'State Finances: A Study of Budgets of 2022-23', RBI has warned that the reversion to **OPS** by some States poses a major risk on the "subnational fiscal horizon" and would result in the accumulation of **unfunded liabilities** in the coming years for them.

- Among the States, **Himachal Pradesh, Rajasthan, Chhattisgarh, Jharkhand and Punjab** have so far restored the Dearness Allowance (DA) linked OPS for their employees.

Old Pension Scheme (OPS): It was discontinued in 2004, however, it **guaranteed life-long income after retirement**. Typically, the insured amount is equal to **50%** of the most recently drawn salary. The expenditure incurred on the pension is borne by the government.

National Pension Scheme (NPS):

- The NPS is a **voluntary and long-term** retirement investment plan administered by the Pension Fund Regulatory and Development Authority (PFRDA), Ministry of Finance, Government of India.
- It was launched in **January 2004** for government employees and it was decided to discontinue defined benefit pensions/OPS for all employees who joined after April 1, 2004.

Following are the major differences between the Old Pension System and NPS:

Table: 1.1

Description	Old Pension System	NPS (Tier-I)
Contribution of employee	Nil	10% of (Basic pay plus DA)
Pension guarantee by Government	Yes	No
Amount of pension	50% of last pay drawn	No link with last pay
Dearness Relief provided by Government for mitigating impact of inflation	Yes	No
Amount of commutation allowed	Upto 40%	No option
GPF eligibility	Yes	No
GPF/NPS withdrawal	Temporary: within 15 years Final: after 15 years	Tier-I : Not allowed till May 2015 ¹

Other Key points of the Report 'State Finances: A Study of Budgets of 2022-23':

- States' gross fiscal deficit will decline to **3.4% of GDP** in 2022-23 (from 4.1% in 2020-21)
- States' debt will decrease to **29.5% of GDP** (from 31.1% in 2020-21)
- It has recommended **increased allocation for capital formation** esp. for sectors such as health, education etc.
 - **Capital formation** means- the allocation of resources for asset creation such as plants, machinery, and human capital. The rate of capital investment in India was **31.2%** in 2021 (higher than BRICS)

Q. Who among the following can join the National Pension System (NPS)? (UPSC 2021)

- Resident Indian citizens only
- Persons of age from 21 to 55 only
- All State Government employees joining the services after the date of notification by the respective State Governments
- All Central Government employees including those of Armed Forces joining the services on or after 1st April 2004

Answer: C

EDUCATION FOR DEMOCRACY

Context:

India-supported resolution 'Education for Democracy' gets adopted by the United Nations General Assembly (UNGA).

- The resolution encouraged member states to **integrate education for democracy** into their education standards and **curriculum**. It also asked member states to close **digital divides**.

What is 'Education for Democracy'?

Education for democracy focuses primarily on **democratic rights and responsibilities** and education for active participation, in relation to the civic, political, social, economic, legal and cultural spheres of society.

Recently, the **district of Kollam (Kerala)** has become the country's first constitution-literate district.

13TH AMENDMENT (13A) TO SRI LANKA'S CONSTITUTION

Context:

India has reiterated that full implementation of 13A is "critical" for achieving reconciliation with the minority Tamil community.

What is SL's 13th Amendment?

The 13th amendment, originally certified in 1987, states that Tamil will be one of Sri Lanka's official languages and that provincial councils, with substantial authority, will be established throughout the country.

Origin: It was brought after the Indo-Sri Lankan agreement of 1987 for the devolution of power to the Tamil community.

In the case of the US: The Thirteenth Amendment to the United States Constitution abolished slavery and involuntary servitude, except as a punishment for a crime.

SUPREME COURT JUDGMENTS IN 13 INDIAN LANGUAGES

Context:

Supreme Court will release **1,268 judgments in 13 Indian languages** on Republic Day in a bid to make justice administration more accessible to the common man.

- The judgments would be made available in the court's e-SCR portal.

About e-SCR Portal:

- The portal is the **repository of the electronic version of Supreme Court Reports (SCR)**
- It provides **free access and an elastic search facility** to about 34,000 of its judgments.
- **Benefits of e-SCR:** The move has benefitted law students, young lawyers who cannot afford expensive books which record apex court judgments and even the public.

Related News:

The judgements delivered by SC will now be translated into **four languages- Hindi, Tamil, Gujarati and Odia**. Also, **Online e-Inspection Software** to facilitate online **e-inspection of digitized judicial files** through the internet was launched at Delhi High court.

Article 348(1) of the Constitution of India provides that

all proceedings in the Supreme Court and in every High Court shall be in the English language until Parliament by law otherwise provides.

Article 348 (2) provides that the Governor of the State may, with the previous consent of the President, authorize the use of the Hindi language or any other language used for any official purpose of the State, in the proceedings of the High Court

NEED FOR REFORMING BAIL PROCESSES

Context:

SC says that unless the government thinks "**out of the box**" and refrains from fighting every case of bail, it could take the **top court 300 to 700 years to dispose** of the current backlog

What is bail?

Bail is the temporary release of a person accused of a crime in exchange for a monetary pledge in exchange for the accused's appearance in court when the time comes.

- The person who **pays the money or undertakes a money bond** acts as the surety.

Issues with the Bail processes:

- **Almost every case of bail** is being **challenged** all the way to the Supreme Court, forming more than **one-third of the cases** in the Supreme Court
- **A huge number of under-trials:** As per NCRB data over **77% of prisoners** are under trial in India
- **Supreme Court decided to give priority to pending bail petitions** by having every Bench of the court hear 10 bail cases every day before normal work.

In July last year (2022), a Supreme Court judgment urged the government to bring a **new Act exclusively to simplify and streamline bail**.

Legal aspects:

- The CrPC **does not define the word bail** but only categorises offences under the Indian Penal Code as 'bailable' and 'non-bailable'.
 - It empowers **magistrates** to grant bail for bailable offences as a matter of right.
- **Articles applicable:** Article 20 (Protection against indiscriminate arrest); Article 21 (Protection of Life and Personal Liberty); Article 22 (Protection Against Arrest and Detention)

Quote:

- **"In a democracy, there can never be an impression**

that it is a Police State”

- Rule of “bail, not jail”

Q. With reference to India, consider the following statements: (UPSC 2021)

1. Judicial custody means an accused is in the custody of the concerned magistrate and such an accused is locked up in a police station, not in jail.
2. During judicial custody, the police officer in charge of the case is not allowed to interrogate the suspect without the approval of the court.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: B

In Judicial custody, an accused is in the custody of the concerned Magistrate and lodged in jail. Hence, statement 1 is not correct.

and flows through the state of Karnataka in India. It rises in the **Western Ghats** at an elevation of 792.4 m in the state’s **Belgaum district**. The river joins the Krishna River at Kudalasangama in the Bagalkot district



Government Initiative and Policies

KALASA-BANDURI CANAL CONSTRUCTION PROJECT

Context:

Recently centre has given approval for the implementation of this project by the **Karnataka government**. The project will divert water from two tributaries of the **Mahadaya River** (Mandovi River)- **Kalasa and Banduri** to the Malaprabha river.

- The project aims to improve the drinking water supply to four drought-hit districts in Karnataka-- **Belagavi, Bagalkot, Dharwad and Gadag**. However, the **Goa government** has been opposing the project.

About Mahadaya River:

The **Mahadaya/Mandovi River** is described as the **lifeline of the Indian state of Goa**. The **Mandovi and the Zuari** are the two primary rivers in the state of Goa. **Mandovi joins with the Zuari** at a common creek at Cabo Aguada, forming the **Mormugao harbour**.

Mandovi river originates from a cluster of **30 springs at Bhimgad** in the Western Ghats in the Belagavi district of Karnataka. The river also houses the **island of Chorao** (Goa) where the **Salim Ali Bird Sanctuary** is located. **Dudhsagar falls** (in Goa) lies on this river.

About Malaprabha River:

The **Malaprabha River** is a tributary of the **Krishna River**

COMPREHENSIVE MIGRATION AND MOBILITY PARTNERSHIP AGREEMENT (MMPA)

Context:

India will sign a Comprehensive Migration and Mobility Partnership Agreement (MMPA) with **Austria** during the Indian External Affairs Minister’s visit to Vienna.

Background:

- This is the **first trip to Austria by an Indian Foreign Minister** in 27 years.
- Austria was confronted with a sharp increase in illegal migration last year, including over 15,000 illegal migrants from India with practically no chance of asylum.
- While India has been keen to finalise agreements with European countries to -
 - **Resolve issues** over the long-pending India-European Union (EU) Free Trade Agreement.
 - **Facilitate Indian professionals** working in these countries.
 - **Curb illegal immigration** from India.

The MMPA will regulate:

- **Illegal migration**, as it enables the swift return of illegal migrants.
- **Multiple entry visas for professionals** and student exchange programmes, which will be reviewed regularly by a Joint Working Group (JWG).

INDIA

Main legislations regulating migration and safeguarding the welfare of Indian migrants

The Emigration Act, 1983 (and its successive amendments)

The Foreigners Act, 1946

The Passports Act, 1967

Pre-departure services: E-migrate online portal, Pravasi Bhartiya Bima Yojana (PBBY), Pravasi Kaushal Vikas Yojana, pre-departure orientation and training

Services for Indians abroad: Indian missions, MADAD Consular Management Services, Migrant Resource Centres, Indian Community Welfare Fund

HIGHER EDUCATION FINANCING AGENCY (HEFA)

Context:

HEFA has fallen short of the government's target of mobilizing Rs 1 Lakh crore by 2022

Reasons for the shortfall:

- The reluctance of the institute to take loans due to weak internal source of finances: IIT Bombay administration had to clarify it was forced to resort to a fee hike – which triggered student protests – to repay HEFA loans
- Fund crunch during Covid19 time
- Revision in the funding pattern in 2020

About HEFA:

- HEFA was set up by the Centre in 2017 to upgrade the education infrastructure in the higher education institutions under the Government of India.
 - It has sanctioned **144 loans worth Rs 35,000 crore** so far, falling short of the government's target of mobilising Rs 1 lakh crore by 2022
- HEFA, which was set up as a **non-profit Non-Banking Financing Company (NBFC)**, is a joint venture between the **Union Ministry of Education and the Canara Bank** to finance infrastructure development in educational institutions through long-term loans.
 - While the premium is paid by the **institute**, **interest** is paid by the government.
- The government expanded the scope of HEFA in 2018 under the **Revitalizing Infrastructure and Systems in Education or RISE by 2022 initiative**, bringing schools and medical colleges under its ambit, and making it the nodal body in infrastructure financing in the education sector.

Modi government approves creation of the Higher Education Financing Agency (HEFA)

HEFA : Authorized Capital: Rs. 2,000 crore

- Government equity: Rs. 1,000 crore
- Residual Funding : Would be mobilised from CSR funds from PSUs/Corporates on grant basis.

Fund would be used

- To finance Civil & Lab infrastructure projects through 10 year loan.
- For the development of world class labs in IITs/IIMs/higher education institutes.

(Read full : www.bit.ly/HEFASept16)

EAT RIGHT STATION

Context:

Indian Railways' Varanasi Cantt Railway Station has been awarded a 5- star 'Eat Right Station' certification for providing high-quality, nutritious food to passengers.

- The 'Eat Right Station' certification is awarded by **FS-SAI** to railway stations that **set benchmarks in providing safe and wholesome food to passengers**.
- The apex food regulatory body comes under the **Ministry of Health and Family Welfare**
- It has 240 parameters concerning food storage and hygiene, based on which the certification is accredited.
- They are also rated on a scale of one to five—five being the highest level of compliance with the standards and regulations in place.
- India has so far **34** 'Eat Right' certified stations, including Bhopal and Varanasi Cantt.

ETHYLENE GLYCOL (QUALITY CONTROL) ORDER, 2022

Context:

The **Department of Chemicals and Petrochemicals** under the Ministry of Chemicals and Fertilizers issued a gazette notification titled **Ethylene Glycol (Quality Control) Order, 2022**

- Recently, Uzbekistan alleged **18 child deaths** in Samarkand from the consumption of medicinal syrup manufactured by an Indian drugmaker (Marion Bio-tech's cough syrup DoK 1 Max). The syrup is manu-

factured containing **ethylene glycol**.

- Previously, In October, **four sub-standard India-made** products typically used to treat cough symptoms had caused the deaths of **66 children** in Gambia (Africa)

Under 'Conformity to standards and compulsory use of the standard mark', the order stated:

- **Certification and enforcement authority:** In respect of specific goods or articles, **the Bureau of Indian Standards** shall be the certifying and enforcing authority.
- **Penalty for contravention:** Any person who contravenes the provisions of this Order shall be punishable under the provisions of the said Act.

About Ethylene glycol: Ethylene glycol is a useful industrial compound found in many consumer products. Examples include **antifreeze, hydraulic brake fluids, some stamp pad inks, ballpoint pens, solvents, paints, plastics, films, and cosmetics**. It can also be a pharmaceutical vehicle.

Why is ethylene glycol toxic to humans?

Ethylene glycol's toxicity mainly results from the accumulation of its toxic **metabolites**. Ethylene glycol is a **central nervous system (CNS) depressant** that produces acute effects similar to those of ethanol. (More in the Infographic below).

Ethylene Glycol

The Department of Chemicals and Petrochemicals under the Ministry of Chemicals and Fertilizers issued a gazette notification titled Ethylene Glycol (Quality Control) Order, 2022

odourless alcoholic compound

Found in many consumer products such as ballpoint pens, solvents, paints, plastics, etc.

Sweetish syrupy (viscous) liquid at room temperature

Used as a raw material for producing polyester fibres and as automotive antifreeze

Poisonous if swallowed
Affects central nervous system (CNS), liver, heart, and eventually kidneys

Impact of Ethylene Glycol and Methanol

Methanol & Ethylene Glycol Poisoning

Methanol and ethylene glycol themselves are relatively nontoxic. Toxicity occurs when they are oxidized (primarily by alcohol dehydrogenase and aldehyde dehydrogenase).

Warning: Doctors may confuse propylene glycol rather than ethylene glycol. This changes the management, try to confirm the brand or see the bottle.

Visual blurring, central scotomata, & blindness suggest methanol. Flank pain, hematuria, oliguria suggest ethylene glycol.

Anion Gap = (Na⁺ + K⁺) - (Cl⁻ + HCO₃⁻)
This will be raised in Methanol & Ethylene Glycol Poisoning

Treatment is to inhibit the enzyme **alcohol dehydrogenase**, with either:
• FOMEPIZOLE
• Ethanol (if fomepizole unavailable)

Haemodialysis should be monitored for elevated toxic alcohol levels, severe acid-base derangements, or evidence of end-organ toxicity.

Visit Insights IAS Daily CA for detailed News

How can cough syrups kill children?

If glycerine, a key ingredient in cough syrup, is replaced with toxic industrial solvents **diethylene glycol (DEG)** or **Ethylene Glycol (EG)**, the cough syrups become toxic.

How can they end up in cough syrup?

DEG and EG are **cheap**, so they are sometimes used illegally, as a **substitute solvent**. If consumed in high doses, they can cause kidney failure

ADVANCED TRAFFIC MANAGEMENT SYSTEM

Context:

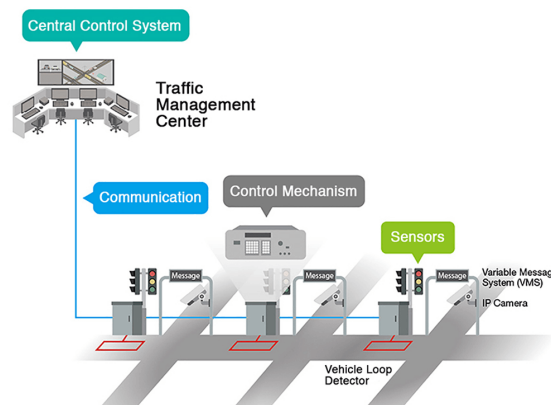
NHAI is implementing **Advance Traffic Management System (ATMS)** on national highways and expressways for managing incidents of road crashes and enforcement of speed limit and other regulations on highways

What is ATMS?

ATMS involves a **set of intelligently integrated roadside equipment** that are connected to ensure a safe and secure journey, including smooth traffic movement and timely reaction to untoward incidents.

About ATMS:

It is an **integrated solution to manage highway traffic** through real-time information and ensure safety. The system will check for a **valid fitness certificate**. It will leverage GIS technology and **Network Survey Vehicle data** for identifying safety issues on the highway



NATIONAL ASSESSMENT REGULATOR: PARAKH

Context:

National Council for Education Research and Training (NCERT) has notified India's first national assessment regulator, **PARAKH**

About PARAKH:

PARAKH has been launched as part of the **implementation of the National Education Policy (NEP)-2020** that envisaged a standard-setting body:

- To **advise school boards** regarding **new assessment patterns and the latest research**, and promote collaborations between them
- To **facilitate students** for self-assessment of learning outcomes
- To **remove disparities** in the score of students enrolled with different boards

About NEP 2020

The **NEP 2020** intends to boost **spending on education** by enhancing the education budget to a level of **6%** of the GDP. It has emphasised the **use of the mother tongue or local language** as the medium of instruction till Class 5 while recommending its continuance till Class 8 and beyond.

CHARGESHEET AND FIR

Context:

The Supreme Court held that the **public cannot be given free access to a charge sheet** or a final investigation report as it is not a public document.

What is Charge Sheet?

A chargesheet is prepared after First Information Reports and charges an individual for the crimes specified in those FIR. It shows the names of each person brought into custody the nature of the accusations, and the identity of the accusers.

Distinction:

FIR	Chargesheet
Preliminary report	Final Report
Prepared by Victim of Crime	Prepared by Investigation Officer
Filed in Police Station	Filed in Court
For the purpose of investigation	For the purpose of Trial
Can be withdrawn	Can't be withdrawn

CENTRAL GOVERNMENT HEALTH SCHEME

Context:

The National Health Authority (NHA) is in the process of integrating the Central Government Health Scheme (CGHS) with the **Ayushman Bharat Digital Mission (ABDM)**

- Aimed at **creating digital health identification of CGHS beneficiaries** and storing their digital health records, thus ensuring quick treatment to the needy

About CGHS:

CGHS was started in 1954 with the aim of providing comprehensive healthcare to central government employees and pensioners and their dependent family members. The scheme currently covers more **than 4 million beneficiaries** in 75 cities

Related news:

Ayushman Bharat School Health and Wellness Programme (SHWP) has less than 50% uptake

Context: Almost three years after its implementation, with a robust syllabus from NCERT, less than half of India's States have started weekly classroom sessions with students

Reasons for less uptake: Overwork of government teachers, not all States have set aside the weekly time slot in the classroom schedule, no formal reporting structure or accountability

About SHWP:

SHWP under Ayushman Bharat was launched in **2018**.

Aim: It aims to create awareness about age-appropriate information about health and nutrition among children in schools.

- **Role of teachers:** Teachers act as "**Health and Wellness Ambassadors**" and disseminate various key information by organising culturally sensitive activity-based sessions for one hour per week for 24 weeks a year to **promote joyful learning**.
- **Two teachers**, preferably one male and one female, in every school, are to be designated as HWAs
- **Role of students:** Students act as Health and Wellness Messengers in society.
- **Every Tuesday** is dedicated to Health and Wellness Day in the schools
- **Implementation:** middle, secondary, and senior secondary grades across government and government-aided schools
- **Syllabus:** NCERT+ Ministry of Health+ Ministry of Human Resource Development (HRD)
- **Curriculum:** It covers 11 core themes including managing emotional and mental health, navigating interpersonal relationships, and promoting the safe use of the internet and social media.

Other similar programmes are the Fit India movement, Eat Right campaign, Poshan Abhiyaan, Rashtriya Kishor Swasthya Program and Rashtriya Bal Swasthya Programme.

PM-KISAN

Context:

- The Centre may increase the income support provided to farmers under the **PM-KISAN scheme** from Rs 6,000 to 8,000 rupees/year.
- It is an effort to **boost consumption and rural demand**.

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN):

- The number of beneficiaries has **crossed 110 million** from 31 million at the beginning of the scheme and financial assistance of more than **Rs 2 trillion has been provided to needy farmers** in over 3 years.
- **The scheme addressed the liquidity constraints** of farmers for buying agricultural inputs, daily consumption, education, health and other incidental expenses, especially during the Covid pandemic.
- A Niti Aayog member suggests converting the PM-KISAN program into a **Universal Basic Income (UBI)** program that covers other vulnerable groups, such as farm labourers, etc.



PM KISAN



Context: Centre may increase the income support provided to farmers under the PM-KISAN scheme from Rs 6,000 to 8,000 rupees/year

About PM-Kisan scheme

- It is a **central sector scheme** (100% centrally funded) and was launched in **Feb 2019**, to provide income support to the farmers and their families.
- **Support amount:** Under the scheme, income support of **₹6,000 per year** in three equal installments of ₹2000 is provided to **all landholding farmers** (initially limited to small and marginal farmers but later extended to all)
- **Nodal Ministry:** Ministry of Agriculture and Farmer's welfare
- **Physical Verification Module:** A mandatory physical verification of **5% beneficiary** every year is being done as per the provisions laid down in the scheme.
- **Mode of Transfer:** Via Direct Benefit Transfer (DBT)
- **Exclusions:** All institutional landholders; or if one of the family members hold government job (excluding MTS/Class IV/ Group D employee); or has paid income tax in last assessment year.



Similar programmes by states:

1. Bhavantar Bhugtan Yojana- MP.
2. The Rythu Bandhu scheme- Telangana.
3. Krushak Assistance for Livelihood and Income augmentation (KALIA)- Odisha

Visit Insights IAS
Daily CA for detailed
News

[International News and Organization](#)

VOICE OF GLOBAL SOUTH SUMMIT

Context:

At the concluding session of the virtual Voice of Global South Summit, India unveiled three initiatives to assist the Global South in areas ranging from technology to health

- **Aarogya Maitri project** for providing medical supplies to any disaster-hit country
- **Global-South Scholarships for students** from developing countries to pursue higher education in India
- **Global-South young diplomats forum** to connect officers of foreign ministries with other countries
- **Global-South Centre of excellence** for R&D
- **Global-South Science and Technology** for space and nuclear energy initiatives sharing

What is the global south?

The concept of **Global North and Global South** is used to describe a grouping of countries along socio-economic and political characteristics. The Global South is a term often used to identify regions within Latin America, Asia, Africa, and Oceania.

- The global south consists of the **poorest and least industrialized countries**, which are mainly in the southern part of the world.

About the Summit:

India hosted the summit (as a president of G20) in a bid to articulate the views of the developing countries regarding the effects of the **pandemic and the war in Ukraine**.

- **Aim:** For bringing together countries of the **global south and sharing their perspectives and priorities** on a common platform across a whole range of issues.
- **Theme:** 'Unity of Voice, Unity of Purpose'
- **India is offering to become the voice of the Global South** through the agenda of 'respond, recognise, respect, and reform'.
- **Voice of global South in the ongoing Crisis:** According to PM Modi, the world is facing a lasting crisis and there is no clarity about how long this "state of instability" will last.

BHOPAL DECLARATION

Context:

Bhopal Declaration was released after discussion in the **two-day meeting** of Think-20 under G20 in Bhopal

About the Declaration:

It was released after the **Think20 (T20) meeting of G20 countries'** think tanks and research centres.

Highlights of the declaration:

- To focus more on **inclusive development**
- **Care for the welfare of every section** of society in comparison to GDP
- Give special **attention to children**
- Encourage the **model of development** led by **women**
- Bridge the gap between North and South
- Work together to ensure the **health of all**
- Importance of **localization in achieving G-20** sustainable development goals
- Triangular cooperation of **government, society, and private organizations**

WORLD ECONOMIC FORUM INITIATIVES

Context:

Here we have clubbed all the initiatives announced (or highlighted) in this year's ongoing World Economic Forum's Summit at Davos (Switzerland)

- **Giving to Amplify Earth Action (GAEA):** WEF launched GAEA to allow over **\$3 trillion of financing needed** each year to reach net-zero, reverse nature loss and restore biodiversity by 2050.
 - The fund is to be accumulated through **Public-private and philanthropic partnerships (PPPP)**
- **FireAID Initiative:** This project was first launched in January 2022. A recent report (released now) has highlighted its success.
 - It uses **Artificial Intelligence to allow better prediction of wildfires** and efficient use of resources during firefighting operations
 - It creates a **digital twin for fire response and management** and allows firefighters to test hypotheses of intervention measures
- **WEF has highlighted that countries need to do three things to the utilization of Fourth Industrial Revolution**
 1. **Become Resilient to enable growth, sustainability and inclusivity** esp. in the Manufacturing sector and supply chains
 2. **From speed to scale:** Large technology adoption and workforce empowerment
 3. **Increase collaborations:** Esp. with supply chain partners, industrial ecosystem, and public sector stakeholders.
- **The Fourth Industrial Revolution** conceptualizes rapid change to technology, industries, and societal patterns and processes in the 21st century due to increasing interconnectivity and smart automation

About WEF:

The World Economic Forum is an **international non-governmental and lobbying organisation** based in Cologne, canton of Geneva, Switzerland. It was **founded in 1971** by **German engineer and economist Klaus Schwab**. It has broadened its vision to include providing a **platform for resolving international conflicts and climate change**.

INDIA - SRI LANKA: TIES DURING CRISIS

Context:

Recently IMF has confirmed receiving India's written financing assurance in support of Sri Lanka's economic revival.

The economic crisis in Sri Lanka:

Sri Lanka is grappling with a shortage of foreign currency,

higher inflation and a steep recession – the worst such crisis since its independence from Britain in 1948.

- **India, China and Japan** are Sri Lanka's three largest bilateral creditors
- **Sri Lanka** has an overall debt of around **52bn US dollars** (nearly **40% is owed to private creditors**, of the rest **60% is owned to bilateral partners**: China owns 52%, Japan (19%) and India (12%))

The recovery plan:

Previously experts in Sri Lanka had asked lenders (creditors) to take a 'Haircut' on their lending. However, as per the new plan, **none of the official lenders would take a haircut while giving Sri Lanka time to recover** with an IMF programme. But **private creditors**, who hold the largest chunk of Sri Lanka's foreign debt, may have to take a haircut.

What is a Haircut?

When a bank or creditor country takes a 'haircut', it means it **accepts less than what was due in a particular loan account**. For example: if a bank was owed Rs 10,000 cr by a borrower and it agrees to take back only Rs 8,000 cr, it takes a 20% haircut.



T+1 SETTLEMENT CYCLE

Context:

After China, India (on SEBI's recommendation) will become the second country in the world to start the '**trade-plus-one**' (T+1) settlement cycle in top-listed securities.

What is the T+1 settlement cycle?

In simple terms, T+1 settlement means that securities transactions will reflect in the Demat account after a day instead of two days now under the T+2 cycle.

Benefits of the move:

- Brings operational efficiency
- Faster fund remittances
- Share delivery
- Ease for stock market participants
- Reduces risks and frees up capital required to collateralise the risk

- Reduces the number of outstanding unsettled trades at any point in time

Why are foreign investors opposed?

Foreign investors operate from **different geographies leading to time zone differences, information flow processes,** and foreign exchange problems. Foreign investors said they would also find it difficult to hedge their net India exposure in dollar terms at the end of the day under the T+1 system.

- **The United States, United Kingdom and Eurozone markets** are yet to move to the T+1 system.

SPEEDING UP BOTH BUYING & SELLING

Under T+1 cycle: Buy: Stocks are delivered | Sell: Funds are credited

<ul style="list-style-type: none"> ➤ Money and stocks could be circulated more frequently, leading to higher trading volumes ➤ Payment and settlement systems will need to work more efficiently ➤ Foreign funds may still continue with T+2 system under the optional T+1 system 	<p>effective Jan 1, 2022 as FPI trade settlement requires greater coordination between various market infrastructure institutions</p> <ul style="list-style-type: none"> ➤ Retail and domestic institutions may be at an advantage over FPIs, and could quickly adopt T+1 system
---	---

INTEGRATED BANKING OMBUDSMAN SCHEME

Context:

The **volume of complaints received under the Reserve Bank of India's ombudsman schemes** and consumer education and protection cells showed an **increase of 9.39 per cent compared to the previous year.**

Of the total complaints received in 2021-22, about **42 per cent were related to the digital modes of payment and transactions,** according to the annual report of Ombudsman Schemes, 2021-22.



GS3

Economy

UTKARSH 2.0

Context:

RBI 's Medium-term strategy framework- **Utkarsh 2.0 (for 2023-2025)** was launched recently.

- Utkarsh 1.0 was for the period 2019-2022

RBI launched Utkarsh 2.0 for the period 2023-2025

- The Reserve Bank of India (RBI) Governor Shaktikanta Das has launched Utkarsh 2.0, the second phase of the central bank's medium-term strategy for strengthening regulatory and supervisory mechanisms.
- Utkarsh 2.0 harnesses the strengths of Utkarsh 2022 by retaining the six Vision statements as well as Core Purpose, Values, and Mission statement.
- The first strategy framework (Utkarsh 2022) covering the period 2019-2022 was launched in July 2019. It became a medium-term strategy document guiding the Bank's progress toward the realization of the identified milestones.

- The six vision statements are :-**
1. Excellence in the performance of its statutory and other functions
 2. Strengthened trust of citizens and institutions in the RBI
 3. Enhanced relevance and significance in national and global roles
 4. Transparent, accountable and ethics-driven internal governance
 5. Best-in-class and environment-friendly digital and physical infrastructure
 6. Innovative, dynamic and skilled human resources will guide the strategy.



Utkarsh 2022 is a medium-term strategy in line with the global central banks' plan to strengthen the regulatory and supervisory mechanism.

Building **Trust**,
Increasing **Accessibility**



What does the 'Reserve Bank - Integrated Ombudsman Scheme' offer?

Single reference point to file complaints, submit documents, track status & provide feedback

Integrated scheme for customer complaints against RBI regulated entities

Toll-free number with multilingual support for complaints & information



RESERVE BANK OF INDIA PUTS ON HOLD NUE LICENSING

Context:

RBI is said to have put on hold **licensing of the New Umbrella Entity (NUE) network**, a fintech institution planned as a rival to the National Payments Corporation of India (NPCI).

- Six groupings, which included **Facebook, Google, Amazon, Flipkart and others**, had applied for NUE licences, but none of them could meet the **RBI's expectations** in bringing a technology breakthrough.

What is Retail Digital Payment System?

The retail payment system **facilitates the transfer of funds from consumers to merchants in exchange for goods and services**.

What is NUE?

NUE is an entity (under the Companies Act 2013) that will manage and operate the new payment system in the retail sector such as ATMs, POS, UPI etc.

- It will also manage clearing and settlement systems that could be an alternative to the bank-promoted NPCI.
- It will be allowed to charge fees for transactions (unlike the existing NPCI)
- The RBI had in 2020 issued guidelines for corporates to create for-profit NUEs with an aim to foster

competition and “de-risk” India’s burgeoning digital payments ecosystem, where much of the settlement burden has fallen on the non-profit NPCI over recent years

What is NPCI?

NPCI was established by the **RBI and the Indian Banks' Association in 2008** modelled on the non-profit payments and settlement entity run by the **Swedish central bank** that's owned and operated by banks.

- It has developed the country's key payment railroads, including UPI, the Immediate Payments System (IMPS), RuPay and the National Financial Switch (NFS). It's also credited with powering the Direct Benefit Transfer architecture that supports the government's Jan Dhan Yojana.

TAX SCHEME MISUSE

Context:

As per the GST authorities, exporters are misusing the government's **duty drawback scheme (DDS)** by claiming it along with refunds of integrated goods and services tax (GST).

What is the issue?

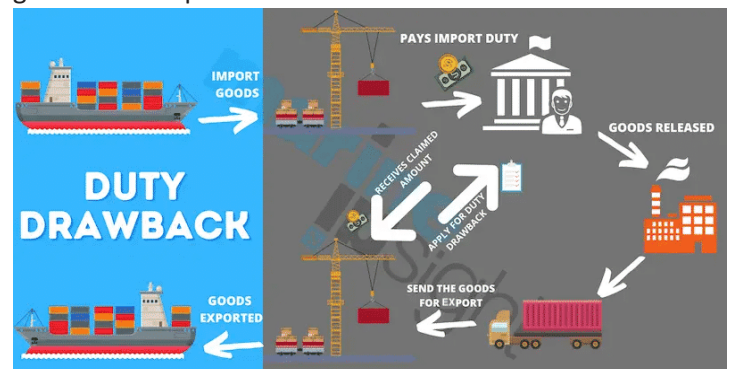
Over 100 exporters (mainly in apparel, drugs and leather) have “**illegally**” drawn benefits from the integrated GST refund claims on exports while also claiming under DDS.

- Duty drawback can be only claimed for compensating unrelated taxes and duties and not for GST.

What is Duty Drawback Scheme?

The Duty Drawback Scheme provides **exporters with a refund of customs duty paid on unused imported goods, or goods** that will be treated, processed or incorporated into other goods for export.

Claims must be **lodged within 4 years** from the date the goods were exported.



NATIONAL COAL INDEX

Context:

While launching the **sixth-round commercial coal mines' auction** for 141 coal mines, the ministry of Coal has decided to annually revise Performance Bank Guarantee (PBG) annually based on the **National Coal Index (NCI)** for the month of April at the beginning of the year.

Why the revision in PBG?

Since the prices of coal fluctuate and have increased recently, the revision of PBG will ensure ease of doing business for companies and allow more investors in the coal sector.

What is PBG?

It is a bank guarantee that needs to be submitted for each successfully auctioned coal mine by the winning entity. It shows that the entity has the capability to carry on the mining activity.

What is a coal auction?

After the cancellation of coal licenses by India's supreme court, an auction-based regime was introduced in 2014, which allowed private sector participation. However, it was limited to captive usage in its own end-use plants. The sector has recently been opened for commercial mining by the private sector.

What is NCI?

It is a price index reflecting the change in the price level of coal in a particular month relative to the fixed base year (2017-18 in this case)

- The ministry of coal has started the commercial auction of coal mines on a **revenue-share basis** using the National Coal Index

NATIONAL TEXTILE CORPORATION

Context:

Union Textile Ministry will form a committee to speed up the redevelopment of land under nine mills of the National Textile Corporation (NTC) in Mumbai.

- A total of **11 chawls exist on the lands of these nine mills**, and residents of these chawls will now get **405 sqft houses** as compared with their current 100-150 sqft houses, he said.

About NTC:

National Textile Corporation is a **central public sector undertaking** under the ownership of the **Ministry of Textiles**. It owns **23 working textile mills** which produce yarn and fabric. The company was incorporated in 1968.

9 CHAWLS & 172 COMMERCIAL UNITS ON NTC LANDS

NTC owns 18 mills in Mumbai. All have stopped operations. The last three mills were operational till March 2020

CHAWLS AT MILLS

- Nine chawls at 11 NTC mills in central Mumbai and one in southern Mumbai to be redeveloped by MHADA
- NTC has approached the state government as it does not have a redevelopment policy
- Six of the chawls are cessed buildings and five are non-cessed
- The nine chawls comprise 1,890 residential tenements. Each tenement is not more than 100-150 sq feet in area

COMMERCIAL UNITS TOO

There are 172 commercial units on these mill lands

- Residential and commercial units together occupy 56,036 sq m (over 6 lakh sq ft)
- When redeveloped, each residential tenant will get a 405-sq ft flat

BJP sees the plan for NTC chawls as a win-win for the party ahead of BMC polls

EXPECTED LOSS-BASED APPROACH FOR LOAN LOSS PROVISIONING BY BANKS

Context:

The Reserve Bank of India (RBI) released the Discussion Paper that proposed a framework for the adoption of an **expected loss-based approach for provisioning** against loan loss by banks in India.

About the proposed framework:

- RBI proposes to use an **Expected loss-based approach** for provisioning against loan loss by banks (This approach is in line with **International Financial reporting standards** guidelines)
- Banks would be allowed to **design and implement their own models** for measuring expected credit losses (although RBI will provide broader guidelines) for the purpose of estimating loss provisions in line with the proposed principles.
- To enable a seamless transition, as permitted under the Basel guidelines, banks will be provided with an option to **phase out the effect of increased provisions on Common Equity Tier I capital**, over a maximum period of five years.
- **Regional rural banks and smaller cooperative banks** (based on a threshold to be decided based on comments) are proposed to be kept out of the framework.

What is Provisioning?

Under provisioning, **banks have to set aside or provide funds to a prescribed percentage** of their bad assets. The percentage of bad asset that has to be **'provided for'** is called the provisioning coverage ratio.

- It helps the **bank balance the income and survive during bad times** and is recorded in the income statement as a non-cash expense.

What is CET 1 Capital?

Common Equity Tier 1 capital (CET1) is **the highest quality of regulatory capital**, as it absorbs losses immediately when they occur.

CAPITAL ADEQUACY RATIO			
Capital Adequacy Ratio (CAR) is a ratio of bank's capital to its risk weighted assets (RWA) CAR = (CET1+AT1+AT2) / RWA		RBI Minimum →	9% Private Banks
			12% Public Banks
CAR COMPONENT	MINIMUM	SIGNIFICANCE	
CET1 (Common Equity Tier 1)	5.5%	Consists of common equity share capital and safety reserves	
AT1 (Additional Tier 1)	1.5%	Used for loss absorption without impacting bank's operations	
AT2 (Additional Tier 2)	2%	Used for loss absorption in case bank closes down completely	

WATERWAYS NETWORK

Context:

India's eyes ₹35kcr investments by 2047 to create a waterways network

What is a waterway?

Waterways include linear water features such as **rivers, canals and streams**, as well as **water areas** such as lakes, reservoirs and docks.

Initiatives for the waterway network:

- **111 waterways** have been declared as **National Waterways (NW)** under the national waterways act 2016. Of this **13** are currently operational.
- **CAR-D (Cargo Data) Portal** for tracking all cargo and cruise movement on National Waterways
- **PANI (Portal for Asset and navigation Information)** for information regarding waterways

Related News:

MV Ganga Vilas is the **first river cruise** to connect Uttar Pradesh, Bihar, Jharkhand, West Bengal and Assam. It begins in Varanasi (UP) and concludes in Dibrugarh (Assam). This cruise will cover a distance of more than **3,200 km across NW1 (Ganga-Bhagirathi-Hooghly), Indo-Bangladesh Protocol (IBP) Route 1 and NW2 (Brahmaputra)**.



ETALIN HYDROELECTRIC PROJECT (EHEP)

Context:

The Forest Advisory Committee (FAC) has asked the Arunachal Pradesh government to file a fresh proposal for forest diversion and the construction of the EHEP.

Background:

- The FAC (under the MoEF&CC) order came amid reports of noncompliance with its conditions and widespread opposition to the project in the region.
- The HEP will necessitate the diversion of 1,165.66 hectares of forest land and the felling of more than 280,000 trees in the area, which is one of the world's mega biodiversity hotspots.

About the EHEP:

- The contentious **3,097-megawatt** project is located in the **Dibang Valley** (a biodiversity hotspot), Arunachal Pradesh.
- It was proposed (in 2008) to be developed as a joint venture between Jindal Power Ltd and the Hydropower Development Corporation of Arunachal Pradesh Ltd.
- **The plan combined two run-of-the-river schemes** with limited storage requiring **concrete gravity dams on rivers Tangon and Dri** - tributaries of Dibang river.
- It ran into several controversies over concerns of ecological damage, forest invasion and tribal displacement (**Idu-Mishmi** tribes).

Related News: [IE](#)

Context: The NGT has initiated cases taking suo motu cognisance of (The Indian Express) report on six mega projects where stringent clearance conditions to compensate for the high environmental impact were sidestepped.

Some of the projects are:

- Kulda-Tamnar coal link run by Mahanadi Coal-fields Limited (MCL) in Odisha
- Tamnar thermal plant operated by Jindal Power Limited (JPL) in Chhattisgarh
- Dibang hydel project - a planned concrete gravity dam in Arunachal Pradesh
- Lower Subansiri hydel project - the biggest hydro-electric project undertaken in India so far and is a run-of-river scheme on river Subansiri, Arunachal Pradesh



GRAMEEN UDYAMI SCHEME

Context:

MoS Shri Rajeev Chandrasekhar to attend the felicitation programme of 200 tribal women under the Grameen Udyami Scheme

- Under the programme, the endeavour is to **multi-skill India's youth** and **impart functional skills** to them for enabling livelihoods
- **Launched by:** National Skill Development Corporation (NSDC)

About NSDC:

NSDC is a **non-profit public limited company** established in 2008, under Section 25 of the Companies Act, 1956. The Ministry of Finance established NSDC as a Public Private Partnership (PPP) model.

- The Government of India, through the **Ministry of Skill Development and Entrepreneurship (MSDE)**, owns **49%** of NSDC, while the private sector owns the remaining 51%.
- **The project is being implemented in six states—** Maharashtra, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, and Gujarat.

NSDC under the **aegis of the Ministry of Skill Development and Enterprises (MSDE)** has supported the setting up of **labs and classrooms** through Sector Skill Councils (SSCs) in Seva Bharti Kendra Skill Development Center.

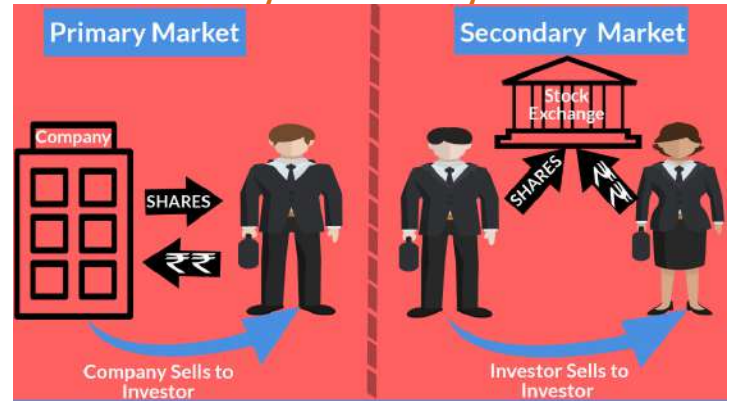
APPLICATION SUPPORTED BY THE BLOCKED AMOUNT (ASBA) SYSTEM

Context:

The Securities and Exchange Board of India (Sebi) has released a consultation paper "Blocking of Funds for Trading in Secondary Market"

- It seeks to extend the **ASBA system to the secondary market**

What is the Primary and Secondary Market?



What is ASBA in the Primary market?

When an investor applies for shares in an IPO/FPO; he/she deposits a security amount in a separate fund. It remains in the **investor's bank account** and generates interest. If the allotment of shares occurs to the investor, then the funds are transferred to the company. If it doesn't occur, the money remains with the investor.

- **This is made possible by ASBA**, wherein investors **give authorization to banks to block funds** available in his/her Bank accounts for purchasing IPO/FPO.

What is the reason behind this move by SEBI?

- ASBA system in the primary market aims to **eliminate the need to transfer funds** in advance to a broker. Therefore, **it reduces the chances of misuse or losses** caused by broker defaults.
- However, currently, in the secondary market, investors have to **submit collateral or transfer funds** in advance to the broker before executing a trade. This sometimes leads to misuse.

About SEBI

The Securities and Exchange Board of India (statutory;

founded in 1988; HQ: Mumbai) is the regulatory body for the securities and commodity market in India under the ownership of the Ministry of Finance within the Government of India.

NATURE RISK PROFILE (NRP)

Context:

The UN Environment Programme (UNEP) and S&P Global launched 'Nature Risk Profile', a new methodology for analyzing companies' impacts and dependencies on nature

- It was released at **Davos World Economic Forum Summit**
- Its methodology is based on **Kunming-Montreal Global Biodiversity Framework (GBF)**

Aim of NRP:

The Nature Risk Profile is aimed at enabling the financial sector to measure and address nature-related risk by providing scientifically robust and actionable analytics on nature impacts and dependencies.

Importance:

With half of the world's GDP highly dependent on nature, biodiversity loss is a growing concern for global business leaders. According to the **World Economic Forum's 2023 Global Risks Report**



About UNEP

The **United Nations Environment Programme (HQ: Nairobi, Kenya)** is responsible for **coordinating responses to environmental issues** within the United Nations system. It was established by **Maurice Strong**, its first director, after the United Nations Conference on the Human Environment in Stockholm in June 1972.

About S&P:

S&P Global Inc. is an American publicly traded corporation headquartered in Manhattan, New York City. Its primary areas of business are financial information and analytics.

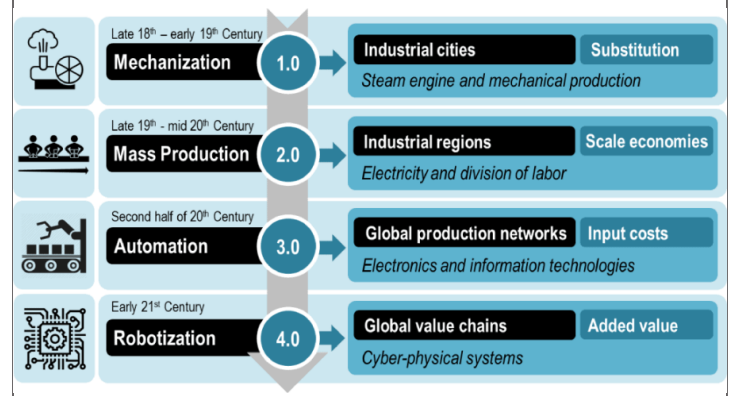
About Kunming-Montreal Global Biodiversity Framework:

It was adopted last year (December 2022) and includes several targets for countries, businesses and other stakeholders for saving biodiversity including 30x30 Deal, Money for Nature (ensure USD200 billion per year) etc.

News Related to ongoing WEF

The World Economic Forum (WEF) has chosen **Hyderabad City** (Telangana) to set up its Centre for the **Fourth Industrial Revolution (C4IR)** focused on healthcare and life sciences. It will be the **18th** centre in WEF's network of Fourth IR centres.

Also, see yesterday's FFP for initiatives launched in the WEF and about the 4th IR



CALLER NAME PRESENTATION (CNAP)

Context:

Telecom operators have said that a proposal - CNAP - by the Telecom Regulatory Authority (TRAI) of India to display callers' names could have privacy implications.

Background:

Currently, there are some applications (Truecaller) which offer a similar service. However, all of them are **third-party apps and depend on crowd-sourced data**.

What is CNAP?

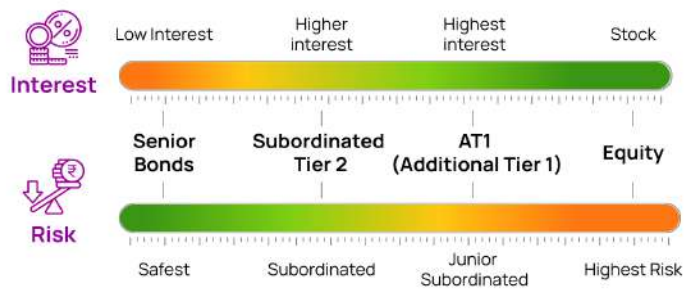
- The CNAP feature will allow users to know the identity of the person calling them.
- The basic idea is that if people are aware of the person who is calling them, they can make an **informed choice about those calls**.
- At the same time, such a feature could potentially help in **curbing harassment and other spam calls**.

Concerns about CNAP:

- **Privacy concerns:** Given that handset manufactur-

ers and OS providers have control over the data obtained through the CNAP, this could result in the breach of subscriber data privacy.

- **Women**, in particular, could be the most vulnerable
- **Technical challenges:** The time-division multiplexing (TDM) based interconnection between telcos does not support CNAP. Further, there are no standards for CNAP over 2G/3G networks.
- **Could be inaccurate:** Several people purchase SIM cards using forged identity cards and TRAI's proposal to use SIM registration data might be fraught with inaccuracies.



ADDITIONAL TIER-1 BONDS AND THE CASE AGAINST YES BANK

Context:

The Bombay HC quashed the write-off of Additional Tier-1 (AT1) bonds worth Rs 8,400 crore issued by Yes Bank Ltd, bringing relief to investors.

Background:

- Yes Bank, which was on the verge of collapse, was **placed under a moratorium by the RBI in 2020** and a new management and board were appointed as part of a rescue plan worked out by the RBI.
- The central bank allowed a write-off of Rs 8,400 crore on AT1 bonds issued by Yes Bank after it was rescued by the SBI.
- A SEBI probe found that the bank facilitated the selling of AT1 bonds (as a 'Super FD' and 'as safe as FD') **from institutional investors to individual investors**, who were not informed about all the risks involved in the subscription of these bonds.

What are AT1 bonds?

- These are **unsecured bonds** (issued by banks) that have **perpetual tenor** (no maturity date). These bonds are typically used by banks to **bolster their core or tier-1 capital**.
 - Tier I capital is a bank's highest quality capital because it is fully available to cover losses and is made up primarily of share capital and disclosed reserves.
- They have a **call option**, which can be used by the banks to **buy these bonds back from investors**.
- AT1 bonds are **subordinate to all other debt and only senior to common equity**. Mutual funds (MFs) were among the largest investors in perpetual debt instruments.

GOOGLE AND CCI

Context:

The Supreme Court refused to stay the order passed by the **National Company Law Appellate Tribunal (NCLAT)** directing Google to deposit **10% of a penalty of ₹1,337 crore** imposed by the **Competition Commission of India (CCI)**.

What is the issue about?

- **Google abused its dominant position** in the Android ecosystem (anti-competitive practices) by mandating the pre-installation of Google mobile services including Search, YouTube, Maps, etc.
- As per CCI, **Google can't force equipment manufacturers to pre-install Google's app**. It can't restrict uninstalling its pre-installed apps.

About NCLAT:

The National Company Law Appellate Tribunal is a tribunal which was formed by the Central Government of India under Section 410 of the **Companies Act, 2013**, for hearing appeals against the orders of **National Company Law Tribunal(s) (NCLT)**, with effect from 1st June 2016.

- NCLT is a body having **original Jurisdiction**. NCLAT is a body having **Appellate Jurisdiction**.

WTO'S NEW AGREEMENT ON FISHERIES SUBSIDIES

Context:

Switzerland has become the **first WTO member** to formally submit its acceptance of the **WTO's new Agreement on Fisheries Subsidies**.

- **Acceptance of 2/3rd of WTO members** is needed for the agreement to come into effect
- **The Agreement was adopted at WTO's conference** in Geneva (2022)
- **It is the 1st WTO agreement** (for the environment) and the **2nd agreement reached at WTO** since its inception.

What will Fisheries subsidies do?

- It will prohibit subsidies from being provided for **Illegal, Unreported and Unregulated (IUU) fishing**, fishing in high seas and overfished stocks.
- **Transition Period Allowance:** Developing Countries and Least Developed Countries (LDCs) have been allowed a transition period of **two years** from the date of entry into force of this Agreement.
- **Fund for developing and least-developed countries:** For technical assistance and capacity building
- **Exempted Areas:**
 - No prohibition if the WTO Member is not carrying out IUU.
 - No prohibition on providing subsidies if subsidies are implemented to rebuild the stock to a biologically sustainable level.

India's Stand:

By the principle of 'Common but differentiated responsibilities' developed countries (who have provided huge subsidies in the past) should take more responsibilities.

- India is the **third-largest fish-producing country** in the world
- India aims to achieve a **target of producing 22 million metric tonnes** of fish by 2024-25.

Benefits:

It will check large-scale IUU fishing which deprives coastal countries like India of fisheries resources, thereby significantly impacting the livelihoods of our fishing communities.

Indian government initiatives:

Five major Fishing Harbours (Kochi, Chennai, Visakhapatnam, Paradip, Petuaghat) developed; Seaweed Park (Tamil Nadu); Pradhan Mantri Matsya Sampada Yojana; Palk Bay Scheme; Marine Fisheries Bill, 2021.

SEBI'S INFORMATION DATABASE ON MUNICIPAL BONDS

Context:

Markets regulator Sebi has launched an information database on municipal bonds.

Objective: Raise awareness of people; Efforts to develop the bond markets and make the process easy and streamlined.

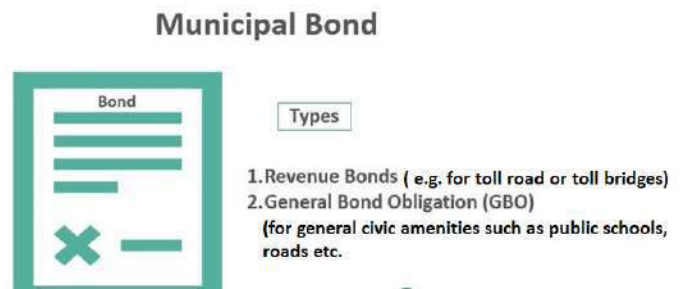
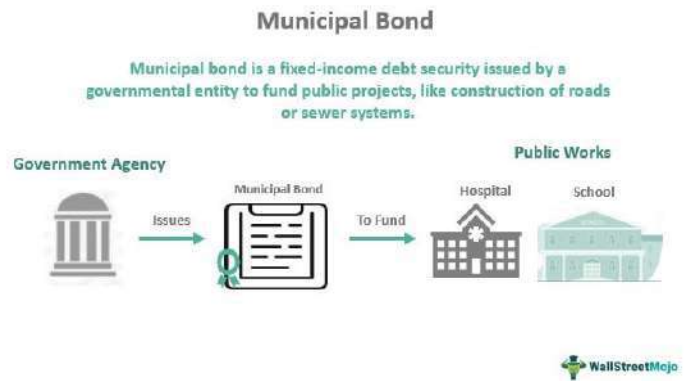
What is an information database?

The information database contains a wide range of information in the form of statistics and regulations, circulars, guidance notes and Frequently Asked Questions issued by Sebi in respect of municipal debt securities.

What are Municipal Bonds?

Municipal bonds (or Muni bonds) are debt securities issued by states, cities, counties and other governmental entities to fund day-to-day obligations and to finance capital projects such as building schools, highways or sewer systems.

Bengaluru floated the 1st Municipal bond in 1997

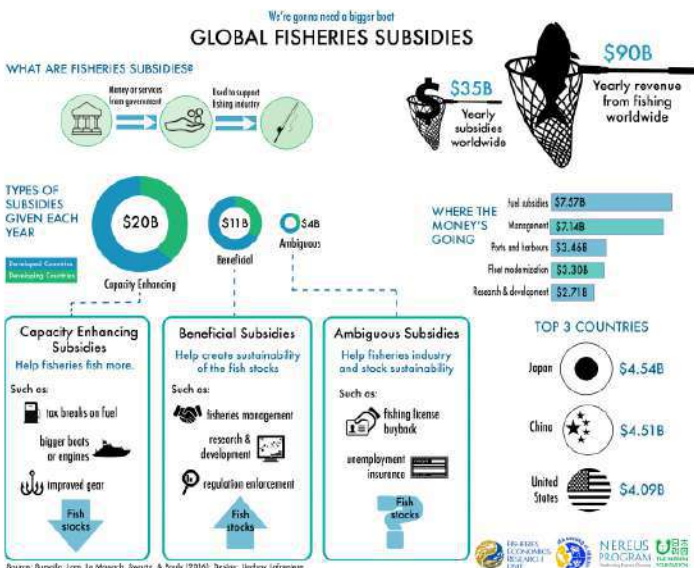


NATIONAL ASSET RECONSTRUCTION COMPANY

Context:

The National Asset Reconstruction Company Ltd (NARCL) has acquired its first stressed asset — **Jaypee Infratech** — from lenders led by IDBI Bank.

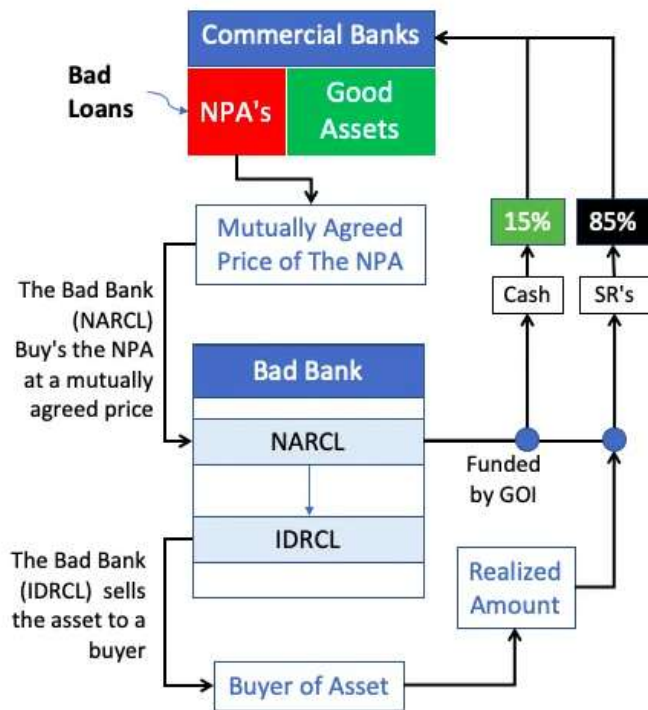
- NARCL will acquire assets on a **15:85 ratio of cash and security receipts (SRs)**.



- SRs, which are issued in favour of the transferring lenders, are secured by a government guarantee for their face value.

About NARCL:

- NARCL/ bad bank Asset Reconstruction Company (ARC) is a specialized financial institution that buys **Non-Performing Assets (NPAs) from banks and financial institutions** so that they can clean up their balance sheets.
- This helps banks to **concentrate on normal banking activities**.
- The asset reconstruction companies or ARCs are **registered under the RBI**.
- It was announced in **the Budget for 2021-22**.
- The plan is to create a **bad bank to house bad loans of ₹500 crores and above**.



AGRI COMMODITY TRADE

Context:

The farmer's union, Shetkari Sanghatana, launched a protest over the Securities and Exchange Board of India's (SEBI) decision to keep the trading of derivatives in seven agricultural commodities suspended.

Background:

- In 2021, the capital markets regulator suspended futures trading in seven commodities, viz., wheat, paddy (non-basmati), moong, chana, etc., on the exchanges, in an effort to **reduce food inflation**.
- The ban was intended to stop speculative trade in

these commodities.

How does the derivatives trade in commodities work?

- Agricultural commodities like cotton, paddy, soybean, soya oil, mustard seed, etc., are traded on the National Commodities and Derivatives Exchange (NCDEX) and the Multi Commodity Exchange (MCX).
- **Derivatives are short-term financial contracts** that are bought and sold in the market.
- Profits are made **by predicting price movements** of the asset that underlies the contract.
- The derivatives trade can be in **futures and options**. **In a futures contract**, a supplier pledges to sell a certain quantity at a fixed price at a future date.
- Also, farmers can put fixed amounts of their produce, which fits the quality standards of the exchange, to be sold at a fixed price - **almost like price insurance**.
- Both contracts can be terminated by either the producer or the trader by paying a margin price to the exchange.

Characteristics	Commodity Exchange	Stock Exchange
Definition	Refers to an organized market for the buying and selling of enforceable contracts to deliver commodities at a future date	Refers to a marketplace where securities such as stocks and bonds are bought and sold.
Products	Deals with future contracts of commodities	Deals with shares and other securities such as bonds
Ownership status	No ownership status achieved	The investor owns shares of a company
Investment Duration	Mainly short-term	Usually long-term
Risk	Highly risky due to the high volatility of	Less risky due to stability and less volatility of

INDIA STACK'S DIGITAL PUBLIC GOODS

Context:

As many as seven countries will sign up with India to **use India Stack's digital public goods**

- **Non-resident Indians** will also be able to use **UPI** in Singapore, Australia, Canada, Hong Kong, Oman, Qatar, the US, Saudi Arabia, UAE and the UK.
- The government will **not charge any fee** for offering the technology platform

Technology on offer by the Indian government:

- **Digi Locker** is a secure cloud-based platform for the storage, sharing and verification of documents and certificates.
- **Modular Open-Source Identity Platform (MOSIP):** developed by the International Institute of Information Technology Bangalore
- **Instant real-time payments system** Unified Payments Interface (UPI)
- Covid vaccination platform **CoWIN** and Health Stack.

What are Digital Public Goods?

Digital public goods are **public goods in the form of software, data sets, AI models, standards or content** that are generally free works and contribute to economic digital development.

E.g., **Aadhaar, UPI or Free and open-source software (FOSS)** are an example of digital public good

Digital technologies: electronic tools, systems, devices and resources that generate, store or process data.

Digital Public Goods

Public Goods: a commodity or service that is provided without profit to all members of a society, either by the government or a private individual or organisation which is to the benefit or well-being of the public.

Benefits:

Adoption of India technology stack like unique identifier technology, digital payments and Co-Win will help foreign countries save billions, boost educational access and expedite their digitization process

- It is expected to **help Indian start-ups and system integrators** in engaging with foreign countries

What is India Tech Stack?

India Stack comprises **open-source software application programming interfaces (APIs)** of government-backed services. The **open-source model** has a plethora of computer languages, architecture, libraries, and user interfaces.

	What is it?	What is in it?	Who is the owner?
India Stack	Consent layer	A modern privacy data sharing framework	Open personal data store Reserve Bank of India
	Cashless layer	An electronic interoperable payment network	IMPS, AEPS, APB, UPI National Payments Corporation of India
	Paperless layer	Easily store and retrieve information digitally	Aadhaar e-KYC, e-Sign, Digital Locker Department of Electronics and Information Technology
	Presence-less layer	Unique digital biometric identity with open API access	Aadhaar card, Mobile Aadhaar Unique Identification Authority of India

Related News:

The Ministry of Finance has recently set up a G20 task force on Digital Public Infrastructure (DPI) to create a detailed map of India's DPI across sectors

SHORT SELLING

Context:

Hindenburg Research, which has accused the Adani Group of fraud, is a short seller.

What is Short-Selling?

Short selling, or shorting, is a trading strategy based on the expectation that the **price of the security will fall**. While fundamentally it is based on the **"buy low, sell high"** approach, the sequence of transactions is reversed in short selling — to **sell high first and buy low later**. Also, in short selling, the trader usually does not own the securities he sells, but merely borrows them.

- **Traders in the US use short selling as speculation,** and investors or portfolio managers could use it as a hedge against the downside risk of a particular stock.

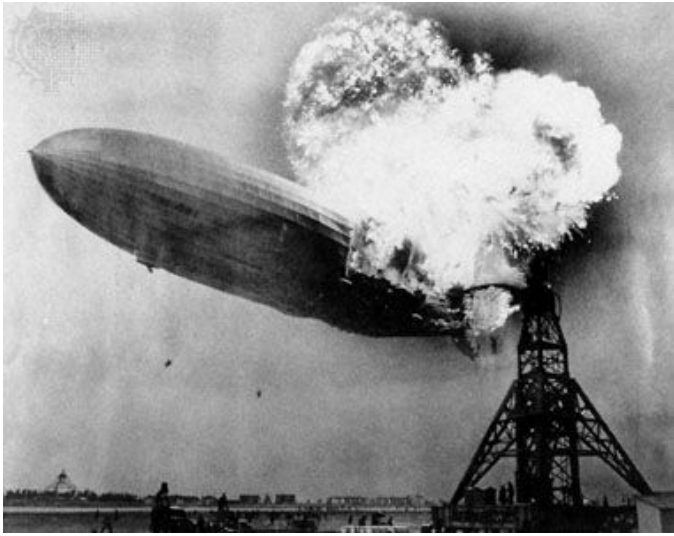


S.No	Advantages	Disadvantages
1	Generates profits when markets fall	Returns are limited, particularly with downward locks placed in stock markets.
2	Helps to hedge a portfolio against risks of market falls	Can generate panic and push a trend towards market crashes.
3	Allow potential to earn money on low capital outlay	Short sellers lose out on dividends
4	Allow potential to earn money on low capital outlay	If stocks with short positions rise, investors will have to buy the shares to pay back the lender.

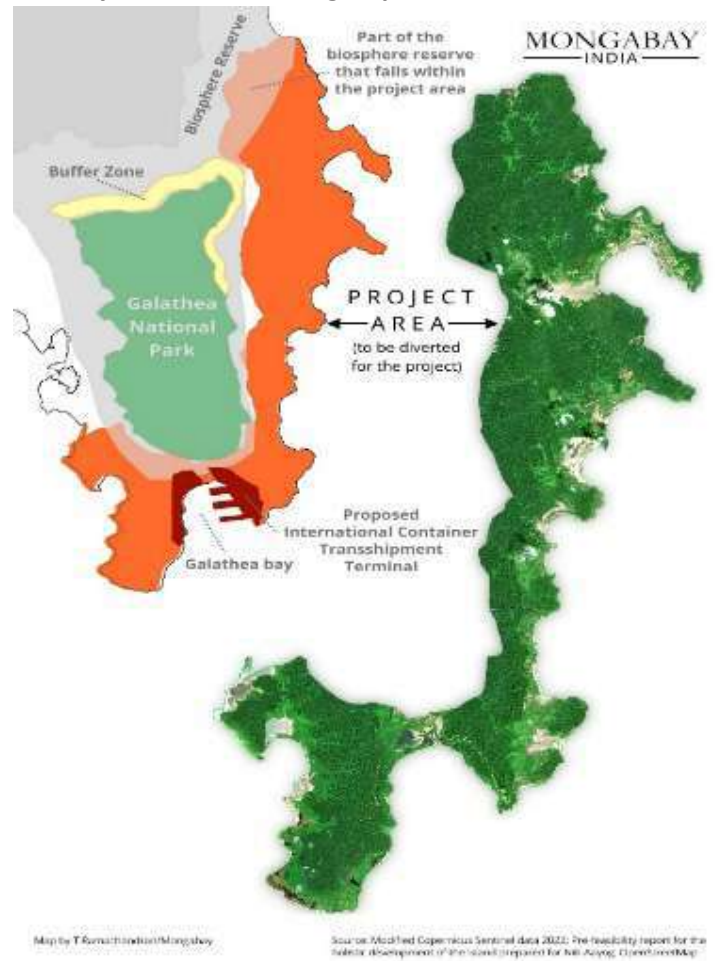
Related News:

Name: Hindenburg

Zeppelin Airship disaster: In 1937, a German passenger airship called **Hindenburg** caught fire while attempting to dock onto its mooring mast in New Jersey, United States. The disaster led to the demise of the airship era.



A&N has India's largest mangroves and that over half the species of butterflies, 40% of birds and 60% of mammals are endemic to the region. The project is likely catastrophic for the island's sensitive ecology and indigenous hunter-gatherer tribes like the **Shompen** who are already listed as a 'particularly vulnerable tribal group'.



MEGA PROJECTS FOR ANDAMAN AND NICOBAR

Context:

The representation of nearly **100 former civil servants** wrote to **President Droupadi Murmu** against development plans on **Great Nicobar Island**.

- In other news, SC panel questions need to **revive oil palm plantations** in Andamans.

About the Great Nicobar Project

Ministry of Environment, Forest and Climate Change (MoEF-CC) last year (November 2022) granted an **in-principal clearance** for the diversion of **130 sq km of forest** in Great Nicobar Island for the mega project.

- The project includes a **transshipment port, an airport, a power plant** and a greenfield township.
- Implemented by **Andaman and Nicobar Islands Integrated Development Corporation** under a vision plan conceived by the NITI Aayog.
- It includes **compensatory afforestation** on "non-notified forest land" in Haryana.
- About the ecology of A&N:**

Related news:

SC panel questions need to revive oil palm plantations in Andamans

Supreme Court-constituted Central Empowered Committee (CEC) has questioned the **need to revive oil palm plantations** in Andamans as a similar move in the past has proven to be a total commercial failure.

- National Mission on Edible Oils (Oil Palm)** (launched in 2021-22) with a special focus on North Eastern States and Andaman & Nicobar.
- Over 90% of India's Palm oil cultivation is situated in the state of Andhra Pradesh and Telangana.
- Oil palm is a **native of West Africa**.

KASHMIR'S PASHMINA SHAWLS

Context:

It is a fabric that is adored and respected all around the world as pashmina or cashmere.

Background:

The French empress **Josephine**, who was given a Kashmiri Kani shawl by her husband, Emperor **Napoleon**, in the 18th century, was instrumental in reviving a dying craft in Kashmir by popularizing it in Europe.



Pashmina:

- The term 'Pashmina' has been derived from the Persian word "Pashm" meaning **wool**.
- It is a **GI-certified wool** that has its origin in the **Kashmir** region of India.
- Due to the high quality of the wool used and the labour-intensive process required to make each individual piece, pashmina shawls are **quite expensive**.
- **The Changthangi goats** (*Capra Hircus*), domesticated in Ladakh, are the source of the wool used to weave Pashmina Shawls.
- The **Changpa tribes** of Ladakh who herd the Changthangi goats harvest the raw Pashm.

Shahtoosh: It is the name given to the wool of the Tibetan chiru (Endangered in the IUCN Red List) antelopes.



WORLD ECONOMIC SITUATION AND PROSPECTUS 2023 REPORT

Context:

UNDESA (in partnership with UNCTAD and five regional UN commission) have produced this report.

Key observations:

- **The world economy was much affected** by COVID-19 lockdowns and the war in Ukraine in 2022
- World output growth will decelerate to **1.9% in 2023 (from 3% in 2022)**
- **On South Asia:** The economic outlook has "significantly deteriorated due to high food and energy prices, monetary tightening and fiscal vulnerabilities" with average GDP growth projected to moderate to **4.8% in 2023 from 5.6% in 2022**
- **On India:** Economic growth in India is projected to moderate in 2023, with higher interest rates weighing on investment and slower global growth weakening exports

It recommends Reprioritization of public expenditures esp. in education, health and digital infrastructure; more social protection,

About UNDESA

The United Nations Department of Economic and Social Affairs (UN DESA) (est. 1948; HQ: New York) is part of the UN Secretariat and assists countries around the world in **agenda-setting and decision-making** with the goal of meeting their economic, social and environmental challenges (including SDG Goals)

About UNCTAD

The United Nations Conference on Trade and Development (est. 1964; HQ: Geneva, Switzerland) is an intergovernmental organization within the United Nations Secretariat that promotes the interests of developing countries in world trade.

XR STARTUP PROGRAM

Context:

MeitY Startup Hub and Meta **shortlist 120 Startups and Innovators** for the XR Startup Program

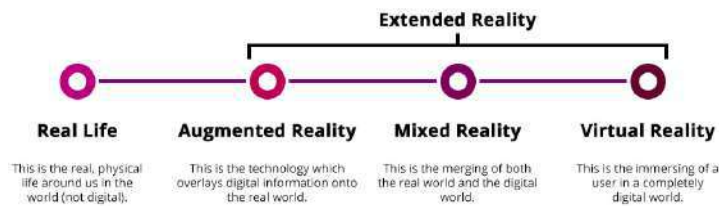
- **XR Startup Program** is a collaboration between MSH and Meta to discover, nurture, and accelerate **Extended Reality (XR) technology** startups and innovators across India.
- **The XR Startup Program** includes an **Accelerator** (for 40 early-age startups) and a **Grand Challenge**, aimed towards boosting the emerging tech ecosystem in the country

What is XR?

Extended Reality (XR) is the combination of human & com-

puter-generated graphics interaction, which is in reality as well as the virtual environment.

- In basic terms, Extended Reality is a superset of Augmented Reality (AR), Virtual Reality (VR) & Mixed Reality (MR)



AVIATION GASOLINE EXPORT BY IOC

Context:

Indian Oil Corporation (IOC) has started the **exports of aviation gasoline** (for the 1st time by India)

- It is used to **operate unmanned aerial vehicles (UAVs)** and small planes
- The beginning of **fuel exports marks the entry of India** into an estimated **\$2.7 billion global market**
- Currently, the IOC is the **sole manufacturer** of fuel in India

What is Aviation Gasoline Fuel?

Aviation gasoline is a **high-octane aviation fuel** with superior performance and quality standards compared to imported fuels.

- Usually, flying schools use this fuel for piston-engine aircraft.

Significance:

- **Saving on Importing cost**
- **Indigenous production:** The gas named **AV gas 100 LL** will make **training in domestic flying schools economical** for budding pilots,
- **Advantages in modern warfare:** Unmanned Aerial Vehicles (UAVs) are increasingly being used in modern warfare, including in Russia-Ukraine.

Aviation gasoline fuel (AVGAS) vs Aviation turbine fuel (ATF)?

- Aviation gasoline is used for **piston-engine aircrafts**, which fly through the rotation of the propellers which generate the thrust.
- **Jet Fuel is used for aircraft with turbine-engine jets** which fly with the thrust of expelled air.

INDIA MAY USE EMERGENCY LAW TO LIFT COAL POWER OUTPUT

Context:

India plans to use an emergency law to force power plants that run on imported coal to maximise output in preparation for expected record consumption this summer.

Status of India's power demand and Coal import:

- India's power consumption logged a double-digit growth of **over 11 per cent to 121 billion units** in December 2022 compared to the year-ago period.
- **Import of coal in India consists mainly of coking coal and high-grade coal**, whose prices are normally higher than thermal coal (mainly from Indonesia and Australia)
- India is the **third-largest producer and consumer of electricity worldwide**, with an installed power capacity of 408.71 GW as of October 31, 2022.

Why are power plants based on imported coal not running at full capacity?

- In recent years these plants (including some owned by Adani Power and Tata Power) have found it difficult to **compete with power generated from cheap domestic coal**

Demand by states:

- **Maharashtra and Gujarat** have registered a steep rise in power demand in recent months, demanded invocation of the law.
- **The Electricity Act 2003** governs the activities relating to the generation, transmission, distribution, trading and use of electricity in India.

Agriculture

212 INDIGENOUS LIVESTOCK BREEDS

Context:

The Indian Council of Agricultural Research (ICAR) has **registered 10 new breeds of livestock species**, including **cattle, buffalo, goat and pig**. This has taken the total number of indigenous breeds to 212.

The 10 new breeds included three new **cattle breeds (Kathani, Sanchori, Masilum)**, one **buffalo breed (Purnathadi)**, three **goat breeds (Sojat, Karauli, Gujari)** and three **pig breeds (Banda, Manipuri Black, Wak Chambil)**

Distribution:

- **Purnathadi buffalo** - Vidarbha region of Maharashtra.
- Kathani, a dual-purpose cattle, is also distributed in the region. It possesses the good draft ability and is suited to marshy land for paddy cultivation.
- **Masilum** is a small-sized but **well-built and sturdy cattle of Meghalaya**. Well adapted to the hill ecosystem, it is **reared by the Khasi and Jaintia communities** for sports, manure and socio-cultural festivals.
- **Sanchori** is found in the **Jalore district of Rajasthan**.
- Among goats, all **three new breeds** are from **different regions of Rajasthan**.
- Of the new pig breeds, **Manipuri Black** is a native of **Manipur**, **Banda** is from **Jharkhand** and **Wak Cham-bil** is from the **Garo hills of Meghalaya**.

Ten New Breeds of Indigenous Farm Animals Registered by ICAR-National Bureau of Animal Genetic Resources, Karnal



CARDAMOM SAMPLES EXCEEDING THE LEVEL OF INSECTICIDE RESIDUE

Context:

The samples of cardamom supplied by the contractor for use at the Sabarimala contained **insecticide residues exceeding the Maximum Residue Limit (MRL) stipulated by the Food Safety and Standards (Contaminants Toxins and Residues) Regulations**.

According to the test report, the samples contained insecticide residues **'fipronil, tebuconazole, and imidacloprid'**

About Cardamom:

- Cardamom is a spice made from the **seedpods of various plants in the ginger family**. Cardamom pods are **spindle-shaped and have a triangular cross-section**.
- There are two main types of cardamom: **black cardamom and green cardamom**, and there is white cardamom, which is a bleached version of green cardamom.
- Species used for cardamom are **native throughout tropical and subtropical Asia**. The first references to cardamom are found in Sumer, and in the Ayurve-

dic literature of India.

BHOG – FSSAI

Blissful Hygienic Offering to God (BHOG) encourages places of worship to adopt and maintain food safety and hygiene in the preparation, serving and sale of prasad.

Science and Technology

SATYENDRA NATH BOSE

Context:

The 129th birth anniversary of Satyendra Nath Bose - a Mathematician and physicist from India best known for his work with Albert Einstein to develop what we now know as the Bose-Einstein statistics, was celebrated on January 1.

His legacy and stellar achievements:

- Satyendra Nath Bose (1 January 1894 – 4 February 1974) was a Bengali mathematician and physicist **specialising in theoretical physics**.
- He is best known for his work on **quantum mechanics** in the early 1920s, in developing the foundation for **Bose-Einstein statistics** and the theory of the **Bose condensate**.
- A Fellow of the Royal Society, he was awarded India's second-highest civilian award, the **Padma Vibhushan** (in 1954) by the Government of India.
- The class of particles that obey Bose statistics, **bosons**, was named after Bose by Paul Dirac.

Satyendra Nath Bose

The Father of the God Particle (Higgs Boson)

Known for:

- Bose-Einstein condensate
- Bose-Einstein statistics
- Bose-Einstein distribution
- Bose-Einstein correlations
- Bose gas
- Ideal Bose Equation of State
- Boson
- Photon gas

Fact:

Seven Nobel Prizes were awarded for research related to Bose's concepts of the boson, Bose-Einstein statistics and Bose-Einstein condensate, Bose himself was not awarded a Nobel Prize.



SMART PROGRAM FOR AYURVEDA

Context:

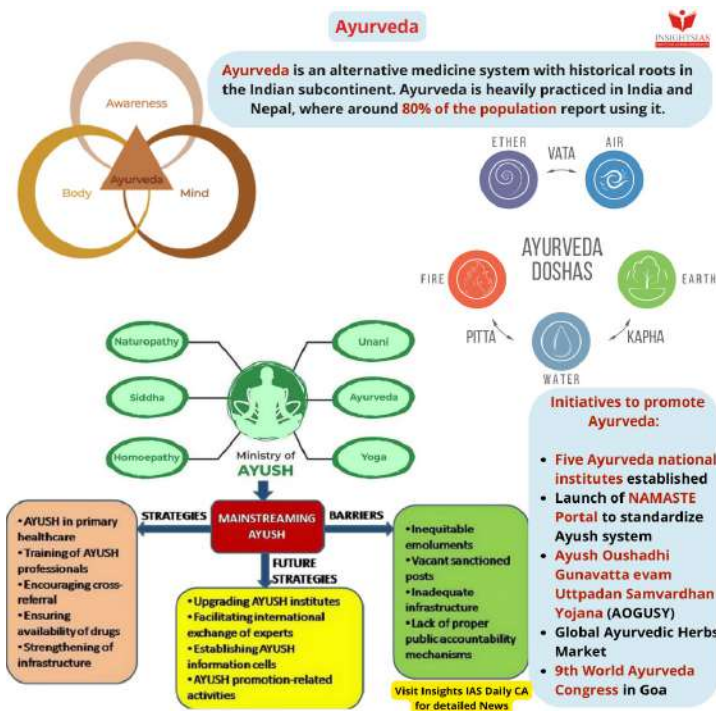
Scope for Mainstreaming Ayurveda Research in Teaching Professionals (**SMART**) program has been launched to **boost scientific research in Ayurveda colleges and hospitals** for common issues such as Iron Deficiency, Anaemia, Obesity etc.

About NCISM

- It is a **statutory body** (under NCISM Act, 2020) for regulating the Indian system of medical education.

About CCRAS

- It is an **autonomous body** for promoting research in Ayurvedic sciences under the Ministry of Ayush.



GELBOTS

Context:

Made out of **gelatin**, a **gelbot** is a significant advance in the world of 'soft robotics,' or robots that are fashioned out of organic and non-metallic materials.

About the Gelbots:

- A **3D-printed device**
- Move **without requiring an extra power source**.
- Feels like a Fruit gum rather than hard metallic surfaces of robots.
- Extremely promising materials for soft robotics.**

- They rely on the principle that **gels that swell or shrink in response to temperature** can be used to create smart structures.
- Cheap and easy to mass produce**

Uses:

- To deliver **targeted medicines**.
- Deployed as **marine robots, patrolling and monitoring the ocean's surface**.
- Minimally invasive** technology for biomedical diagnosis and treatment.

'GREEN' TECH TO RID AIR FILTERS OF GERMS

Context:

A research team at the Indian Institute of Science (IISc), Bangalore, has developed a **germ-destroying air filter that can inactivate germs using ingredients like polyphenols and polycationic polymers commonly found in green tea**.

Why the need?

With prolonged use, air filters become a **breeding ground for captured germs**. The growth of these germs **clogs the pores of the filter, reducing their life**.

New Technology:

- The air-filtering technique **was granted a patent in 2022**.
- It is found to be **99.24% effective against SARS-CoV-2 (delta variant)**.
- The technology **was transferred to AIRTH**, a start-up that is replacing the existing germ-growing air filters.
- Can play a crucial role in the **fight against air pollution and mitigate the spread of air-borne pathogens** such as several coronaviruses.

INDIA'S SCIENTIFIC DEVELOPMENTS IN 2022 – A RECAP

Context:

2022 has been marvellous in India's scientific arena. Various new developments were witnessed.

Direction: Details of this have already been covered previously in our articles

Developments	Specifications
India's first privately-built rocket	Vikram-S , by Skyroot Aerospace
ISRO's foray into the commercial market	Commercial launch service market by launching 36 OneWeb Satellites on the LVM3 rocket These Low Earth Orbit satellites along with others in the same fleet will deliver high-speed, low-latency connectivity worldwide .
Chandrayaan-2 assesses sodium content on Moon's surface	Findings of sodium distribution on the moon would help us understand the connection between the moon's surface and its exosphere .
First nasal Covid-19 vaccine developed by Bharat Biotech	Named iNCOVACC , the vaccine is a replication-deficient recombinant adenovirus vectored vaccine with a pre-fusion stabilised spike protein.
Indian researchers develop an artificial photosynthetic system to capture solar energy	Scientists used an atom-precise nano-cluster which resulted in 93% energy transfer from the light spectrum. This harvested energy from sunlight could generate current with better yields than previous technology.
New species of trees, corals, spiders and honeybees discovered	Corals: Four new species of azooxanthellate corals have been discovered for the first time in Indian waters near the Andaman and Nicobar Islands. Tree: Scientists have discovered a new species of an evergreen tree of the genus Miliusa . The finding is unique because thus far, only two mature trees have been found in its native environment, underlining the need for conservation Honey Bee: Named Apis karinjodian or the Indian black honeybee , the discovery come 200 years after the last species was discovered in the Western Ghats.
Unique dinosaur egg poses new questions for evolution	A team of University of Delhi researchers discovered a remarkable set of fossilized dinosaur eggs, with one egg nesting within the other . While eggs-within-eggs are an unusual phenomenon, they are so far known to occur solely in birds and have never been seen in reptiles.

WASSENAAR ARRANGEMENT

Context:

India will assume **chairmanship** of the plenary of the Wassenaar Arrangement for a year on January 1, 2023, just five years after **joining the 42-member voluntary export control regime** that monitors transfers of conventional weapons and dual-use goods.

It facilitates **Information sharing** and **standard setting** on the **conventional arms and dual-use goods and technology**.

Other Multi-lateral export Control Regime:


- **Zangger Committee (est 1971)** for keeping a 'trigger list' of nuclear-related materials. India is **NOT** a

member of it.

- **NSG (est. 1975)** for preventing nuclear proliferation. India is **NOT** a member.
- **Australia Group (est. 1985)** to control the development of chemical and biological weapons. India **IS** a member of it
- **Missile Technology Control Regime (MTCR) (est. 1987):** To prevent the proliferation of missile and unmanned aerial vehicle technology capable of **delivering weapons of mass destruction**. India **IS** a member of it.

Wassenaar Arrangement

For exchange of information on transfers of conventional weapons and dual-use goods and technologies




Countries with Wassenaar Arrangement

Wassenaar Arrangement (WA) formally established in July 1996. It has 42 members (mostly who exchange information on transfers of conventional weapons and dual-use goods and technologies). All the P5 of UNSC are members except China.

India on WA

- India became its member in 2017 (and has become its chairman for 1 year in 2023)
- Being a member means India is recognized to have dual use technology
- WA is significant for India as it is a non-signatory of the NPT and trying to become member of Nuclear Suppliers Groups (NSG)
- Secretariat: Vienna (Austria)
- Plenary meeting chair rotates annually



Visit Insights IAS Daily CA for detailed News

synthesis more efficient.

It will be useful for industries producing green energy or hydrogen.

The inefficiency of the present process:

- The electrochemical ammonia synthesis is largely limited by the **poor solubility of nitrogen (N₂)** in the aqueous electrolyte environment as well as the **competitive hydrogen evolution reaction**. The obstacle faced was that **reduction of N₂ has actually occurred in the aqueous medium**.

How new electrolyte works:

- Scientists from the **Institute of Nano Science and Technology (INST) Mohali**, an autonomous institute of the Department of Science and Technology (DST), have introduced a **new electrolyte called (NaBF₄)**,
- This electrolyte not only acts as an **N₂-carrier in the medium but also works as a full-fledged “co-catalyst”** along with active material transition **metal-doped nanocarbon (MnN₄)** to deliver a high yield of ammonia (NH₃) at absolutely ambient experimental conditions.

WATER FILTER TO REMOVE MICROPLASTICS

Context:

Scientists have developed a **new water purification system that can filter out small plastic particles**, as well as other pollutants, quickly and efficiently.

About the new technology:

- The technology is unrivalled with the **world’s highest purification efficiency**, removing more than **99.9 per cent of phenolic microplastics and volatile organic compound (VOC) contaminants** in water at ultra-high speeds.
- The team synthesized a **porous polymer with excellent adsorption performance and photothermal properties** by reacting with an inexpensive and effective precursor.
- It enables a **material with fast adsorption of micro-pollutants** in the aquatic environment.
- The water treatment membrane coated with the **oxidized polymer was confirmed to purify phenolic contaminants through sunlight**.

NEW ELECTROLYTES CAN HELP BETTER AMMONIA SYNTHESIS

Context:

A team of Indian scientists has developed a **new aqueous electrolyte** that can help make **electrochemical ammonia**

ANIMALS THAT TURN TRANSPARENT?

Context:

Recently scientists gleaned insight into **how glass frogs – a species known for this ability – are able to achieve such transparency**.

About Glass frogs:

Glass frogs live in the **American tropics** and are **nocturnal amphibians** that spend their days sleeping **upside down on translucent leaves** that match the colour of their backs – a common camouflage tactic. Their **translucent skin and muscle allow their bones and organs to be visible**.

How Glassfrog become transparent:

- Resting glass frogs increase transparency two- to **threefold by removing nearly 90 per cent of their red blood cells from circulation and packing them within their liver**, which contains **reflective guanine crystals**.
- Whenever the frogs need to become active again, **they bring the red blood cells back into the blood, which gives the frogs the ability to move around** – at which point, light absorption from these cells breaks transparency.
- In most vertebrates, aggregating red blood cells can lead to potentially dangerous blood clots in veins and arteries. However, **glass frogs don’t experience**

clotting.



LASER TO GUIDE LIGHTNING BOLTS

Context:

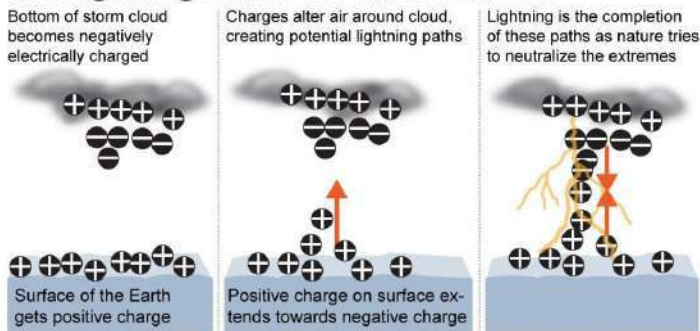
Scientists have used a laser beam to guide lightning for the first time, hoping the technique to help protect against deadly bolts -- and one day maybe even trigger them.

During a storm in the summer of 2021, the scientists were able to photograph their beam driving a lightning bolt for 50 meters.

About Lightning:

Lightning is a very rapid — and massive — discharge of electricity in the atmosphere, some of which is directed towards the Earth's surface.

How lightning strikes the Earth's surface



Sources: Ariel Cohen, Tina Stall; Meteorologists NOAA National Weather Service @latimesgraphics

WHAT IS A 'PANTRANSCRIPTOME'?

Context:

A new study published in the journal Nature Methods, has proposed a "pantranscriptome," which combines a transcriptome and a pangenome -- a reference that contains genetic material from a cohort of diverse individuals, rather than just a single linear strand.

About Pan Transcriptome:

- Using a reference genome from a **single organism** is not reliable and there exists considerable variation in the intra-specie genomes.
- This gave birth to the pan- genomics, which divides the genome of the specie into three parts, core genome, dispensable genome, and unique genes.
- **Transcriptome** represents **all the RNA molecules present in a specie or in an organism.**
- Building a pan-transcriptome is necessary for studying and analyzing complex genomes and variations between species.

How it works:

- RNA's most commonly recognized function is to **translate DNA into proteins**, but scientists now understand that the vast majority of RNA does not make proteins, **but instead can play roles such as influencing cell structure or regulating genes.**
- When evaluating an individual's genomic data for variation, **scientists compare the individual's genome to that of a reference made up of a single, linear strand of DNA bases.**
- Using a pangenome allows **researchers to compare an individual's genome to that of a genetically diverse cohort of reference sequences all at once**, sourced from individuals representing a diversity of biogeographic ancestry.
- This gives the scientists more points of comparison for which to better understand an individual's genomic variation.

MERCURY'S SUPERCONDUCTIVITY

Context:

Superconductivity was first discovered in **mercury**, yet scientists required **111 years** to explain how it becomes superconducting In 1911, Dutch physicist **Heike Kamerlingh Onnes** discovered superconductivity in mercury. He found that at a very low temperature, called the **threshold temperature**, **solid mercury** offers no resistance to the flow of electric current.

“ Superconductivity was discovered in 1911 by H.K Onnes , who studied the resistance of solid mercury at cryogenic temperatures using the recently discovered liquid helium as 'refrigerant'.

Heike Kamerlingh Onnes
1853-1926

Spectra

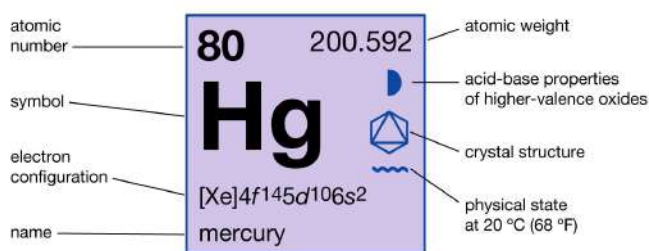
The **Bardeen-Cooper-Schrieffer (BCS Theory)** to explain the **superconductivity of Mercury**: Details of the theory are technical in nature and you may skip it from a UPSC point of view.



About Mercury:

Mercury is a **naturally occurring element** that is found in air, water and soil. It is released into the atmosphere through **natural processes** such as weathering of rocks, volcanic eruptions, geothermal activities, forest fires, etc. It is the **only metal which remains liquid at room temperature**.

Mercury



 Transition metals	 Liquid
 Rhombohedral	 Weakly basic

© Encyclopædia Britannica, Inc.

About Superconductivity:

Superconductors are materials that **conduct electricity** with no resistance. Unlike the more familiar conductors such as copper or steel, a superconductor can **carry a current indefinitely without losing any energy**.

- **Advantages of superconductors:** low power dissipation, high-speed operation, and high sensitivity
- **Application:** E.g., MRI machines, Particle accelerators, Power utilities, electronics companies, the military, and transportation.

Meissner effect

When a **material makes the transition** from the normal to the superconducting state, it actively excludes magnetic fields from its interior; this is called the Meissner effect.

NOROVIRUS

Context:

The Kerala Health Department confirmed two cases of **norovirus**.

About Norovirus:

- **Symptoms:** Stomach and intestinal inflammation, leading to symptoms such as **nausea, vomiting, diarrhoea, and stomach cramps**.
- **Mode of Transmission** – highly contagious, contact with an infected person, consuming contaminated food or water, or touching contaminated surfaces and then touching the mouth, through the air by tiny droplets when an infected person vomits.
- **The virus:** Capable of surviving low temperatures, common during the **winter and in colder countries**, hence referred to as “**winter vomiting disease**”.
- **The severity of infection:** Estimated to kill **200,000** persons globally every year, with most deaths occurring among those **below the age of five years and those over the age of 65 years**.
- **Vaccines:** Not Available
- **Prevention method:** Practice good hygiene.

UKRAINE WAR: CERN HAS SHORTENED RUNS

Context:

In the wake of the energy crisis fuelled by the Russia-Ukraine war, the **particle physics laboratory CERN**, known for discovering the ‘god particle’ in 2012, has reduced its energy intake.

- The laboratory has **shortened the running period of its Large Hadron Collider (LHC)** by a month

What is LHC?

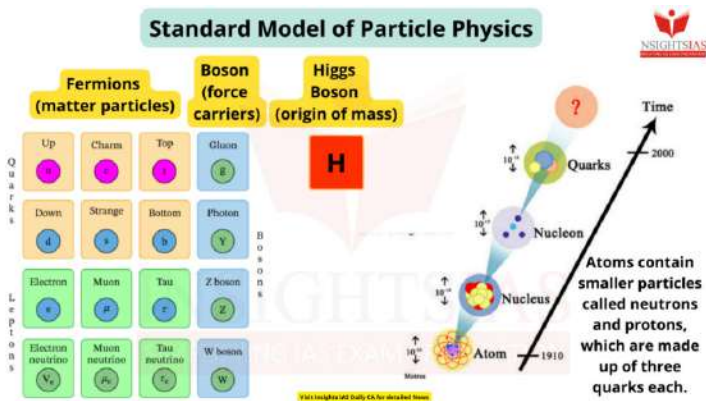
The **Large Hadron Collider** is a giant, complex machine built to study particles that are the smallest known building blocks of all things.

- **Structure:** LHC is a **27-km-long track-loop buried 100m underground** on the Swiss-French border.
- **Operation:** In its operational state, it fires **two beams of protons** almost at the speed of light in opposite directions inside a ring of superconducting electromagnets.

Achievements:

- **‘God Particle’ discovery:** In scientists at CERN announced the discovery of the Higgs boson or the ‘God Particle’ during the LHC’s first run.

- This led to **Peter Higgs and his collaborator François Englert** being awarded the Nobel Prize for physics in 2013.
- The Higgs boson is **the fundamental particle associated with the Higgs field, a field that gives mass to other fundamental particles such as electrons and quarks.**
- **'New Physics' beyond Standard Model:** After the discovery of the Higgs boson, scientists have started using the data collected as a tool to look beyond the **Standard Model**, which is currently the best theory of the most elementary building blocks of the universe and their interactions.



(ScN) and Complementary Metal-Oxide-Semiconductor (CMOS) compatibility to develop brain-like computing.

This invention can provide a **new material for stable, CMOS-compatible optoelectronic synaptic functionalities** at a relatively **lower energy cost** and hence has the potential to be translated into an industrial product.

How it works:

- The human brain is a supreme biological computer that is smaller and more efficient due to the presence of a **synapse (the connection between two neurons)** that plays the role of both processor and memory storage unit. In the current era of **artificial intelligence, the brain-like computing approach can help meet the escalating computational demands.**
- Scientists used ScN to develop a **device mimicking a synapse** that controls the signal transmission as well as remembers the signal.
- An artificial optoelectronic synapse with ScN thin films that can mimic synaptic functionalities **like short-term memory, long-term memory, the transition from short-term to long-term memory, learning-forgetting, frequency selective optical filtering, frequency-dependent potentiation and depression, Hebbian learning, and logic-gate operations.**
- It can act as a platform for both **excitatory and inhibitory functions.** The industrial processing techniques of ScN are similar to the existing semiconductor fabrication infrastructure. Response to the **optical stimuli also has the advantage of possible integration with photonic circuits known for higher speed and broader bandwidth than electronic circuits.**

Prelims Links

Q. The efforts to detect the existence of Higgs boson particles have become frequent news in the recent past. What is/are the importance (s) of discovering this particle? (UPSC CSE 2013)

1. It will enable us to understand as to why elementary particles have mass.
2. It will enable us in the near future to develop the technology of transferring matter from one point to another without traversing the physical space between them.
3. It will enable us to create better fuels for nuclear fission.

Select the correct answer using the codes given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: A

Higgs boson is related to particle physics.

Statements 2 and 3 are incorrect: No such evidence has been found.

Technology

CAN INDIA'S BHAROS REPLACE ANDROID, IOS?

Context:

Developed by an IIT Madras-incubated startup, **BharOS** is being pitched as India's answer to the **Google-owned Android and Apple's iOS**, the two most dominant mobile operating systems in the world.

What is BharOS? How was it made?

- BharOS is an **Android Open-Source Project** and was developed by **JandK Operations Private Limited, a non-profit organisation incubated at IIT Madras.**
- Concerns existed with respect to the **collection, storage, and usage of data that is generated by Indian smartphone users. BharOS tries to address these issues.**

NITRIDE SEMICONDUCTORS

Context:

Scientists from the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) have used **scandium nitride**

How is BharOS different from Android?

- BharOS uses **AOSP or Android Open -Source Project**, the functionalities and the methodologies both OS use are essentially the same.
- **What sets BharOS apart from Android, is that it is free from Google Services and Apps.** It comes with **no default app (NDA)**, which allows users to have more control over permissions that an app can have.
- Google has used its preinstalled apps and services to collect data, sometimes without explicitly asking a user. Similarly, other apps from Google's PlayStore share data with third-party services. **BharOS does not come with any such preinstalled services or apps, and hence, is deemed to be more secure.**
- It also comes with a **native over-the-air update (NOTA) feature** that keeps the devices safe and with organisation-specific **Private App Store Services (PASS)**, the device gives access to only those apps which have been thoroughly verified by the organization.

How will apps work on BharOS?

- It will let users choose what **apps they want to use for their own devices.**
- Furthermore, it will have its **own app store which will allow users to download and install** apps, eliminating the need for the Google App Store.
- Users may be allowed to sideload apps in a much easier manner than Android allows.
- Barring a few essential apps, **BharOS may favour indigenously developed apps or apps that have been designed with a particular focus on India and Indian users.**
- The indigenously-built BharOS paves the way for **Atmanirbhar Bharat** & could help put a check on Big Tech and the duopoly of Google-Apple in the mobile ecosystem.

RAILWAYS' AI-BASED PROJECT

Context:

The Indian Railways has concluded the trial of an **Artificial Intelligence (AI) program** built to **fix a perennial issue — long waiting lists for tickets.**

How it will work:

- Made by Railways' in-house software arm **Centre for Railway Information Systems (CRIS)**, this AI module, called **Ideal Train Profile**, was fed with information like **how millions of passengers booked tickets on these trains, which origin-destination pairs were a hit and which were flops at what time of the year, which seats remained vacant for what portion of a**

journey, etc.

- The AI does data-driven **remote location selection, completely automates the process of quota distribution, and suggests optimal quotas** for different ticket combinations based on historical demand.

Health

LUMPI-PROVACIND VACCINE

Context:

Agrinnovate India Limited (AgIn), the commercial arm of **DARE, Ministry of Agriculture** and Farmers' Welfare granted **"Non-Exclusive Rights"** for Commercial production of "Lumpi-ProVac", to Institute of Veterinary Biological Products (IVBP), Pune

- **ICAR (Indian Council of Agricultural Research)** has developed this vaccine for Lumpy Skin Disease (LSD)

About Lumpi-ProVac

- Lumpi-ProVac is safe in animals and induces **LS-DV-specific antibodies and cell-mediated immune response.**
- The vaccine is used for the **prophylactic immunization of animals against Lumpy Skin Disease**, which illicit protection for **about one year**
- The vaccine is a **homologous, live attenuated vaccine** (see infographic below) to protect against **Capripoxvirus** (which causes LSD).
- The **virus** is genetically similar to **Goatpox and sheeppox.**
- It is transmitted **by flies and mosquitoes or ticks** (blood-feeding insects).
- **LSD doesn't affect humans**

The Indian Council of Agricultural Research (ICAR) is an autonomous body responsible for co-ordinating agricultural education and research in India. The Union Minister of Agriculture serves as its **president**. It is the **largest network of agricultural research and education institutes** in the world.

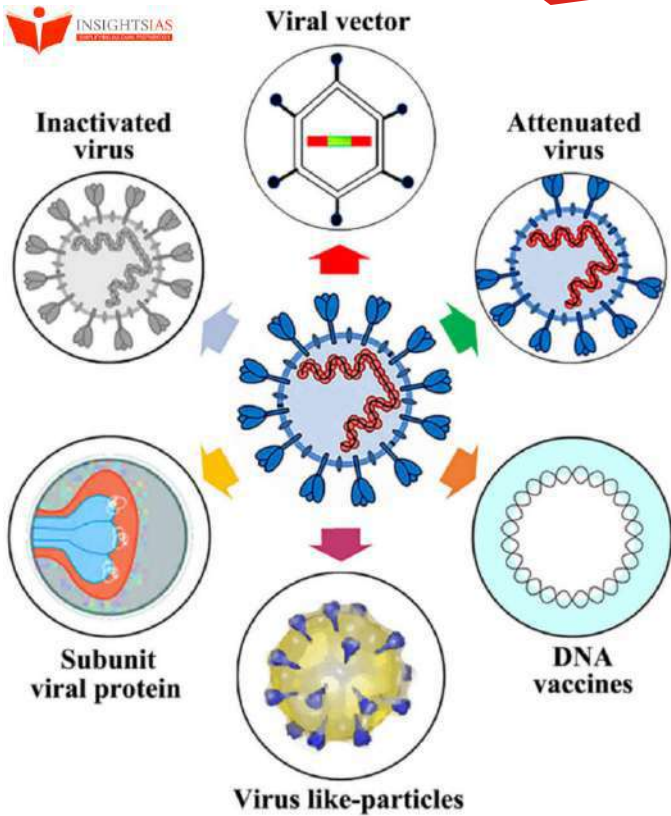
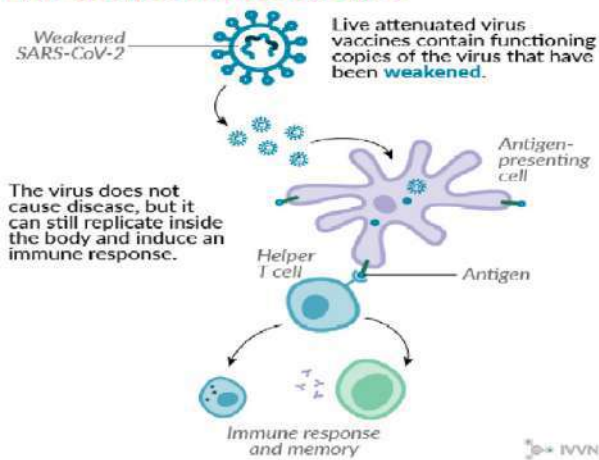


Fig (Up): Types of vaccines; Fig (down): Live attenuated virus vaccines

Live attenuated virus vaccines



OZEMPIC

Context:

Elon Musk tweeted about losing 13.6 kg (30lbs) because of Ozempic/Wegovy, fasting and staying away from 'tasty food'. The drug is also garnering a lot of attention on social media platforms such as TikTok as an easy way to lose weight.

What is Ozempic?

- **Ozempic, Wegovy and Rybelsus** are the brand names for an **anti-diabetes medication called semaglutide**. Developed by Danish pharmaceutical com-

pany Novo Nordisk, the drug is used to treat patients with **type-2 diabetes**.

- Semaglutide is a **glucagon-like peptide-1 receptor agonist (GLP-1 RA)** drug that increases the secretion of insulin (which helps decrease blood sugar levels) after a meal while **reducing the production of glucagon (which helps increase blood sugar levels)**
- Besides regulating glucose levels in the body, the **drug also aids in weight loss, lowers the risk of hypoglycemia, and improves heart health and kidney function**.
- No diabetes drug has been approved in India for weight loss.

KALA-AZAR CASES DECLINE

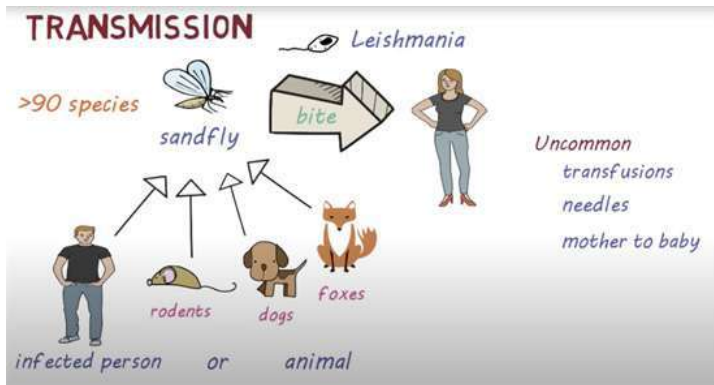
Context:

There has been a **98.7 per cent** decline in cases of Kala-azar from 44,533 in 2007 to 834 in 2022 in India

- India is committed to eliminating Kala-Azar from the country by 2023
- Elimination is defined as reducing the annual incidence of Kala Azar (KA) to less than 1 case per 10,000 people at the sub-district level.

About Kala-azar

- **Visceral leishmaniasis (VL)**, also known as **kala-azar**, is the most severe form of leishmaniasis and, without proper diagnosis and treatment, is associated with high fatality.
- It is also a **neglected tropical disease (NTD)**
- **Spread:** Caused by **protozoan parasites** of the Leishmania genus (transmitted through the bite of Sand flies), migrates to the internal organs such as the liver, spleen (hence "**visceral**"), and bone marrow.
- **Signs and symptoms** include fever, weight loss, fatigue, anaemia, and substantial swelling of the liver and spleen.
- Kala-azar is considered the **second deadliest parasitic killer** in the world after **Malaria**
- Kala-azar is **endemic to the Indian subcontinent** in 119 districts in four countries (Bangladesh, Bhutan, India and Nepal)
- It is endemic to **four states** Bihar, Uttar Pradesh, Jharkhand and West Bengal
- It is a **treatable disease with anti-leishmanial medicines**
- **Government steps:** National Kala Azar Elimination Programme; National Vector Borne Disease Control Programme (NVBDCP)



A NOVEL SPRAY TO PREVENT COVID-19 INFECTION

Context:

Researchers have created new molecules that can be **sprayed into the nose to block the SARS-CoV-2 virus from entering the lungs and causing infection.**

About research:

- Engineers at the Johns Hopkins University in the US have now **created thin, thread-like strands of molecules called supramolecular filaments** capable of blocking the virus in its tracks.
- The key to this approach is the way that the filaments carry a receptor called **angiotensin converting enzyme-2, or ACE2, which** is also found in cells in the nasal lining, the lung surface, and the small intestine.
- The spike protein of the virus clicks into this receptor, much like a key going into a lock, allowing it to enter the cell and replicate. Once the **virus is locked into the cell, it prevents the cell from executing its normal functions, leading to and exacerbating infections.**
- It is known to researchers that **adding extra ACE2 into airways can block virus entry, essentially preventing the virus from binding with ACE2 in the lungs.**
- The team's newly developed filament, called fACE2, serves as a decoy binding site for the virus, with each filament offering several receptors for the COVID-19 spike protein to attach to, and silences ACE2's biological functions to avoid potential side effects.

INDIA CAN LEAD EFFORTS TO FIND A NEW TB VACCINE

Context:

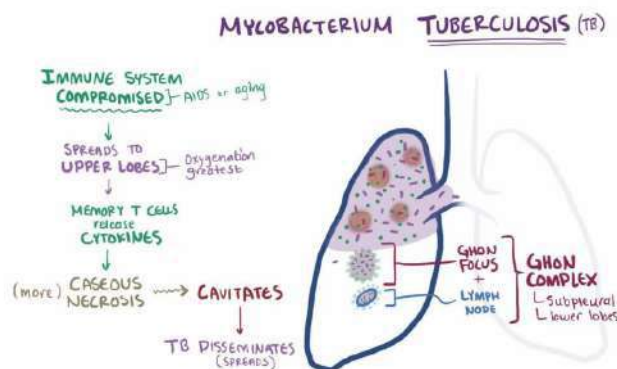
India needs to develop a new vaccine for tuberculosis, con-

sidering its accelerated timeline for TB elimination (by 2025) than the rest of the world.

- TB is the issue of equity:** In India, the main risk factor for TB is undernutrition. TB incidence is higher in **lower economic groups**, especially in tribal and remote rural areas and in the urban poor. This becomes an issue of equity.
- REACH, an NGO working in the area of TB
- Recently, **WHO announced plans to establish a new TB Vaccine Accelerator Council** to facilitate the licensing and use of effective novel TB vaccines.
- BCG** is currently the only licensed TB vaccine.

About TB:

Tuberculosis (TB) is a potentially **serious infectious disease** that mainly affects the **lungs**. The bacteria that cause tuberculosis are spread from **person to person** through tiny droplets released into the air via coughs and sneezes.



IMMUNE IMPRINTING

Context:

Immune imprinting in the bodies, might be **making new boosters far less effective than expected.**

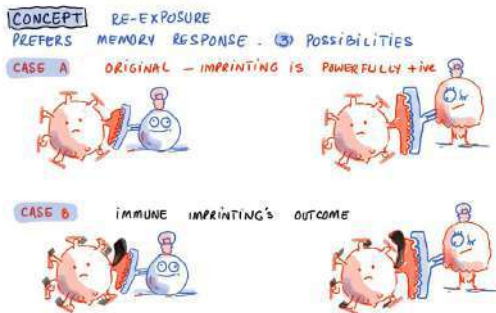
- Two papers, published in the **New England Journal of Medicine (NEJM)**, pointed out that **bivalent boosters** — made to counter both the Omicron strains and the original Covid-19 strain — **don't generate significantly greater antibody responses than an additional dose of the original mRNA vaccines.**

What is immune imprinting?

- Immune imprinting is a **tendency of the body to repeat its immune response** based on the first variant it encountered — **through infection or vaccination** — when it comes across a **newer or slightly different variant of the same pathogen.**
- Imprinting acts as a **database for the immune system, helping it put up a better response to repeat infections.**
- After the body is exposed to a virus for the first time, it **produces memory B cells that circulate in**

the bloodstream and quickly produce antibodies whenever the same strain of the virus infects again.

- The problem occurs when a similar, not identical, variant of the virus is encountered by the body. In such cases, the immune system, **rather than generating new B cells, activates memory B cells**, which produce **cross-reactive antibodies** that bind to features found in both the old and new strains. These cross-reactive antibodies offer some protection but are not as effective as the ones produced by B cells when the body first encountered the original virus.



How to circumvent immune imprinting?

- **Nasal vaccines might be better at preventing infections than injected ones:** since mucous membranes would create stronger protection, despite carrying some imprint of the past.
- **Spacing out coronavirus vaccine shots on an annual basis.**

POLYCYSTIC OVARIAN SYNDROME (PCOS)

Context:

The **Indian Journal of Biochemistry and Biophysics (IJBB)**, **CSIR-National Institute of Science Communication and Policy Research (NIScPR)**, has brought out a special issue on the theme, **“Polycystic Ovarian Syndrome (PCOS) and its Complications”**.

About PCOS:

- **Polycystic ovarian syndrome (PCOS) is a multifactorial endocrine disorder**, which is characterized by chronic anovulation.
- **Irregular periods, hirsutism, and weight gain are the common symptoms of PCOS.**
- It is the pre-eminent cause of infertility, with a **world-wide range of 6-26%, and in India, it is 3.7-22.5%.**
- Risk factors: **genetics, neuroendocrine system, sedentary lifestyle, diet, and obesity.**

Treatment:

- **Combination of lifestyle changes and medication.** Lifestyle changes such as **weight loss, regular exercise, and a healthy diet can help regulate hormones and reduce symptoms.**
- Medications such as birth control pills, **metformin, and clomiphene** can be used to regulate the **menstrual cycle, reduce androgen levels, and improve ovulation.**

HORMONAL THERAPY TO CURE BREAST CANCER

Context:

Recent research at **Mumbai’s Tata Memorial Centre** has shed more light on the molecular mechanism through which **progesterone treatment prior to breast cancer surgery** is likely to increase the survival rates of patients.

What is Breast Cancer?

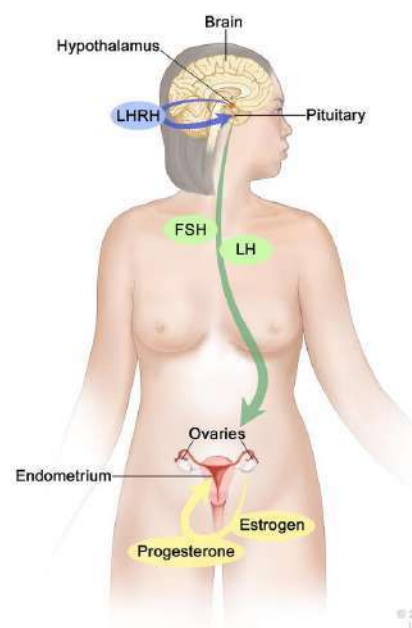
Breast cancer can occur in **women and rarely in men.** Its treatment may consist of chemotherapy, radiation, hormone therapy and surgery.

What is Hormone Therapy for Cancer?

Hormone therapy is a **cancer treatment that slows or stops the growth of cancer** that uses hormones to grow. E.g., some prostate and breast cancers.

What is Progesterone?

Progesterone is an **endogenous steroid and progestogen sex hormone** involved in the menstrual cycle, pregnancy, and embryogenesis of humans and other species.



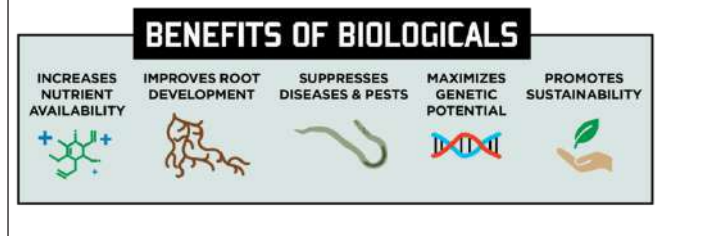
© 2020 Torrey Winlow LLC
U.S. Govt. has certain rights

Related news: Biologicals

Context: National Summit on Quality of Biologicals inaugurated.

What are Biologicals?

Biologicals are a **diverse group of medicines** which includes vaccines, growth factors, immune modulators, monoclonal antibodies, as well as products derived from human blood and plasma.



Space

WALLABY

Context:

WALLABY, or the **Widefield ASKAP L-band Legacy All-sky Blind survey**, is a radio telescope in Western Australia that is helping astronomers build a **three-dimensional map of the night sky, mapping galaxies as far as a billion light years away.**

Radio astronomy involves tracking the **signals from radio waves and helps detect and trace stellar objects that cannot be traced by light.**

What will it do?

- Provide pictures of where galaxies are actually located in relation to one another in three-dimensional space.
- It will be able to tell apart galaxies that appear clustered together but are actually millions of light years apart.

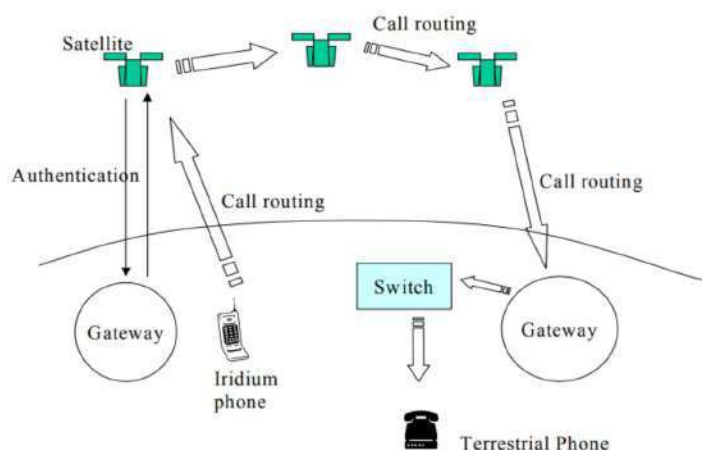
SNAPDRAGON SATELLITE

Context:

Qualcomm at CES 2023 has **announced Snapdragon Satellite- a satellite-based two-way capable messaging solution for premium smartphones.** The company has collaborated with **Iridium and Garmin** to introduce satellite connectivity for two-way texting in remote or no internet connectivity areas.

Features:

- According to a report, you can send only **160-character messages using Qualcomm's satellite connectivity feature.**
- You can type your own messages and choose the recipient from your phone's contact book which isn't possible with iPhone 14.
- Apple allows you to **send limited responses to emergency services.**



'SHUKRAYAAN'

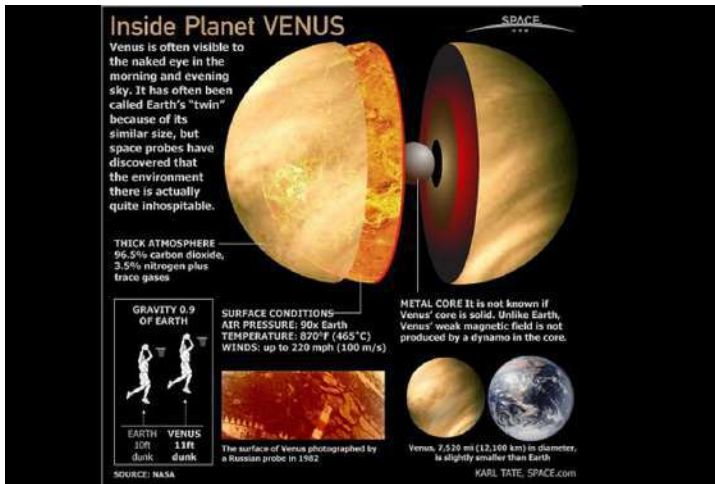
Context:

Professor at the **Indian Space Research Organisation (ISRO) and advisor to its space science program**, said that the organization is yet to receive approval from the Indian government for the Venus mission and that the **mission could as a result be postponed to 2031.**

Other countries' mission to Venus:

- Both the **U.S. and the European space agencies** have Venus missions planned for 2031 —**VERITAS and EnVision**, respectively.

ISRO had originally hoped to **launch Shukrayaan I in mid-2023** but cited the pandemic when it pushed the date to December 2024. Other ISRO missions, including **Aditya L1 and Chandrayaan III**, have also been affected by manufacturing delays and commercial launch commitments.



SOLITARY WAVES NEAR MARS

Context:

Scientists have reported the **first evidence of the presence of solitary waves or distinct electric field fluctuations in the Martian magnetosphere.**

The study of these waves is crucial as they **directly control particle energization, plasma loss, transport, etc., through wave-particle interactions.**

About Solitary Waves:

- Solitary waves are **distinct electric field fluctuations (bipolar or monopolar)** that follow constant amplitude-phase relations. Their shape and size are less affected during their propagation.
- These **pulses are dominantly seen in the dawn and afternoon dusk sectors at an altitude of 1000–3500 km around Mars.** The dominant occurrence of solitary waves in the dawn and dusk sector is still a mystery and needs further investigation.
- As these waves are known to be responsible for the **plasma energization and its transport in Earth's magnetosphere,** the team is further exploring their role in the particle dynamics in the Martian magnetosphere and whether such waves play any role in the loss of atmospheric ions on Mars.

GIANT METREWAVE RADIO TELESCOPE

Context:

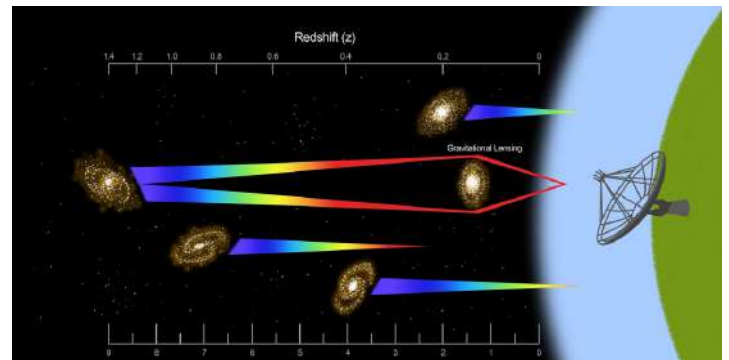
Astronomers from McGill University in Canada and the Indian Institute of Science (IISc) in Bengaluru have used **data from the Giant Metrewave Radio Telescope (GMRT) in Pune to detect a radio signal originating from atomic hydrogen in an extremely distant galaxy.**

About Atomic Hydrogen:

- It is the **basic fuel required for star formation in a galaxy.**
- When hot ionized gas from the surrounding medium falls onto the galaxy, **the gas cools and forms atomic hydrogen.**
- It then becomes molecular hydrogen and eventually leads to the formation of stars.

Key Findings:

- **Gravitational lensing was used,** in which the light emitted by the source is **bent due to the presence of another massive body** between the target galaxy and the observer, resulting in the **“magnification” of the signal.**
- The **atomic hydrogen mass of this particular galaxy is twice as high as its stellar mass.**
- The results demonstrate the feasibility of **observing atomic gas from galaxies at cosmological distances in similar lensed systems with a modest amount of observing time.**
- Opens up **exciting new possibilities for probing the cosmic evolution of neutral gas** through low-frequency telescopes.



JAMES WEBB TELESCOPE DISCOVERS ITS FIRST EXOPLANET

Context:

James Webb Space Telescope has discovered its first new exoplanet. The planet is named **LHS 475 b,** and it is roughly the same size as Earth.

About Exoplanets:

- Exoplanets are planets that **orbit other stars and are beyond our solar system.**
- If an exoplanet is too close to the star, it might be too hot to sustain liquid water.
- If it's too far, it might only have frozen water.
- When a planet is at a distance that **enables it to have liquid water, it is said to be in the “Goldilocks zone”.**

Why study exoplanets:

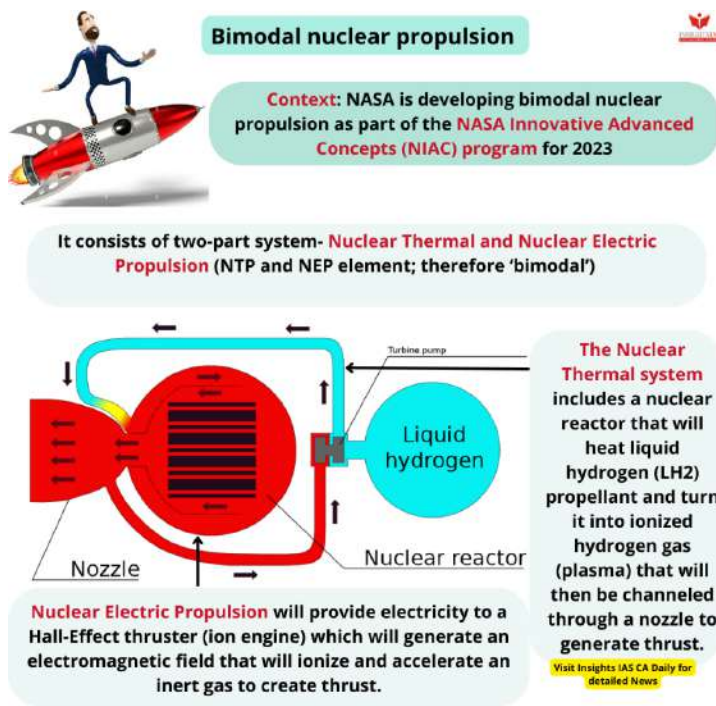
- Broadens our understanding of other solar systems
- Helps us piece together information about our own planetary system and origin.
- To search for living organisms in the universe.

NASA'S NUCLEAR ROCKET PLAN

Context:

NASA is developing **bimodal nuclear propulsion** – a two-part system consisting of Nuclear Thermal and Nuclear Electric Propulsion (NTP and NEP element; therefore 'bimodal') – that could enable transits to **Mars in just 45 days**

- The **bimodal nuclear propulsion** system uses a "wave rotor topping cycle"



Advantages over conventional chemical propulsion: fuel efficiency, a higher specific impulse (Isp) rating and unlimited energy density (virtually).

ISRO's programme:

- Indian Space Research Organization started with the three-phase development of a **100-Watt Radioisotope Thermoelectric Generator (RTG)**
- RTGs were first used in space during the **Cold War in 1961** for the US's Transit-4A Mission.

'GREEN COMET' AFTER 50,000 YEARS

Context:

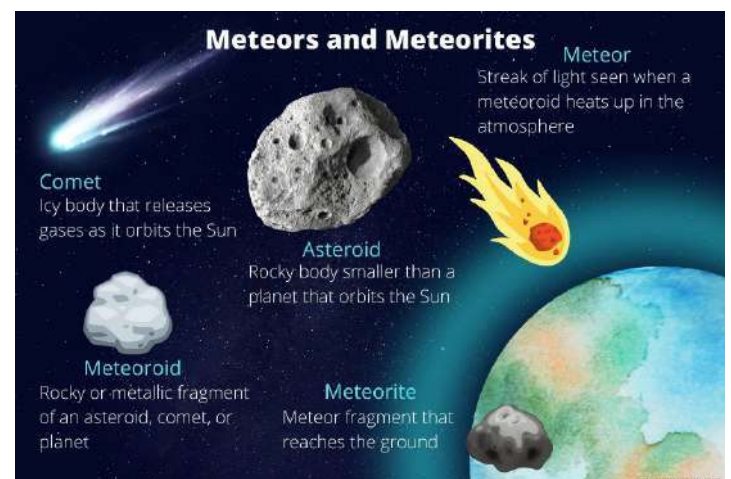
A green comet is estimated to come closest to Earth, termed the **C/2022 E3 (ZTF)**, the comet was named to refer to those who first spotted it – **astronomers using the wide-field survey camera at the Zwicky Transient Facility (ZTF) in the US.**

The Green Comet:

- Orbits sun in 50,000 years
- The comet comes from the Oort cloud
- It gets its beautiful green glow from diatomic carbon (pairs of carbon atoms that are bound together) that is present in the comet's head.
- When the ultraviolet rays of solar radiation fall on the comet, these molecules emit green light.
- Comet C/2022 E3 is visible in the northern hemisphere and as the sky gets darkens in the evening, it can be seen below and left to the Plough constellation handle.

About comets:

- Comets are **frozen rocky or gas-filled objects that are remnants of the formation of the solar system.**
- Due to their composition, characteristics, and the path they move in, they tend to leave a **light "behind them"**.



Oort Cloud:

- The Oort Cloud is a **predicted collection of icy objects that surrounds the sun at a distance of about one light-year.**
- The existence of the Oort cloud has not been directly observed, but it is thought to be the source of long period comets that have been observed entering the inner solar system.

ADITYA L1

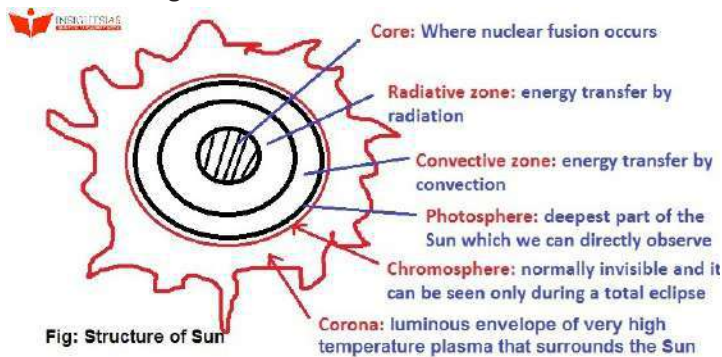
Context:

The Aditya-L1 mission will be launched by ISRO to the L1 orbit (which is the first Lagrangian point of the Sun-Earth system)

- Aditya-L1 is the first Indian space mission to observe the Sun and the solar corona
- **L1 orbit allows** Aditya-L1 to look at the Sun continuously
- It will be launched aboard a **PSLV-XL launch vehicle**

The objective of the mission:

To study solar upper atmospheric (**chromosphere and corona**) dynamics and understand the physics of the solar corona and its heating mechanism.



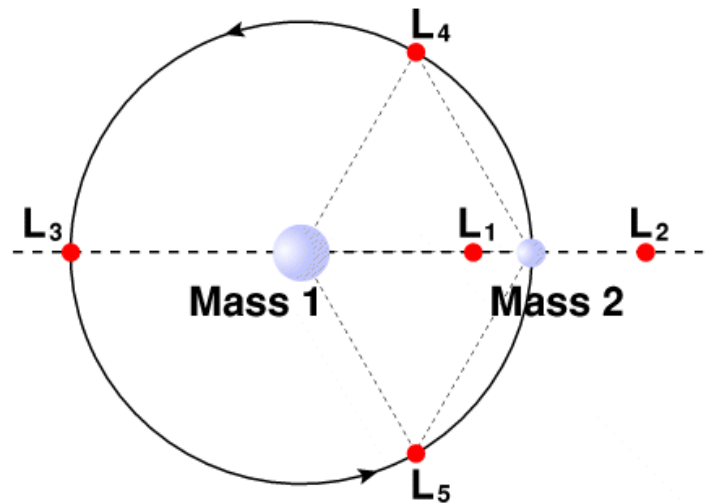
Payloads:

Aditya-L1 has seven payloads in total, of which the primary payload is the **Visible Emission Line Coronagraph (VELC)**.

- VELC is a solar coronagraph capable of simultaneous **imaging, spectroscopy and spectro-polarimetry**
- **Significance:** No other solar coronagraph in space has the ability to image the solar corona as close to the solar disk as VELC can. It can image it as close to 1.05 times the solar radius.

About Lagrange points:

The **Lagrange points** are points of equilibrium for small-mass objects under the influence of two massive orbiting bodies. At Lagrange points, the **gravitational pull of two large masses precisely equals the centripetal force** required for a small object to move with them. These points in space can be used by spacecraft to reduce fuel consumption needed to remain in position.



Environment

ZERO POACHING INCIDENTS IN ASSAM

Context:

PM lauds **rhino conservation efforts** by people of Assam after zero poaching incidents reported in 2022

- Recently, **CITES (in COP19) downgraded** the status of **Southern white rhinos** from Appendix I to Appendix II

RHINOCEROS

Assam recorded Zero poaching of Rhinoceros for 1st time in 2022 in the nearly 45 years.

Rhinos are one of the most critically endangered species on earth. Rhino horn is poached to sell on the black market mostly in China and Vietnam. The misconception that the keratin in rhino horn has medicinal properties that can cure a variety of ailments from hangovers to erectile dysfunction has made rhino poaching lucrative. **Indian Rhinos are Asia's largest species of Rhino.** In India they are found in Assam, West Bengal and Uttar Pradesh.

Assam is home to the largest population of greater-one horned rhinos, with more than 90% in Kaziranga National Park. Pobitora Wildlife Sanctuary (Assam) harbors the highest density of rhino population.

Assam now a Safe Abode for Rhinos

0 Poaching in 2022

Lowest Poaching in 32 years

Rhino conservation efforts:

- **Indian Rhino Mission (2020):** To increase rhino population in Assam to 3000 by establishing population in 7 protected areas.
- **Special Rhino Protection Force:** Assam government constituted it to check Rhino poaching and related activities.

TYPES OF RHINOS FOUND IN THE WORLD

 Black Rhino Critically endangered	 White Rhino Near Threatened	 Sumatran Rhino Critically Endangered
 Lesser One-Horned Rhino (Javan Rhino) Critically Endangered	 Greater One-Horned Rhino (Indian Rhino) Vulnerable	

Global rhino population

Greater one horned: 4214
Bhili: 4,295
Sumatran: 30-47
Asian: 75
White: 15,312

Visit Insights IAS Daily CA for detailed News

SILENT VALLEY BIRD SPECIES GO UP TO 175

Context:

A bird survey conducted at the Silent Valley National Park

identified 141 species, of which 17 were new. So far, **175 species of birds have been spotted in Silent Valley.**

- The survey is the **30th anniversary of the first bird survey in Silent Valley.**

Bird species found in Silent Valley National Park:

- **Brown wood owl, Banded Bay cuckoo, Malabar woodshrike, White-throated kingfisher, Indian nightjar, Jungle nightjar, and Large cuckooshrike** were among the 17 species newly identified in the Silent Valley.
- Silent Valley has several species **endemic to high-elevation areas** like Nilgiri laughingthrush, Nilgiri flowerpecker, Brown-cheeked fulvetta, Black-and-orange flycatcher, Grey-headed canary-flycatcher, greenish warbler, Common chiffchaff, Tytler's leaf warbler, Shaheen falcon, Nilgiri wood pigeon, and Malabar whistling thrush.

About Silent Valley National Park

- The park is located in **the Nilgiri hills**. It is situated in the **core of the Nilgiri Biosphere Reserve.**
- Silent Valley is home to the largest population of **Lion-tailed macaques, an endangered primate specie.**
- **River Kunthi** descends from the Nilgiri hills and traverses the entire length of the valley.



ASIAN WATERBIRD CENSUS (AWC) 2023

Context:

Wetlands International's largest annual water bird census named "**Asian Water Bird Census**" (AWC) 2023" began on January 7, 2023, across Asia and Australasia simultaneously and will conclude on January 22, 2023

About AWC:

- **AWC (started in 1987)** is part of the International Waterbird census coordinated by Wetland International
- In India, AWC is coordinated by the **Bombay Natural History Society (BNHS)** (founded in 1883, an NGO) and Wetland International (NGO).

Significance:

AWC supports the conservation of wetlands and water birds worldwide. AWC data is used to promote national water bird and wetland conservation and for other initiatives such as:

- **Waterbird Population Estimates Programme (WI)**
- **Global Species Programme** (Red List, by IUCN)
- **Important Bird Area Programme** (BirdLife international)
- **Bonn Convention** (for Migratory Species)
- **Central Asian flyway** Action plan

GOVT EXEMPTS KEY INFRA PROJECTS FROM WILDLIFE FUND RULES

Context:

The Centre has exempted road, rail, and transmission line projects from having to deposit **2%** and **0.5%** of the total project cost towards the cost of the **Wildlife Management Plan (WMP)** and **Soil and Moisture Conservation Plan (SMCP)** in a move that will benefit developers, but which has been criticised by environmentalists

Previous guidelines:

The Union environment ministry under **guidelines issued on June 7, 2022** made it mandatory for all projects to **deposit 2% of the total project cost** towards the cost of implementation of WMP and **0.5%** for SMCP, as the case may be, to obtain Stage-II (final forest) clearance under the Forest Conservation Act 1980 (FCA).

Why are the changes now?

The government decided to tweak the guidelines **for road and other linear projects** such as rail lines, sidewalks, trails, and transmission lines after it was pointed out that these projects would end up paying **for the entire length of the**

project even though only a **small part would pass through a forest**

- Now the cost of WMP and SMCP will be **proportionate to extent of forest land** involved instead of the total project cost

About FCA, 1980:

FCA regulated deforestation and aims to preserve the forest ecosystem of India and the integrity and territory of the forests. It prohibits the felling of forests for any non-forestry use without prior permission of the central government.

BHOPAL RAMSAR WETLAND

Context:

The National Green Tribunal has directed the **Central Pollution Control Board (CPCB)** and **Madhya Pradesh Pollution Control Board (MPPCB)** to periodically monitor the activities of a cruise vessel polluting the Bhoj wetland in Bhopal, MP.

About the issue:

The State government allowed **cruises of capacity 50 passengers (2011)** and plans to launch higher-capacity cruises in 2023. However, cruise vessels have been known to cause pollution in the lake and are in clear violation of EPA, 1986, and the state government's own notification of 2022 ("only non-motorized boats are permitted")

About Bhoj Wetland:

The wetland (man-made) is also a **Ramsar site with international importance** and has two lakes, Upper Lake, also called Bhojtal and Lower Lake or Chhota Talaab.

- It provides drinking water to over **1 million people**

About CPCB:

The Central Pollution Control Board of India is a **statutory organization** under the **Ministry of Environment, Forest and Climate Change**. It was established in 1974 under the **Water Act, 1974**. The CPCB is also entrusted with the powers and functions under the **Air Act, 1981**

About NGT:

The National Green Tribunal (under the Ministry of Law and Justice) is a statutory body made in the year 2010 to deal with environmental cases and the speedy implementation of decisions relating to them.

Related News:

Experts slam move to dewater Haiderpur wetland

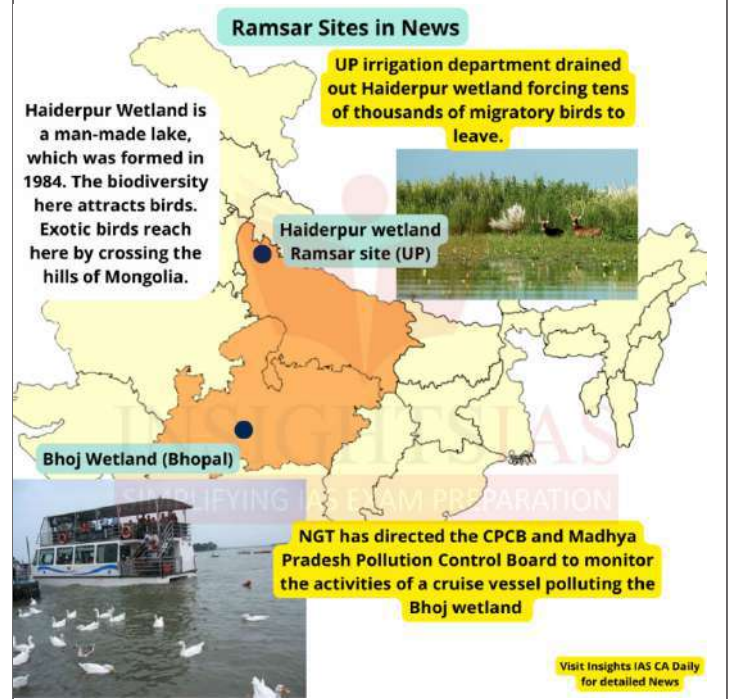
Context: The Uttar Pradesh irrigation department drained out **Haiderpur wetland**, a **protected Ramsar site** that some

believe to be the best upland in North India, forcing tens of thousands of migratory birds to leave the most prominent bird site in western Uttar Pradesh.

Reason for draining water out: This was done under pressure from farmers who complained of **water logging in their fields** due to high groundwater levels.

About Haiderpur Wetland

Haiderpur Wetland is spread over an area of about 7000 hectares on the **Muzaffarnagar-Bijnor border** between the **Ganges and the Solani River**. It is a part of **Hastinapur Wildlife Sanctuary**.



SANKHYA SAGAR WETLAND

Context:

- An artificial lake in MP- **Sankhya Sagar**, has virtually disappeared under a thick layer of an invasive aquatic plant (hyacinth), threatening the biodiversity of the water body.
- Sankhya Sagar - a **Ramsar site** (declared in 2022), is a wetland site designated internationally important by **UNESCO**.

About the lake and the invasive species:

- The lake spreads across 248 hectares (612.82 acres) and helps maintain the ecological balance of the **Madhav National Park**.
- The lake is home to marsh crocodile aka 'Mugger' (*Crocodylus palustris*), which is a **Schedule I** reptilian species protected under the Indian Wildlife (Protection) Act, 1972.
- **Water hyacinth** (*Pontederia crassipes*) is an invasive plant species (macrophytes) native to South Africa.

- Although the plant has some uses (acts as a water purifier by removing heavy metals), it poses a threat to aquatic biodiversity when it covers the entire surface of a water body.

Ramsar convention/The Convention on Wetlands of International Importance:

- It is an **international treaty** for the conservation and wise use of wetlands.
- It is named after the **Iranian city of Ramsar** (on the Caspian Sea), where the treaty was signed on 2 February **1971**. It came into force in **1975**.
- India has **75 sites** (as of August 2022) recognised under the convention.

Montreux Record:

- Montreux Record under the Convention is a register of wetland sites where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.
- It is maintained as part of the **Ramsar List**.

METHANOL BLENDED DIESEL (MD15)

Context:

The government ceremonially inaugurated the **demo run of an Inland Water Vessel** powered by Methanol blended Diesel (MD15) (15% methanol blended HSD)

Benefits of blending gasoline with Methanol:

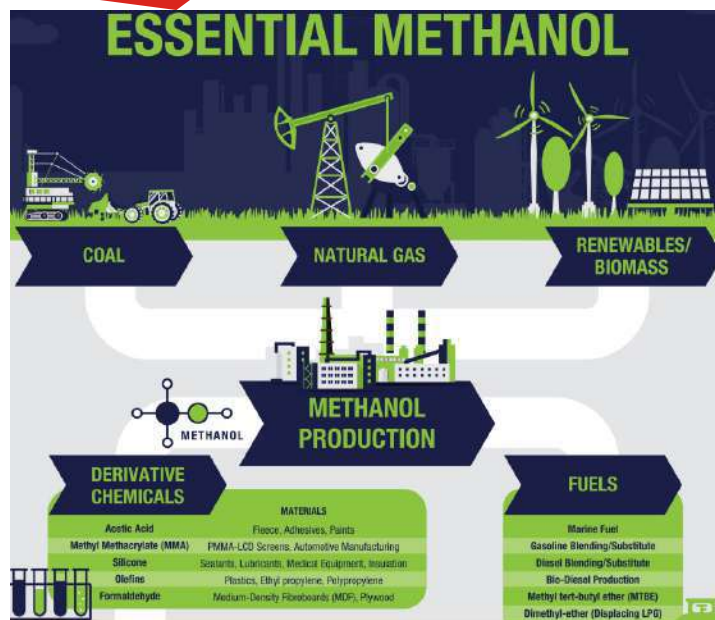
Blending 15% methanol in gasoline can result in **at least a 15% reduction** in the import of gasoline/crude oil. In addition, this would **bring down GHG emissions by 20%** in terms of particulate matter, NO_x, and SO_x, thereby improving urban air quality. It will also create nearly 5 million new jobs in the Methanol economy.

About Methanol Economy:

NITI Aayog's 'Methanol Economy' programme (launched in 2018) is aimed at reducing India's oil import bill, greenhouse gas (GHG) emissions, and **converting coal reserves and municipal solid waste into methanol**.

About Methanol:

Methanol is a **cost-effective alternative marine fuel**. It is less costly than other marine fuels and is economical in terms of developing the shoreside storage and bunkering infrastructure. It is also known as wood alcohol. Its properties are similar to ethanol. It is also used in products such as plastics, paints, and cosmetics.



About India Energy Week:

IEW 2023 is the **first major event under India's G20 Presidency**. It will be organized by the Ministry of Petroleum & Natural Gas.

- India Energy Week is the **only all-encompassing international energy event** supported at the highest level of the Indian government, with participation from all the Public Sector Undertakings (PSUs), and officially supported by the Federation of Indian Petroleum Industry (FIPI).

Other initiatives for Methanol-based economy: BIS has notified 20% DME in LPG; Road ministry has notified MD15, MD85 and MD100 blends; Asia's 1st canister-based methanol cooking fuel programme (by Assam Petrochemicals in 2018); Cola-to-Methanol plants (by BHEL, Thermax and IIT Delhi)

GENETICALLY ENGINEERED TREES

Context:

USA is debating whether to allow a **genetically engineered (GE) version** of the American chestnut tree (currently functionally extinct) to spread in the wild.

- The US has already developed and field tested the GE version, **known as Darling 58**, and is now awaiting clearance from government agencies to grow them in the wild.
- The population of the American chestnut**, a deciduous tree native to North America, dwindled in the first half of the 20th century when a fungal blight, *Cryphonectria parasitica*, killed over four billion trees.

Initiatives by other countries for GE Trees:

- China allows commercial plantation of GE Poplar Tree (insect-resistant)**

- **India experimenting with GE Rubber tree (extreme climatic stress-tolerant):** This is made possible by inserting **MnSOD gene** (manganese-containing Superoxide Dimutase)

What are GE Trees?

A genetically modified tree (GMT, GM tree, genetically engineered tree, GE tree or transgenic tree) is a tree whose DNA has been modified using genetic engineering techniques. It can help in fighting climate change by sequestering more carbon; boost biofuel production; help in growing more timber, pulp etc.

Concerns: GE Trees may contaminate other trees along with animals; not many scientific studies done on the long-term impact of GE trees

KELP FORESTS

Context:

- According to a new study, **Kelp forests (large brown algae seaweeds)** are declining because of climate change.

What is a Kelp Forest?

- They are **underwater** ecosystems formed in **shallow water** by the dense growth of several different species.
- **Kelp can also persist at lower latitudes**, aided by cool water upwelling or in deep-water refugia where they are protected by thermocline (*transition layer between the warmer surface water and the cooler deep water*).
- **Keystone Species:** They provide underwater **habitats to hundreds of species** and thus have great **ecological and economic value**.
- **Provide Ecosystem Services:** such as **coastal protection and carbon sequestration**.
- They also provide **recreational and tourism value** for scuba diving, snorkelling, and kayaking.
- Their loss will lead to a decline in the unique biodiversity that they support.

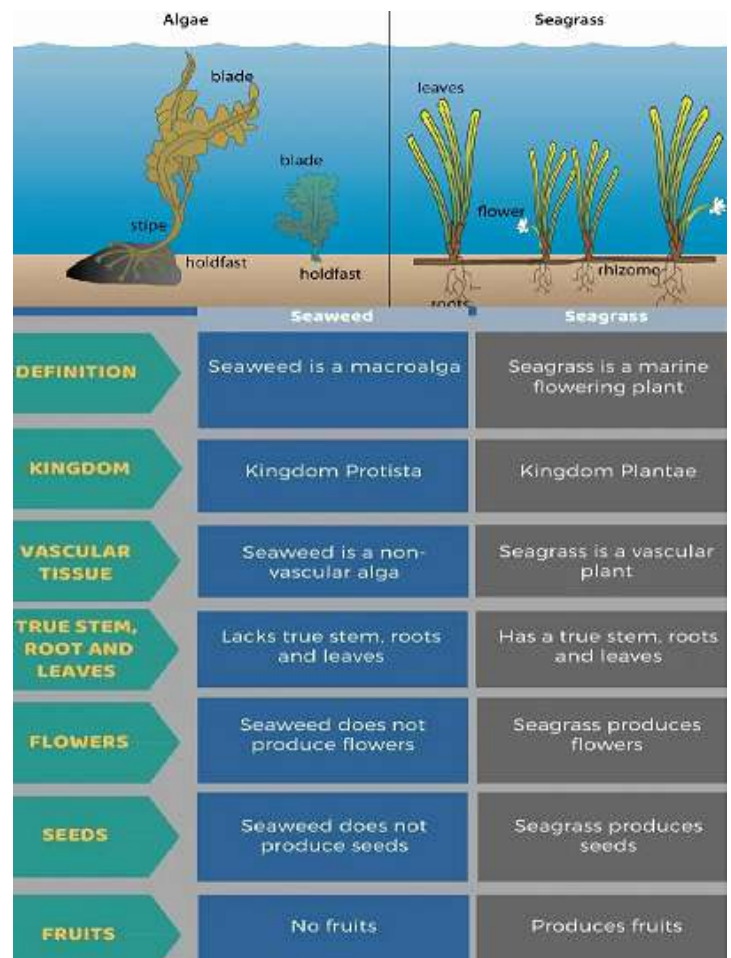
Findings of the study:

- Kelp populations at **equatorward-range edges** are **most vulnerable to climate change** as these locations are undergoing warming beyond **thermal tolerance thresholds**.
- The unique adaptive **genetic diversity** that the rear-edge populations (populations in warm, low-latitudes) may contain is **also under threat due to rapid warming**.

What is the thermal tolerance threshold?

The ability of an organism to withstand high temperatures after prior exposure to moderate temperatures. For example, *Ecklonia radiata*, the dominant and most widely distributed Laminarian kelp in the southern hemisphere, rapidly succumb to warmer temperatures in spring and summer when temperatures exceed 27 degrees Celsius.

Way ahead: Kelp forests are incredibly important ecosystems that are worth protecting and preserving for their **ecological, economic, and social benefits**. To ensure that genetic diversity is protected, it is essential to identify refuge areas, which are places that support a lone or extinct population of a once more common species.



InstaCurious: Kelp forests are often referred to as “**underwater rainforests**” because of their high biodiversity and productivity.

MANIPUR'S HEIMANG

Context:

Manipur is part of one of the **world's most biodiverse areas**, the Indo-Burma region, **heimang (Rhus chinensis)** a popular plant here has a long history of **culinary and medicinal use among communities in countries** where the tree grows.

About Heimang:

- It grows widely in **Manipur and other north-eastern regions**
- The spherical fruit has a **citrus-like tartness** and, it is packed with nutrients such as **polyphenols, flavonoids, and antioxidants**.
- Traditional healers of Manipur called **maibas or maibis**, prescribe heimang for common **gastrointestinal problems like diarrhoea and dysentery**.
- **It is also recommended to eat water-soaked fruit for indigestion and stomach ulcer**.
- Other parts of the heimang tree such as its **leaves (including the abnormal growths or galls on them), roots, stem, and bark** are also found to have **preventive and therapeutic effects**.
- The research found that compounds isolated from the **stem of the heimang tree can significantly suppress HIV-1 activity in vitro**.
- Local communities in the state also use heimang **leaves to prepare a herbal shampoo called chinghi by boiling them with rice water**.



[Pollution and Waste](#)

TECHNOLOGY FOR AIR QUALITY MONITORING SYSTEM (AI-AQMS V1.0)

Context:

Under the 'National programme on Electronics and ICT applications in Agriculture and Environment (AgriEnIcs)'- the Centre for Development of Advanced Computing (C-DAC), in collaboration with **TeXMIN, ISM, Dhanbad** has developed an outdoor air quality monitoring station to monitor environmental pollutants.

- It will monitor parameters like **PM 1.0, PM 2.5, PM 10.0, SO₂, NO₂, CO, O₂, ambient temperature, relative humidity, etc.**, for continuous air quality anal-

ysis of the environment.

- The new Air Quality Monitoring System (AI-AQMS v1.0) will soon be available for a wider market as the new technology is already transferred to **JM Enviro-Lab for further commercialization and deployment** in different **mining and cement industries**.

Related News:

(MeitY) also launched the **technology for biosensing systems** for the **detection of Endocrine Disrupting Chemicals in aquatic ecosystems (MEAN)** for **qualitative and quantitative analysis of EDC content in water bodies**.

About EDC:

Endocrine-disrupting chemicals (EDCs) are substances in the environment (**natural- air, soil, or water**) or **manufactured (man-made) products that interfere with the normal function of the body's endocrine system**.

The most common EDCs are-

- **Bisphenol A (BPA)** - used to make certain plastics and epoxy resins
- **Dioxins** - a byproduct in herbicide production and paper bleaching
- **Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)** - used in a non-stick pan, paper and textile coatings
- **Phthalates** - used to make plastics more flexible
- **Phytoestrogens** - found in plants that have hormone-like activity, such as tofu or soy milk
- **Triclosan** - found in some anti-microbial and personal care products
- **Endosulfan** - an organochlorine insecticide that caused health hazards in the state of Kerala.

POLLUTION MAP BASED ON ROADSIDE DUST

Context:

Geologists at Jadavpur University have found that they can get a preliminary sense of the **pollution in an area by collecting roadside dust and testing it with magnetic fields**.

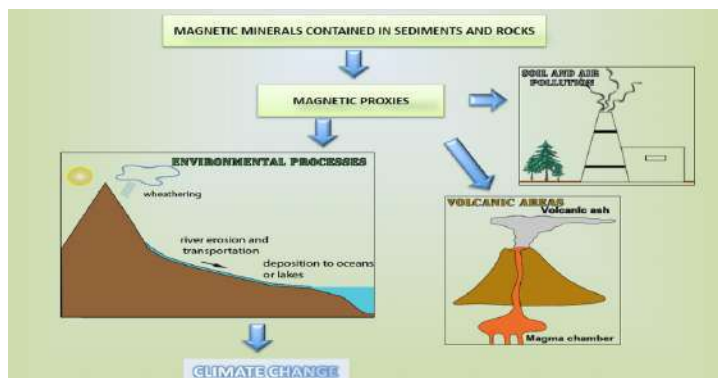
- The technique reveals the presence of different **magnetic elements, and by tracing them back to specific sources of pollution, the researchers could tell which sources were dominating in different places**.

About Environmental Magnetism:

- Their study is in the area of **environmental magnetism** - which is "magnetism as it depicts the impact

of climate change, pollution and environmental footprints on magnetic minerals present in environmental samples such as soil, dust, and sediments,”

- Environmental magnetism deals with the **identification of ferromagnetic grains and their grain size with an aim to reconstruct the way they are associated with the various environmental processes.**



‘NITRATE RADICALS’

Context:

A new study has found that **parts of India and China are hotspots for the night-time production of nitrate radicals** that can increase the **amount of deadly ozone and PM2.5 particulate matter in the atmosphere.**

About Nitrate Radicals:

- Nitrate radical is an **oxide of nitrogen that consists of three oxygen atoms bound to a nitrogen atom.**
- Nitrogen oxides are **reactive gases that regulate the formation of air pollutants, including ozone and PM2.5 particles.**
- Nitrate radicals will **oxidize gas pollutants such as volatile organic compounds (VOCs), which will then generate ozone and secondary organic aerosol.**
- **Ozone is an air pollutant that affects human health and crop yield.**
- **Secondary organic aerosol is an important component of PM2.5**

[Climate Change](#)

URBAN FORESTRY AND URBAN GREENING IN DRYLANDS

Context:

The food and Agriculture Organization (FAO) has released this report, under the framework of **FAO’s Green Urban Oases Programme**

Key points highlighted by the report:

- **35% of the world’s largest cities** (including New Delhi, Mexico City etc.) are built on the world’s dryland
- **Urban policies** have yet to incorporate **forestry and greening strategies** in the majority of dryland cities

Recommendations:

- Select local trees for green spacing
- Build local capacity and involve the community to create a sense of ownership
- Create policies for urban greening

About the Green Urban Oases (GUO) Programme:

GUO program contributes to FAO’s Green Cities Initiative (2020) which aimed to improve the livelihoods of urban and peri-urban populations in at least 100 cities in the next 3 years.

The objective of the programme:

- Turn dryland cities into **“green urban oases”**
- **Strengthen their overall resilience** to climatic, health, food, and economic crisis
- **To reduce the impact of urbanization on biodiversity** and the surrounding natural environment

What are drylands?

United Nations Environment Programme (UNEP) defines drylands according to an **aridity index (AI)**, which is the ratio between average **annual precipitation and potential evapotranspiration**; drylands are lands with an AI of less than **0.65** (Zero Point six five)

Dryland systems are **ecosystems characterised by a lack of water.** They include cultivated lands, scrublands, shrublands, grasslands, savannas, semi-deserts and true deserts. It makes up around 41% of the earth’s land (mainly in Asia and Africa).

Related news:

Previously (in October 2022), **Hyderabad** had bagged the prestigious **World Green City Award** presented by the International Association of Horticultural Producers (AIPH) for its initiative **“Green Garland to the State of Telangana (Telangana Ku Haritha Haram)”**. **Hyderabad** also bagged the award in the **‘Living green for economic recovery and inclusive growth’**.

THE GLASGOW FINANCIAL ALLIANCE FOR NET ZERO (GFANZ)

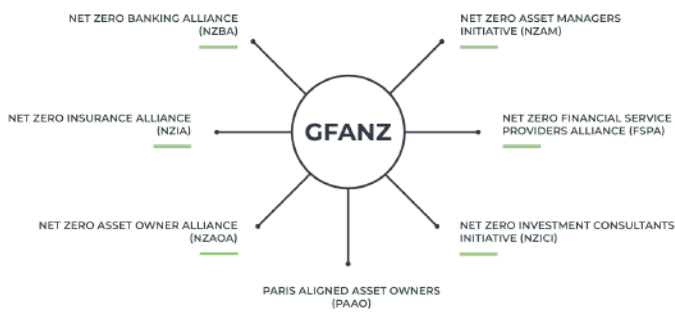
Context:

The world's largest banks and asset owners (members of GFANZ) that have **pledged Net Zero actions** are continuing to fund the expansion of the coal, oil and fossil gas industries.

About GFANZ:

The **Glasgow Financial Alliance for Net Zero (GFANZ)** is a global coalition of leading financial institutions that claim to be committed to **accelerating the decarbonisation of the economy**.

It was launched in 2021 by the UN Special Envoy on Climate Action and Finance and COP26 along with UNFCCC Race to Zero Campaign. It has over 550 members.



About Race to Zero Campaign:

Race to Zero is the **UN-backed global campaign rallying non-State actors** – including companies, cities, regions, financial, educational, and healthcare institutions – to take **rigorous and immediate action to halve global emissions by 2030** and deliver a healthier, fairer zero-carbon world in time.



Species in News

VIROVORE

Context:

The first known “**virovore**”- an **organism that eats viruses**- has been found.

Key findings:

- Two plankton organisms named **Halteria and Paramecium**, can not only feed on viruses but also **thrive by consuming them**.
- Scientists found that a **species of Halteria** - which are microscopic ciliates that populate freshwater throughout the world - **can eat huge numbers of**

infectious chloroviruses. Both share an aquatic habitat.

- The research also notes the **different patterns of consumption between Halteria and Paramecium** as the formerly used **chlorovirus as a source of nutrients and while the latter did consume the viruses, it did not grow much in population**.
- Additionally, the consumption of chloroviruses could have a profound impact on the carbon cycle

ASIAN ELEPHANTS

Context:

A recent study has found that the **endangered Asian elephants** which earlier used to roam freely across South-East Asia, all the way to China, but “**anthropogenic pressures**” have restricted them to mountain chains

How do Anthropogenic activities fragment Elephant Habitat?

- Enclosing reserves** without looking at **how the terrain is distributed leads to fragmentation**. If elephants cannot move from one valley to the next on relatively flat terrain, then population connectivity gets severed
- The Palghat Gap** (in the Kerala Western Ghats) is a break in the Ghats that is “relatively flat and consequently easily negotiable by elephants”. However, human settlements and crop cultivation have hindered the movement of the elephants, keeping them confined to the hilly areas.

Impact of fragmentation:

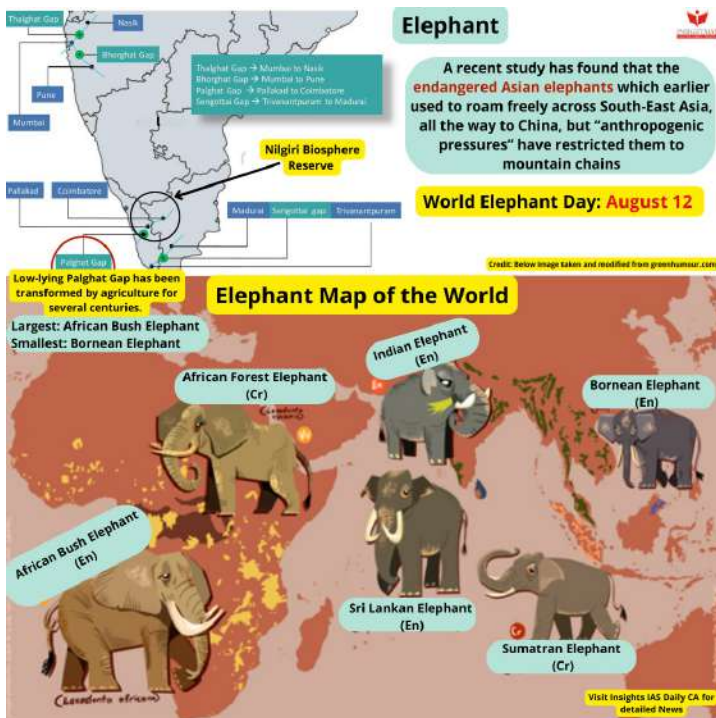
- Loss of Habitat** e.g., Indian Elephant has lost most of its optimal habitat in Nilgiris Reserve
- On genetic diversity**: If movement is restricted and gene flow reduced, there is more in-breeding, and low genetic diversity, pushing up chances of disease and lowering fertility rates.

About Nilgiri Biosphere Reserve (NBR)

- Name Origin**: From the **blue flower-clad mountains** of the Nilgiri plateau (TN)
- It was the **first biosphere reserve** in India established in the year 1986.
- It is located in the **Western Ghats** and encompasses parts of Tamil Nadu, Kerala and Karnataka.
- The confluence of Biotic zones**: It is at the confluence of **Afro-tropical and Indo-Malayan biotic zones** of the world.
- It is a **Biodiversity Hotspot**
- Fauna and Flora**: Nilgiri tahr, Nilgiri langur, and Freshwater fishes such as Nilgiri danio, Nilgiri barb and Bowany barb are endemic to this Bio-

sphere Reserve.

- **The river that originates from Nilgiri:** Bhavani, Moyar, Kabini (tributaries of the river Cauvery) and other rivers like Chaliyar, Punampuzha, etc., have their source and catchment areas within the reserve boundary.
- **Tribal:** Todas, Kotas, Irullas, Kurumbas, Paniyas, Adiyans, Edanadan Chettis, Cholanaickens, Allar, Malayan, etc., are native to the reserve.
- **Protected Areas in NBR:** Mudumalai Wildlife Sanctuary, Wayanad Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Mukurthi National Park and Silent Valley are the protected areas present within this reserve.



NEW DWARF BOA

Context:

Scientists have discovered a **new species of dwarf boa** in the **Ecuadoran Amazon** and named it after an Indigenous activist.

About dwarf boa:

- Up to **20 centimetres (7.8 inches)** long and with skin colouring similar to those of the boa constrictor -- the previously unknown snake **was named Tropidophis cacuangoae**.
- The name honours early 20th-century **Indigenous rights activist Dolores Cacungo**.
- The species is **unusual for having a “vestigial pelvis”** characteristic of **primitive snakes**.



ZEBRAFISH

Context:

A protein found in the **backbone of zebrafish** that plays a **positive role in disc maintenance and promotes regeneration in aged discs between vertebrae** can have potential therapeutic implications to promote regeneration in degenerated human discs.

- Currently, only symptomatic treatments for disc degeneration are available, including pain relievers or anti-inflammatories. In severe cases, **disc replacement or disc fusion surgery is performed**.
- A study by Agharkar Research Institute (ARI), Pune, discovered that a protein called **Cellular communication network factor 2a (Ccn2a)** secreted from **intervertebral disc cells induces disc regeneration in aged degenerated discs** by promoting cell proliferation and cell survival by modulating the pathway called the **FGFR1-SHH (Fibroblast growth factor receptor-Sonic Hedgehog) pathway**.

SALTIE CENSUS 2023

Context:

The population of **saltwater crocodiles in the water bodies of Bhitarkanika National Park** and its nearby areas in **Odisha's Kendrapara district** has marginally increased in 2023, according to the annual reptile census.

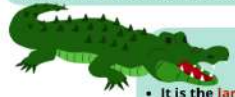
About the annual reptile census:

- **Techniques used for the census:** Spotlights at night, GPS, and Photographic Interpretation to measure the length and age of the crocodiles

Species of crocodilians



There are **three species of crocodilians**—saltwater, Mugger and Gharial. Latest Saltic census 2023 have estimated higher count of estuarine crocodiles in Bhitarkanika



Saltwater Crocodile (estuarine crocodile)

- It is the **largest** of all living reptiles. It is found throughout the east coast of India -**Bhitarkanika mangroves** and **Sunderbans National Parks**.
- Males are much larger than females, weighing even upto 1000Kg.
- **Habitat:** They inhabit coastal brackish mangrove swamps and river deltas.
- **IUCN:** Least concern

Mugger:

The mugger crocodile (Indian crocodile) is found throughout the Indian subcontinent.

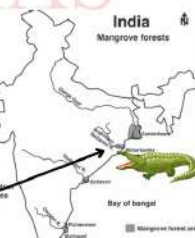
- The mugger is mainly a **freshwater species**, and found in lakes, rivers and marshes.
- They have **broadest snout of all**, they are keystone species of their habitat.
- **IUCN:** Vulnerable



Gharial:

The Gharial or fish-eating crocodile is native to the Indian subcontinent.

- Small released populations are present and increasing in the rivers of the **National Chambal Sanctuary**, **Katarniaghat Wildlife Sanctuary**, **Son River Sanctuary** and the rainforest biome of Mahanadi in **Satkosia Gorge Sanctuary, Orissa**.
- They are easily distinguishable due to their **long snouts (nose)**
- **IUCN:** Critically Endangered



Visit Insights IAS Daily CA for detailed News

Bhitarkanika National Park (Kendrapara district in Odisha): The park is **second-largest mangrove forest (after Sunderbans)** and is lying in the estuarial region of **Brahmani, Baitarni, Dharma and Patasala River**. It is also a **Ramsar Site**.

Crocodile conservation programmes in India:

- **The Gharial, Mugger and Saltwater crocodile conservation programme:** The breeding and rearing programme for three species of crocodilians — saltwater crocodile, mugger and gharial — had been started in 1975 in 34 places in West Bengal, Madhya Pradesh, Uttar Pradesh, Bihar and other states in India and Nepal.
- **'BAULA' PROJECT AT DANGAMAL:** 'Baula' is the Oriya term for Saltwater Crocodile. Dangmal is in the Bhitarkanika sanctuary.
- **CAPTIVE BREEDING OF CROCODILES AT NANDANKANAN, Odisha**
- Odisha is having the distinction for the existence of all three species of **Indian crocodilians**

GREATER SCAUP

Context:

A rare species of duck, Greater Scaup, locally known as **Sadangman**, was recently **sighted in Loktak lake in Manipur's Bishnupur district** after a gap of over 90 years.

About Greater Scaup:

- IUCN Status: **Least Concern**
- The greater scaup (*Aythya marila*) is a **medium-sized diving duck** belonging to the family **Anatidae**.
- The greater scaup species is distributed **in Asia, Europe, the United States, and Canada**.
- It is a rare visitor to the Indian Subcontinent

SPOT BELLIED EAGLE OWL

Context:

A 'Spot Bellied Eagle Owl' (*Bubo Nipalensis*) was spotted for the first time in the Seshachalam forest, and for the third time in Andhra Pradesh.

About Spot Bellied Eagle Owl:

- The bold **predatory bird** feeds on **small rodents and lizards**.
- The bird makes a **strange scream similar to humans** and it is hence called the '**Ghost of the Forest**' in India and '**Devil Bird**' in Sri Lanka.
- It is a forest-inhabiting species found in the **Indian Subcontinent and Southeast Asia**
- **IUCN Status:** Least Concern



KEWDA OIL

Context:

The recent growth in demand for **kewda oil** has **boosted the revenue of families** in the coastal **pockets of Odisha's Ganjam district** who have been eking out a living by preparing **aromatic kewda oil** for years.

About Kewda:

- **Ganjam kewda (*Pandanus fascicularis*)** oil is steam-distilled from the flower of the **aromatic screw pine** plant and used as an aromatic in the food industry and other sectors.
- It is registered under the **Geographical Indications of Goods (Registration and Protection) Act, 1999** by the Government of India.
- Colour depends on the sex of the pine. While the male pines are colourful and are used in oil making,

the female pines are green and later turn brown.

MAHABALI FROG

Context:

Mahabali Frog, which buries itself all through the year and surfaces only one day to lay eggs, is waiting to be elevated as the **State Frog of Kerala**

Mahabali frog

Context: Mahabali Frog, which buries itself all through the year and surfaces only one day to lay eggs, is waiting to be elevated as the **State Frog of Kerala**

Mahabali Frog (*Nasikabatrachus sahyadrensis*) also known as **Purple Frog** is one of the rarest frog species endemic to the Western Ghats.

IUCN Status: **Endangered**

Name: The frog (*Nasikabatrachus sahyadrensis*) was named after the mythical King Mahabali, who visits his people once a year from the underneath world



Significance of naming it as state frog of Kerala:

- The purple frog has been acknowledged by **bio-geographers** all over the world as one of the rarest kinds and a "once in a century find"
- The declaration will go a long way in **projecting Kerala as the ambassador of conservation of amphibians** and its habitats
- The conservation of Mahabali Frog will also help in **conserving the aquatic ecosystems** in the Western Ghats

Importance of Amphibians:

- Amphibians are considered as **nature's best insect and pest control agents**, but are largely neglected when it comes to conservation
- They eat **insect pests which is a benefit to agriculture** and help control mosquitos which benefits human health.
- Their moist, permeable skin makes amphibians vulnerable to drought and toxic substances, so they are **exceptional indicators of ecosystem health**.

Visit Insights IAS CA Daily for detailed News

MASS MORTALITY OF OLIVE RIDLEY TURTLES

Context:

Hundreds of **vulnerable Olive Ridley Turtles** (*Lepidochelys olivacea*) have washed ashore along the coastline between **Kakinada and Antarvedi** in the Godavari region during the ongoing annual breeding season on the east coast.

Reasons stated:

- The effluents are released from the **aqua ponds along the coastline**.
- The discharges from the pipelines of the onshore oil exploration facilities

About Olive Ridley Turtles:

- They are the **smallest and most abundant** of all sea turtles found in the world.
- They get their **name from their olive-coloured carapace**.
- Known for **Arribada** (Mass Nesting)

Protection Status:

- **Wildlife Protection Act, 1972:** Scheduled 1
- **IUCN Red List:** Vulnerable
- **CITES Appendix I**

Distribution:

They are found in **warm waters of the Pacific, Atlantic and Indian oceans**.

In India, they are conserved in Bhitarkanika National Park, Odisha, Gahirmata Marine Sanctuary, Odisha and the Godavari region of Andhra Pradesh.

NOBLE'S HELEN

Context:

An "**extremely rare**" swallowtail butterfly **Noble's Helen** (*Papilio noblei*) disappearing from its previously known ranges from **Myanmar and southern China to Vietnam** has been recorded for the first time in India's Namdapha National Park of Arunachal Pradesh.



Fig: Noble's Helen

Fig: Kaiser-e-Hind, State butterfly of ArP

About Namdapha National Park:

- **Namdapha** (named after a river originating in the park and it meets Noa-Dehing river (a tributary of the Brahmaputra)
- **Location:** It lies in close proximity to the Indo-Myanmar-China trijunction (in Arunachal Pradesh)
- It is the **fourth largest national park** in India after the Hemis National Park (Ladakh), Desert National Park (Rajasthan), and Gangotri National Park (Uttarakhand)
- It is also on the **Tentative List of UNESCO World Heritage Sites** in India and a biodiversity hotspot
- It is the **only park in the World** to have the **four Feline species** of big cat:- Tiger, Leopard, Snow Leopard, and Clouded Leopard
- **Famous for:** **Namdapha flying squirrel** (Critically Endangered species) and **Hoolock Gibbons** (the only 'ape' species found in India)

Prelims Links:

Q. Which one of the following National Parks has a climate that varies from tropical to subtropical, temperate and arctic? (UPSC 2015)

- | | | | |
|-----|------------------------|----------|------|
| (a) | Khangchendzonga | National | Park |
| (b) | Nandadevi | National | Park |
| (c) | Neora Valley | National | Park |
| (d) | Namdapha National Park | | |

Ans: (D)

- Invasion of *Senna spectabilis* is most severe in Wayanad Wildlife Sanctuary and nearby forests

About Wayanad Wildlife Sanctuary

- It is part of the **Nilgiri Biosphere Reserve** along with Mudumalai Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Mukurthi National Park, and Silent Valley.
- It has the **world's largest recorded population of the Asiatic elephant**
- **River: Kabini** and its three tributaries (Kabini is the tributary of the Kaveri rivers)



RED-HEADED VULTURES AND BLACK VULTURES

Context:

For the first time since 2017, birders spotted a **red-headed vulture (*Sarcogyps calvus*)** in the Bhatti mines area of Delhi, the same week a “**rarest of rare**” **black vulture (*Coragyps atratus*)** was sighted in Gurugram’s Chandu Budhera

Red-headed vulture (also called Asian King vulture or Pondicherry Vulture) was extensively found in India but its numbers drastically reduced after diclofenac poisoning.

IUCN: Critically Endangered

American Black Vulture:

This is mainly found in the **USA and South America**. Black vultures typically avoid crossing large bodies of water and do not cover long distances.

IUCN: Least Concern.

INVASIVE PLANT SPECIES IN KERALA'S WILDLIFE HABITAT

Context:

The Nodal Centre for Biological Invasions (NCBI) at the Kerala Forest Research Institute (KFRI) has come out with a management plan to **eradicate *Senna spectabilis***

The Plan: Landscape-level management of the tree:

Stage 1: The large trees need to be debarked

Stage 2: Once the trees start to dry up, manpower should be made available to remove the sprouting plantlets of *Senna spectabilis*

Stage 3: Planting of large saplings of native tree species should start

About *Senna spectabilis*:

- *Senna spectabilis* is a deciduous tree native to tropical areas of America
- The thick foliage of the tree arrests the growth of other indigenous tree and grass species. Thus, it causes food shortages for the wildlife population, especially herbivores
- **IUCN:** Least Concern



What is diclofenac poisoning?

Diclofenac, an anti-inflammatory agent and painkiller, is known to be linked to the rapid decline of vulture populations in Southeast Asia. The birds were exposed to the medicine after eating **carcasses of animals** that had **recently been treated with diclofenac** and subsequently died of **kidney failure**.

Defence

VILLAGE DEFENCE COMMITTEES (VDC)

Context:

With heightened terror activity in Jammu, the CRPF is reviving Village Defense Committees that was disbanded in the early 2000s

What is a JK Village Defence Committee (VDC)?

- The VDCs were first formed in the mid-1990s as a force multiplier against militant attacks. The VDCs have now been renamed **Village Defence Guards (VDG)**.
- Each VDG will be provided with a **gun and 100 rounds of ammunition**
- Persons leading the VDGs will be paid **Rs 4,500 per month** by the government, while others will get **Rs 4,000 each**

Origin of the VDCs:

The idea was taken from **the 1965 and 1971 Indo-Pak wars** when the government armed ex-servicemen and abled-bodied youth in villages along the border to guard against the infiltration of Pakistani spies. The same was used in 1995 when violence escalated in Kashmir.

Controversies surrounding the scheme:

- In the past VDCs have faced allegations of **human rights violations and other crimes**, including murder, rape and extortion.
- **SC judgement in the case of Salwa Judum (anti-Naxalite militia in the Chhatisgarh):** In 2008, the

Supreme Court directed the state government to stop supporting and providing alms to Salwa Judum. The state government has no right to provide arms to a civilian and allow him to kill someone else.

Government's stand:

- The government is not **absolving itself of responsibilities** by arming civilians.
- A State is empowered to empower its citizens. There are three aspects to this:
 - Protection
 - Confidence building of a community
 - Visibility of armed people that could act as a deterrence in case of an attack

VARUNA' – 2023

Context:

The 21st Edition of the **Bilateral Naval Exercise between India and France** – Exercise **Varuna** commenced on the Western Seaboard

While the bilateral exercise between the two navies **was initiated in 1993, it was christened as 'VARUNA' in 2001** and has become a hallmark of the India – France strategic bilateral relationship.

The exercise **facilitates operational-level interaction** between the two navies to foster mutual cooperation for good order at sea, underscoring the shared commitment of both nations to security, safety, and freedom of the global maritime commons.

List of exercises between India and France:

Army	SHAKTI
Navy	VARUNA
Air Force	GARUDA

LEOPARD 2 TANK

Context:

Germany is under pressure to **authorize sending Leopard 2 tanks to Ukraine** from other European nations.

- The Leopard 2 is one of the **world's leading battle tanks**. Until now, both **Ukraine and Russia have used Soviet-era tanks in battle**, and the Leopards would offer a big step forward in capability.

What is a Leopard 2 tank?

- The **Leopard 2 is one of the world's leading battle**

tanks, used by the German Army for decades and by the **militaries of more than a dozen other European nations**, as well as by the armies of countries as far apart as Canada and Indonesia. It has seen service in conflict zones of Afghanistan, Kosovo, and Syria.

- The tank, which is **powered by a diesel engine**, features **night-vision equipment and a laser range finder** that can measure the distance to an object, enabling it to better aim at a moving target while travelling over rough terrain.

Why does Germany have to approve the transfer of Leopards owned by other countries?

- **Re-exporting German-made tanks** without permission would be **illegal**.
- The contracts that a country signs to obtain weapons from German manufacturers or German military stocks require them to **request a re-export license from the federal government should they wish to send such weapons to another country**. (The United States has similar requirements, as do other countries, including Switzerland.)

EXERCISE CYCLONE-I

Context:

The first-ever joint exercise between the special forces of the Indian Army and the Egyptian Army named “Exercise Cyclone-I” is in progress at Jaisalmer in Rajasthan since 14 January 2023.

In 2019, India held its **first-ever joint exercise with African countries**, Africa-India Field Training Exercise-2019 (AFIN-DEX-19), which saw participation by 17 African countries.

INS VAGIR

Context:

The Indian Navy commissioned the **fifth diesel-electric Kalvari-class submarine Vagir**. It is among the **six submarines being built by the Mazagon Dock Shipbuilders Limited (MDL), Mumbai, in collaboration with the French M/s Naval Group under Project 75**.

Specifications of Vagir:

- The latest submarine gets its name **from the erst-while Vagir**, a submarine which served the Navy between 1973 and 2001.
- The construction of the **new Vagir began in 2009** also known as **Sand Shark**.
- Vagir represents **stealth and fearlessness**, as it comes **with features like an advanced acoustic ab-**

sorption technique.

Kalvari-class background

- **Kalvari-class submarines** include other vessels such as the **INS Kalvari, INS Khanderi, INS Karanj, INS Vela and INS Vagsheer**.
- The design is based on the **Scorpene class of submarines designed and developed by the French Naval Group formerly DCNS and the Spanish state-owned entity Navantia**.
- They have **Diesel Electric transmission systems**.
- These are **attack submarines or ‘hunter-killer’ types i.e., they are designed to target and sink adversary naval vessels**.

How does a Submarine work?

A submarine is a type of ship that can travel both above and below the surface of the sea.

Types of submarines

Submarines can either be **diesel-electric or nuclear-powered**, both types can carry **nuclear warheads**. Here's how they differ.

A submarine (or any boat) can float when the **mass of water that it displaces (pushes out of the way) is equal to the mass of the boat**.

$F_{\text{buoyant}} = F_{\text{grav}}$ → then it floats

$F_{\text{buoyant}} < F_{\text{grav}}$ → then it sinks

Working principle of Submarines

<p>Diesel powered</p> <ul style="list-style-type: none"> Require more frequent resurfacing making them easier to detect Tend to be smaller Cheaper to run and maintain <p>SSK: Conventionally powered attack submarine SSB: Conventionally powered ballistic missile submarines</p>	<p>Nuclear powered</p> <ul style="list-style-type: none"> Can remain completely submerged for years, limiting detection Tend to be larger Require more expensive infrastructure and maintenance <p>SSN: Nuclear-powered attack submarine SSBN: Nuclear-powered ballistic missile submarines</p>
---	---

The **displaced water causes an upward force called buoyancy**. Buoyancy acts in the opposite direction to gravity, which would pull the ship down.

The Indian Navy currently operates **16 diesel-electric conventional submarines (SSKs)**, of which seven Russian Type 877 EKM 'Kilo'-class variants and four HDW Type 209/1500 boats were all between **20 and 34 years old**, with several due soon for retirement. The remaining **five SSKs, that joined service 2017 onwards, were the French licence built Kalvari (Scorpene)-class SSKs**

MILITARY EXERCISE

- **AMPHEX (Kakinada in Andhra Pradesh):** It is a **biennial tri-services amphibious exercise**, focused on the joint training of elements of all three services in various facets of amphibious operations to enhance interoperability and synergy.
- **TROPEX-23:** It is a biennial (**every two years**) Theatre Level Operational Readiness Exercise (TROPEX), aimed at **“validating and refining” the Navy’s concept of “operations”** as well as to test overall combat capabilities
- **Tarkash 2023:** It is a counter Terrorism Exercise between India’s National Security Guard and US Special Operations Forces

HYPERSONIC TECHNOLOGY DEMONSTRATOR VEHICLE (HSTDV)

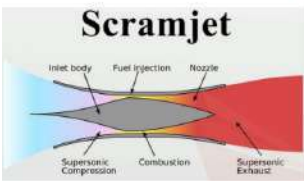
Context:

India's DRDO tested its own hypersonic technology demonstrator vehicle (HSTDV) powered by a scramjet engine.

- There is an ongoing race among China, Russia and the US to manufacture manoeuvrable hypersonic weapons that fly over five times the speed of sound and can negate missile defence systems

About DRDO:

The Defence Research and Development Organisation is the premier agency under the Department of Defence Research and Development in the Ministry of Defence, charged with the military's research and development, headquartered in Delhi, India




Scramjet

A turbofan engine is a jet engine variant in which, a turbo (a fan) forces more air into the engine's cylinders which, added to some extra fuel, means more power can be created in the cylinder

A ramjet, or aero thermodynamic duct, is a form of airbreathing jet engine that uses the forward motion of the engine to produce thrust.

A Scramjet is advanced form of Ramjet

Schematic of Test Wind Tunnel



Scramjet Engine

Scramjet

- A scramjet (supersonic combustion ramjet) is a variant of a ramjet airbreathing jet engine in which combustion takes place in supersonic airflow.
- Oxygen (from atmosphere) + Hydrogen (already stored in the vehicle) trigger combustion, and produce the desired thrust to lift satellite to the designated orbit.
- Advantage - reduce 70% of propellant that has to be carried in the vehicle.

(a) Turbojet

(b) Ramjet

(c) Scramjet

Compression Combustion Expansion

Trisonic Wind Tunnel

A Trisonic Wind Tunnel (TWT) is a wind tunnel so named because it is capable of testing in three speed regimes - subsonic, transonic, and supersonic.

- Wind tunnels are devices used to study the effects of airflows on solid objects (scale models of ISRO rockets and spacecrafts).
- Blow down test - Stored gases are released and blown through the tunnel's test section, simulating flight conditions.

Visit Insights IAS Daily CA for detailed News

VEER GUARDIAN 2023

Context:

Veer Guardian 2023 is the inaugural edition of the 16-day bilateral air exercise between the Indian Air Force and the Japan Air Self-Defence Force has concluded in Japan.

Other exercises with Japan:

- Japan-India Maritime Exercise (JIMEX)
- Malabar Exercise (India – US-Japan - Australia)



Q. Consider the following in respect of the Indian Ocean Naval Symposium (IONS): (UPSC 2017)

- The inaugural IONS was held in India in 2015 under the chairmanship of the Indian Navy.
- IONS is a voluntary initiative that seeks to increase maritime cooperation among navies of the littoral states of the Indian Ocean Region.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: B

IONS is a voluntary initiative that seeks to increase maritime cooperation among navies of the littoral States of the Indian Ocean Region. The inaugural IONS was held in New Delhi, India in 2008.

CONTENT FOR MAINS ENRICHMENT (ETHICS/ESSAY):

Society

PRAJJWALA CHALLENGE

Context:

Ministry of Rural Development launches Prajjwala Challenge inviting ideas, solutions and actions to transform the rural economy

- The challenge is launched under Deendayal Antyodaya Yojana – NRLM (DAY-NRLM aims to support rural poor households into joining self-help groups)

- The Mission so far has mobilised **more than 87 million women** into the Self-Help Groups and their federations.
- **The Prajjwala Challenge** will also be shared in the **Manthan portal** by the office of the Principal Scientific Advisor (Under DST and not rural development)
 - **The Manthan platform** promotes collaboration between industry and scientific research to help meet India's national targets and SDGs.

FOSTER FARMER: FEEL GOOD

Sudhir Kumar Sundriyal (from the Pauri district of Uttarakhand) established **Feel Good Charitable Trust** in January 2015, through which he distributes **saplings and plants** and helps farmers borrow small equipment through a machinery bank. He has been doing this for 8 years now. He helps people in the **Pauri district earn livelihoods in villages** so that they do not have to migrate to big cities

Feel Good has also undertaken other initiatives:

- It has built **reservoirs in the district** and farmers are conducting water conservation campaigns
- It helps raise funds for **60 children's education** in the Pauri district

RAJASTHAN'S 'TREE TEACHER'

Rajasthan's 'Tree teacher'



Bheraram Bhakhar

Bheraram Bhakhar (a primary school teacher in Rajasthan's Barmer district) has achieved a record in the **family forestry campaign** by planting **four lakh trees** and connecting **1.2 lakh people** with his drive during the last 24 years

Land for life Award 2021 (by UNCCD) was conferred to the Familial Forestry of Rajasthan, India.



Values shown by him:

- **Leadership in caring for environment** and showing the way towards green
- **Empowering citizens:** Green or eco socialization brings environmental sensitivity and empowerment.
- **Generated a sense of ownership** among the people and inspired them to protect the trees planted by them
- **Courage and dedication** to work tirelessly for a social cause
- **Persuasion:** He has taken out several yatras to generate awareness on environment protection and family forestry.
- **Philanthropy:** He had been spending his one month's salary every year on tree plantation since 2002, and gifting saplings on the occasion of marriage, birthday, anniversaries, festivals.
- **Environmentalism:** Increasing biodiversity through planting local varieties of native trees of khedji, jaal, rohida and kair



What is Forestry?

Forestry is the science or skill of growing and taking care of trees in forests, especially in order to obtain wood.

What is Familial Forestry?

Familial Forestry means caring for the tree as a family member so that the tree becomes a part of the family's consciousness. This movement involved more than a million families from more than 15,000 villages of desert-prone northwest Rajasthan.

Visit Insights IAS Daily CA for detailed News

A GENTLER WORKPLACE

Context:

Recently Chief Justice of India (CJI) Chandrachud brought his daughters to Supreme Court.

Other examples of children in the workplace:

- **Jacinda Ardern** (New Zealand's prime minister) just became the first world leader to give birth in office in almost 30 years.
- **Australian Politician Larissa Waters** became 1st in the world to breastfeed her baby in Parliament.

OXFAM REPORT

As per the latest **Oxfam Report** titled 'Survival of the Richest':

- **Global:** Richest 1% bag nearly twice as much wealth as the rest of the world put together over the past two years
- **India:** The richest 1% in India now own more than **40% of the country's total wealth**, while the bottom half of the population together share **just 3%** of wealth between **2012 and 2021**
 - **Female workers** earned **only 63%** of male workers earning
 - Since the Pandemic, **billionaires' wealth** has surged more than 100%
 - **Suggestions:** Introduce Wealth taxes and windfall taxes, and raise taxes on capital gains.

What is Oxfam?

Oxfam is a **British-founded confederation** of 21 independent charitable organizations focusing on the alleviation of global poverty, founded in 1942 and led by Oxfam Interna-

TRIBES GET DOCUMENTS

Direction:

This example can be used in governance case studies/Ethics case studies as an innovative step.

Context:

Wayanad becomes the **first district in the country** to provide basic documents and facilities such as Aadhaar cards, ration cards, birth/death certificates, election ID cards, bank accounts and health insurance to all tribespeople.

Works done by the administration:

- Akshaya Big Campaign for Document Digitalisation (ABCD) campaign organised by the Wayanad district administration for people's awareness.
- **Collaboration with different departments:** It organised over 26 campaigns across the district so far with the support of the Revenue and Tribal Development departments, District IT Mission, and local administrative bodies
- **Ensuring basic documents to all citizens belonging to the Scheduled Tribes** communities and these documents are digitalised and saved in Digi Locker accounts opened for them

Benefits:

- People (mostly tribal) can avail themselves of **the government incentives**
- It will save them the time and effort of visiting several offices
- **Digitalising** the documents through DigiLocker will help the beneficiaries **easily retrieve the documents** in case they are lost or damaged
- **Build trust** between people and the government.

FOSTER FARMER: FEEL GOOD

Sudhir Kumar Sundriyal (from the Pauri district of Uttarakhand) established **Feel Good Charitable Trust** in January 2015, through which he distributes **saplings and plants** and helps farmers borrow small equipment through a machinery bank.

Feel Good has also undertaken other initiatives:

- It has built **reservoirs in the district and farmers** are conducting water conservation campaigns
- It helps raise funds for **60 children's education** in the Pauri district

MISSION PARIVARTAN

Direction:

The example can be used to show changes in society but also deep-seated mentality remains an obstacle to women's empowerment.

It is a joint venture of the **Delhi government and automaker Ashok Leyland** to induct women drivers into **Delhi Transport Cooperation and cluster buses** for promoting **women's safety in public transport**. Under this programme, the women drivers underwent a comprehensive training programme where they were also taught **how to repair a bus** in case it breaks down.

However, they face various issues in doing their jobs:

- Bus driving and transport sector is seen as a **male-dominated field** and women are often not accepted
- **Lack of respect for women drivers**
- **Heated arguments** by male passengers often while being drunk
- **Taunts by men peers:** E.g. "If you don't know how to drive, why did you even become a driver?"

AYMANAM

Direction:

The example can be used for inclusive, sustainable and gendered tourism

Aymanam is a model Responsible Tourism (RT) village in Kottayam (Kerala), where about 80% of the work - including accommodation, food and community tours, is being managed by women

- It is a part of the **Kerala government's initiative** to create a women-friendly tourism network in the State.

Significance:

- It will **redress the gender balance** in the tourism sector by showcasing women's talent.
- Turn the village into a hub of women-friendly destinations
- It will give women an equal voice in the tourism
- Help empower women at the grassroots level by highlighting what they do and sell.

Responsible Tourism is about “making better places for people to live in and better places for people to visit.” Responsible Tourism requires that operators, hoteliers, governments, local people and tourists take responsibility, and take action to make tourism more sustainable.



Space

PARASTRONAUT

Direction:

This could be used as an example to show that ‘**disability is not a limitation**’.

European Space Agency (ESA) will announce the 1st astronaut -- or astronauts -- with a physical disability soon, under ESA’s “**parastronaut project**”.

People with **physical disabilities** have previously been excluded from being an astronaut -- due to strict selection requirements.

After carrying out a feasibility study, the ESA said potential candidates could include people who have **deficiencies in their lower limbs, whether from amputation or congenital defects**.

WALTER CUNNINGHAM DEAD

Walter Cunningham, a civilian astronaut whose only mission in space, aboard **Apollo 7**, revived NASA’s quest to put men on the moon in the wake of a **landing-pad fire** that killed **three astronauts**, died recently.

Learning from his life:

- **Multiple profiles:** Cunningham was a physicist and a former Marine pilot as well as an astronaut
- **Many 1st:** He became the first NASA astronaut to appear on television from space.
- **Courage:** His team’s flight — **the first manned Apollo mission** — buoyed an America shocked by the capsule fire that **took 3 lives** (in rehearsal mission for Apollo 1 mission in January 1967)
- **Hope:** He had said that “We carried the nation’s hope with us”
- **Leadership:** Soon after Apollo 7, Cunningham was named **director** of what became known as the **Sky-lab program**, which developed America’s first space station.



Governance

DWARKA: HOW A DELHI DISTRICT STOPPED THE GROUND FROM SINKING

As India's Himalayan town of **Joshimath** has been sinking, **Delhi's Dwarka district** reduced its reliance on groundwater and reversed the trend of land subsidence.

A **University of Cambridge** report corroborated that the neighbourhood had subsided by around 3.5cm (1.4in) in 2014 alone. When groundwater is pumped out, the land above it sinks - and this leads to land subsidence.

Initiatives taken:

- Heavy fines were imposed on buildings still using borewells: By 2016, almost all housing societies had stopped using borewells
- Two local lakes (including a 200-year-old local reservoir named 'Naya Jhod') were rejuvenated
- Mandatory to irrigate public parks using only sewage and treated surface water
- Residents began harvesting rainwater to increase the water table in the area

Usages: This example can be used as a conclusion or innovative steps in Geography/Disaster Management Questions.

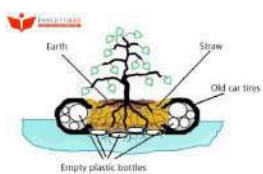
Environment

CHINAMPAS: FLOATING GARDENS MADE OF PLASTIC BOTTLES

In Singapore, a group of volunteers are encouraging people to turn plastic bottles into mini floating gardens, known as chinampas.

Origin: It was used as an ancient farming technique by the Aztecs (Mexico), who built artificial floating islands in lakes and found a way to grow plants and food on them.

Usage: This can be used as an innovative example to recycle and reuse plastic bottles.



Health

CASE STUDY: CUBAN HEALTHCARE

Context:

Recently, Cuban revolutionary Che Guevara's daughter Aleida visited India.

Success:

- **Life expectancy in Cuba** is higher than that of the US (72.5 vs. 71.9) (India's 70.19)
- Cuba has eliminated **polio, tuberculosis, typhoid fever, and diphtheria**
- **Malnutrition** incidence among (1-15 years old) is **0.7%** compared with 5% in the US
- Impressively **high ranking on major health indicators**, despite economic handicaps

How has Cuba developed one of the best healthcare systems?

- **Government-Run Healthcare:**
 - The Cuban government operates a **national health system**
 - The Cuban government has assumed **fiscal and administrative** responsibility for the health care of all its citizens.
 - **There are no private hospitals or clinics** as all health services are government-run.
 - It regards **accessibility to healthcare as a fundamental right** of its citizens.
- **Preventive Healthcare:**
 - Cuba's health policy emphasizes **prevention, primary care, services** in the community, and the active **participation** of citizens.
 - It offers the simplest check-up to the most complex surgery, free of charge
- **India's Connection:**
 - PM Modi's '**One Earth-One Health**' proposal is inspired by the global health philosophy of the late Cuban leader Castro.
 - **Cuba sends surplus physicians ("Army of white coats")** and health professionals abroad annually (including India): "Cuban doctors are always the first to arrive and the last to leave."

Ethics

DOCTOR DIDIS OF JHARKHAND

Doctor Didis (or Pashu Sakhi) of around 1,000 women in all 24 districts of Jharkhand have been recruited since October

Values that can be learnt:

- **Social engagement and persuasion:** They advise farmers on health checks of their livestock, vaccinations, deworming, hygiene, breeding, feeding and management of animal waste.
 - These women go door to door when called.
- **Collaboration:** Jharkhand Government (under its Jharkhand Opportunities for Harnessing Rural Growth (JOHAR)) and central government (under National Rural Livelihood Mission) together with World Bank
- **Capacity building of community resources:** The pashu sakhis receive a 30-day training program (Introductory, Practical, and Higher) at three levels in seven-day instalments on how to care for poultry, goats, and pigs.

What is social capital?

Social capital is a set of **shared values or resources** that allows individuals to **work together** in a group to effectively achieve a common purpose.



WHAT MAKES YOU HAPPY?

Direction:

The image shows examples of smaller things that can bring joy and happiness for a moment. Previously UPSC had asked Questions on 'Happiness' in the Ethics paper. You can cite these examples in your answer.



AN EPISODE ON 'PEACE'

Direction:

This can be used to start an essay or Ethics answer - to describe the keyword, Peace.

Once, a King offered a prize to the artist who would paint the best picture of peace. Many artists tried. The king looked at all the paintings and shortlisted two so that he could finally select one as the best painting. One picture showed a calm lake as a perfect mirror for the mountains all around it. Overhead was the blue sky with white clouds, beautifully reflected in the lake. Everyone thought that it was a perfect picture of peace. The other picture also had mountains, but those were rugged and bare. Above was a stormy sky from which rain fell and in which lightning played. Down the side of the mountain, a huge foaming waterfall releasing water with great force was also depicted. But behind the waterfall in a bush a bird had built a nest and was feeding her babies in perfect peace. Which painting do you think won the prize? The king chose the second picture. Do you know why? The King stated the reason, "Because peace does not mean the absence of noise, trouble, or disturbances. Peace means to be in the midst of all these and still remain calm in your heart." You can use this illustration.

PERSONALITIES



Quote on Healthcare: Dr Martin Luther King once remarked, *“Of the forms of injustice, inequality in healthcare is the most shocking and inhumane.”*






‘Dr. Hifive’

Context: Dr. Sayed Mujahid Husain, has turned his clinic in Bengaluru into a fun and interactive space for children, engaging them in conversation or getting them to play with soft toys.

About Dr. HiFive:

- An internet sensation, Dr. Husain has 2.8 lakh followers on his Instagram account, **dr_hifive**. He hosts videos of him **vaccinating children on Instagram, drawing a great deal of appreciation.**
- Dr. Husain has had parents bring their **wards from nearby cities and towns for vaccination.**

Person in News	Contribution	
Sanjana Tiwari	<ul style="list-style-type: none"> • A transwoman, HIV positive, former sex worker and an autorickshaw driver in North-west Delhi. • Now a crusader for AIDS and other sexually transmitted diseases. • Campaigns for sexual and digital literacy among LGBTQ youth • Beating the biases • Courage: Stands up to her identity and social pressures • Leadership 	
Manpreet Monica Singh	<ul style="list-style-type: none"> • Indian-origin • Sworn in as a Harris County judge (US) • First female Sikh judge in the US. <p><i>“When they see someone of colour, someone a little different, they know that possibility is available to them. Manpreet is not only an ambassador for Sikhs, but she’s an ambassador for all women of colour.”</i></p>	

<p>Faiz Ahmed Mumtaz, DM, Jamtara Dist, Jharkhand</p>	<ul style="list-style-type: none"> • Renovation of 118 dilapidated government buildings and converted them into public libraries. • Jamtara - the great social reformer Ishwar Chandra Vidyasagar spent the last two years of his life here for the upliftment of tribals. 	
<p>Kundan Kumar, DM, West Champaran, Bihar</p>	<ul style="list-style-type: none"> • Set up a startup zone in Chanpatia for the migrant workers who returned to the district during the Covid-19 lockdown in 2020. • Inspired Bihar government to set up such units across the State. 	
<p>Vishal Singh, DM, Malkangiri, Odisha</p>	<ul style="list-style-type: none"> • Implemented a micro-irrigation project in 6 villages. • It helped over 300 farmers grow a 2nd crop & increased household income by 60%. 	
<p>Chanchal Rana, DM, Balangir, Odisha</p>	<ul style="list-style-type: none"> • Implemented the Sweekruti Scheme • Aims to offer dignity, inclusion and livelihood to the transgender community and help them avail all social security schemes. 	
<p>Sharad Kumar Dwivedi, 24 Paraganas, WB</p>	<ul style="list-style-type: none"> • Management of vehicle parking & movement • Online system to unclog traffic at one of India's busiest ports • Reducing wait time from 39 days to 2 days 	

<p>S u m i t Gupta, DM, 24 South Parangana, WB</p>	<ul style="list-style-type: none"> • Mission Mangrove to Planting over 12 crore mangrove trees across 4579 hectares to act as a bio-shield against cyclones. 	
<p>Pawan Kadyan, DM, Cooch Bihar, WB</p>	<ul style="list-style-type: none"> • Mission Nirmal Cooch Behar • 16 solid waste management units • 1400 community sanitary complexes. 	
<p>Divya S Iyer, DM Pathanmita, Kerala</p>	<ul style="list-style-type: none"> • Crowd management at a key pilgrimage spot. • Safety walks and landslide hazard mapping carried out. • Last year she delivered a speech at a public event with her toddler in arms, highlighting the multiple roles women play. 	
<p>Harichandana Dasari, DM, Narayanpet, Telangana</p>	<ul style="list-style-type: none"> • Innovative toilet models • More than 11,000 public toilets were set up in 3 months • Making Narayanpet an Open Defecation Free district 	
<p>Krishnanunni H, DM, Erode, Tamil Nadu</p>	<ul style="list-style-type: none"> • Launch of Punnagai (smile in Tamil), a multi-sectoral tele-facilitation project • 5G wireless systems in to deliver healthcare to tribals 	

<p>Rohit Singh, DM, Narsinghpur, MP</p>	<ul style="list-style-type: none"> • Super Project Nidaan: Apka Prashasan Apke Aangan • Delivery of govt. welfare schemes 	
<p>Saweshwar Bhure, DM, Raipur, Chhattisgarh</p>	<ul style="list-style-type: none"> • Project Padhai Tuhar Dwar • E-learning classes with 8,000 teachers • A girl who came in class XII merit list told the collector, <i>"I want to become a collector like you". Dr S Bhure replied – "be a better collector than me".</i> 	
<p>Rajat Bansal, DM, Bastar, Chhattisgarh</p>	<ul style="list-style-type: none"> • ThinkB', a Technological Hub for Innovation Network • An incubator mentoring 15 start-ups. 	

MARTIN LUTHER KING JR. (1929-1968)

Lessons from the life of Martin Luther King Jr. (1929-1968)

Martin Luther King Jr. was an American Baptist minister and activist, one of the most prominent leaders in the civil rights movement from 1955 until his assassination in 1968. 15th January was his birthday.

Values and Lessons from his life

- **Have a higher Vision:** "I have a dream speech": A call for equality and freedom, it became one of the defining moments of the civil rights movement and one of the most iconic speeches in American history.
- **Persistence for justice:** In his 13 years as a civil rights leader, King was arrested 30 times, largely for misdemeanors and civil protest violations
- **Sacrifice and forgiveness:** He faced numerous assassination attempts and was eventually killed in 1968. His mother was also killed five years later, but King's family opposed the death penalty for the shooter.
- **Life is short, make it Great:** He spent less than 13 years in the public campaigning for civil rights and racial equality, but in that short amount of time he was able to bring more progress towards racial equality in the United States than the previous 350 years.
- **His ideas continue to be relevant:** King's fight against poverty and inequality is still just as relevant today as it was during the US civil rights movement.

"I have a dream that my four little children will one day live in a nation where they will not be judged by the colour of their skin, but by the content of their character. I have a dream today"

He wrote to his wife, Coretta, from jail saying that he hoped the "excessive suffering that is now coming to our family will in some little way serve to make Atlanta a better city, Georgia a better state, and America a better country".

It takes empathy, patience, and compassion to overcome anger, hatred, and resentment.

Visit Insights IAS Daily CA for detailed news.

Keywords

CYBORG

A cyborg is a being that is part human and part machine, or a machine that looks like a human being. Although no cyborg has been developed yet we are in the phase of development.

Examples:

- The artificial pancreas is in the development phase
- People undergo neural stimulation to alleviate symptoms of diseases such as depression
- **Louise Brown:** The first child conceived in a petri dish. This may be 1st step towards a fully conceived cyborg.

4 E's Road Safety: - The main thrust of accident prevention and control across the world has been on 4 E's vis

- (i) Education

- (ii) Enforcement
- (iii) Engineering
- (iv) Environment and
- (v) Emergency care of road accident victims

3C for Politicians/bureaucrats/reforms: Collective Code of Conduct (3C)

3P for welfare schemes: Pro-Poor Public (3P) Welfare Schemes

5 F theme for textile– (Farm- Fiber-Factory- Fashion- Foreign) and #MySariMyPride (for textile promotion in India)

3 A of Judicial Pendency

- **Adjournment (Forced adjournment)** at all tiers of the judiciary)
- **Admission**– High Admissions of new cases aggravate the pendency
- **Appeal**– Most Governments and Bureaucrats opt for appeal against every single order to save their own reputation and to delay losses.

The soft-touch approach

Similar to ‘Soft-power’ in international relations, ‘Soft-touch’ is the **ability to co-opt rather than coerce** (contrast hard touch)

- **Usage:** Recently, the Union Ministry of Electronics and IT released draft rules for online gaming. The soft-touch approach (e.g., self-regulation) could draw in much-needed investments to the sector and at the same time regulatory bodies will only curb the illicit players, ensuring a healthy ecosystem.

‘Demographic gravitation’

Similar to the classical physics concept of gravity – ‘Demographic gravitation’ refers to the **linkages between the size of the population and the power dynamics shaping the relationship between nations, regions and generations**

- **Usage:** Recent reports have predicted that India is set to surpass China in terms of the total population. India has **high ‘demographic gravitation’** due to its large consumer base (**Demand**), young population base (**Demography**) and world’s largest **Democracy** (3 D).

“Shadow

Banning”

The term refers to the **perception** — real or imagined — that **social media companies are taking stealth actions** to limit a post’s visibility.

- **Context:** Last month, Elon Musk (Twitter’s new owner) — used the term to show that Twitter officials had debated blocking reporting from The New York Post on Hunter Biden, son of the current president, in October 2020.
- **Usages:** The term can be used in ethics/Essays to

show the **unethical use of technology** to enforce unarticulated rules secretly. It also goes against the **principle of free speech and ‘consent’**.

Fighting plastics – ‘3B ka funda’ and ‘UseReusables’ mantra
Ruchika Sethi Takkar’s (Gurgaon) mantra is simple: whenever you step out of home, carry your own bag, box and bottle. The idea is to **minimise the use of disposable bags and containers**.



Cultural superpower

- Refers to a country whose culture, arts, or entertainment have **worldwide appeal, significant international popularity**, or large influence on much of the world.

3Cs of Viksit Bharat (Developed India):

Usage: The 3Cs are currently being used in **Aspirational Districts Programme in India:**

- **Convergence** (of Central & State Schemes)
- **Collaboration** (of Central, State level ‘Prabhari’ Officers, District Collectors and Gram Panchayat),
- **Competition** among districts through monthly delta ranking

Environment/ India related Keywords which can be used in the Answer writings (you may click on the link to know more about the context of the keywords):

- [Healing, harmony, hope](#)
- [One earth, one family, one future](#)
- LiFE ([Lifestyle for Environment](#))
- [India: The Mother of Democracy](#)
- [The universal message of oneness](#)

QUOTES

Quotes Corner:

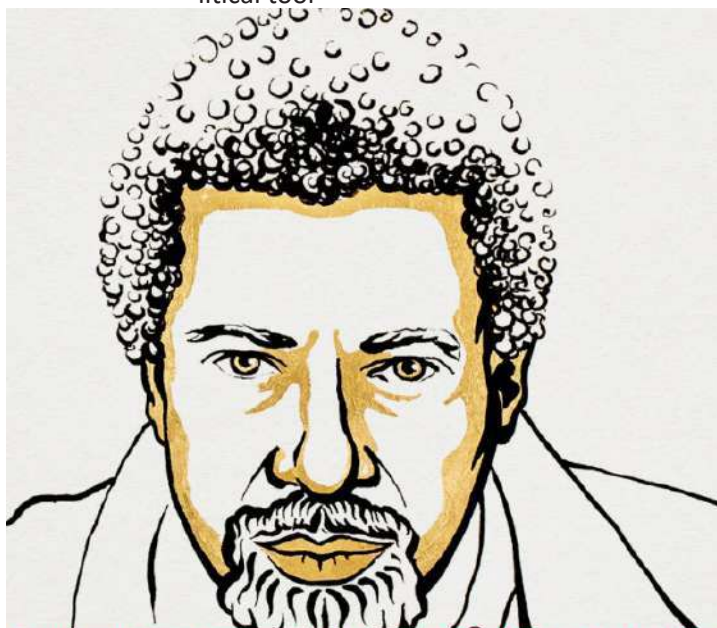
- **On Education and World Peace:**
 - **Maria Montessori** (Italian physician and educator best known for the philosophy of education): **“Establishing lasting peace is the work of education; all politics can do is to keep us out of war”**.
 - The need for education to play an effective

role in nurturing “cultures of peace” is internationally acknowledged

- India at 100 will evolve from the certitudes of a **Vishwaguru** to the resilience of a **“Shreshtha Shishya”**, with the **humility of the eternal seeker, ever learning, ever flowing, malleable** enough to put her own truths to stringent scrutiny.

- **‘Writing as a form of Resistance’**: Writing is a “form of resistance to forgetfulness, to distraction, to neglect, to let what we know and what we remember to pass away”. by Nobel Laureate **Abdulrazak Gurnah**

- **Usages**: It can be used in an essay showing the significance of literature/writing as a political tool



Abdulrazak Gurnah grew up on the island of Zanzibar, but in the 1960s oppression and persecution of citizens of Arab origin forced him to leave the country. Eventually he settled in England. His novels depict a culturally diversified East Africa. His latest book ‘Afterlife’ reflects the generational effect of colonialism and wars and asks one to consider what remains in the aftermaths of so much devastations.

- **You can carve your own path, Be your own kind of leader**- Jacinda Ardern (New Zealand Prime Minister)
- **Like in business, ‘the customers are always right’, similarly in the government service also, the mantra should be that ‘the citizen is always right’** - PM Modi’s Speech at recently held Rozgar Mela
 - **Usage**: The analogy can be used in the governance/Ethics/Essay paper as the way forward in public service.
- **‘Imperfections need to be appreciated’**
 - **Usages1**: Education should not be targeted at making perfect candidates, it should not be the poor imitation of the western system of education. India has such enormous diversity and imperfections need to be appreciated.

- **Usage 2**: Individuals need to embrace their “flaws” and other peoples’ imperfections need to be appreciated.

- **“Information space is the “single gravest threat to democracy, electoral integrity and social cohesion in many countries, and it’s only becoming more severe”**

Usages: This can be used to introduce/Conclude Questions related to the impact of technology (misinformation) on democracy/elections/social cohesion.

- **“The basic structure of our Constitution, like a north star, guides and gives a certain direction to the interpreters and implementers of the Constitution when the path ahead is convoluted”-Chief Justice of India Dr DY Chandrachud**

Usages: You may use this quote in a polity essay or Polity GS2 Mains Question as an introduction/Conclusion.

- **Pariksha Pe Charcha 2023: PM Modi**
 - **On technology de-addiction: “Use technology but don’t let technology use you”**
 - Adopt **“digital fasting”** once a week
 - Create a **‘no technology’ zone** in their homes
 - Consider yourself **smarter** than the gadgets
 - **On learning from criticism**: Criticism is an integral part of India’s democracy and students should learn from it to avoid getting affected by negative comments.
 - **On languages**: Knowing a different language helps you give a sense of familiarity to the other person

Sports

PELÉ: BIRTH OF A LEGEND

Pele (23 October 1940 – 29 December 2022) who was a **Brazilian professional footballer** who is regarded as one of the greatest players of all time and labelled **«the greatest”** by FIFA, died recently.

His achievements are:

- **Football:**
 - Pelé began playing for **Santos at age 15 and the Brazil national team at 16**
 - During his international career, he **won three FIFA World Cups** (1958, 1962 and 1970), being the **only player** to do so.
 - In 1999, he was named **Athlete of the Century** by the International Olympic Committee
- **Credits given:**
 - He was nicknamed **O Rei (The King)** following the 1958 tournament.

- Credited with connecting the phrase “**The Beautiful Game**” with football, Pelé’s “**electrifying play and penchant for spectacular goals**” made him a star around the world.
- **For Poor:** In Brazil, he was hailed as a **national hero for his accomplishments** in football and for his outspoken **support of policies** that improve the **social conditions of the poor**.
- **For the black community:** His emergence at the 1958 World Cup, where he became a black global sporting star, was a source of inspiration.

Edson Arantes do Nascimento (Pelé)



Pelé (23 October 1940 – 29 December 2022) who was a Brazilian professional footballer who is regarded as one of the greatest players of all time and labelled “the greatest” by FIFA, died recently.



10 life lessons from his life

- **Embrace who you are:** The greatest gift you can give yourself is to let go off the pretence and stay true to the person in the mirror.
- **Turn anger into a positive emotion:** If done right, anger could be your limitless reservoir of energy.
- **All greats were once underdogs:** Keep doing your best, put your chin up and soon the tide will turn.
- **Great performances are a result of great preparation:** Great players like Pelé are a result of relentless physical and mental preparation. They were not lucky, they simply made their luck by sweating it out.
- **Throw the rule book out of the window:** There is no shame in being unorthodox and playing your natural game.
- **Stick to the choices you made no matter what:** Keep learning, stay curious, stay hungry and keep growing as a sportsman, and as an individual.
- **Age is just a number:** You are never too old or too young to find your true calling. Some people know it all along since their childhood while others wander for decades to find their purpose.

- **Stay true to your roots:** Be proud of your roots. Embrace your culture and shine.
- **Your goals are not yours alone:** Your friends, teammates and loved ones will not only cherish your goals but will also act as stepping stones to get you closer to your goals
- **Dreams do come true:** Your dreams will come true if you just believed in yourself and persevered



Visit [Insights IAS Daily CA](https://www.insightsias.com) for detailed News.