CURRENT AFFAIRS WEEKLY

WEEK: I
DECEMBER 2022

MAINS

GS- I

- WOMEN CONSTITUTE ONE-THIRD OF INTERNET USERS IN INDIA: REPORT
- 'ANNIHILATION OF CASTE' AND THE STRUGGLE FOR WATER EQUALITY

GS- II

- BLOCKCHAIN & ITS UTILISATION IN PUBLIC DIGITAL INFRASTRUCTURE
- CONNECTING INDIA'S EAST WITH THE INDO-PACIFIC
- CHINA'S MOVES IN THE INDIAN OCEAN

GS- III

- RBI ANNOUNCES 4-TIERED REGULATORY FRAMEWORK FOR UCB
- THE G7'S OIL PRICE CAP & INDIA'S POSITION
- GLOBAL LAYOFFS & IMPACT ON INDIA
- WHAT IS HURTING INDIA'S GROWTH?
- REGENERATIVE AGRICULTURE & ITS INCREASING NEED
- POOR SOIL MANAGEMENT THREATENS FOOD SECURITY

SPECIAL

- The lingering crisis of labour post-pandemic

PRELIMS

INTERNATIONAL RELATIONS

- Arunachal Pradesh Frontier Highway along LAC
- International Lusophone Festival begins in Goa

POLITY & GOVERNANCE

- Tribal Development Report 2022
- Future of education in digital age
- OBC sub-categorisation panel's report in 'final stages'

ENVIRONMENT

- Colonialism changed the way plants are distributed around the World: Study
- Australia's Great Barrier Reef is 'in danger'
- Amazonian biodiversity: Indigenous convoy to bring focus to threats during Montreal summit
- Sea Sponges & threats to them

SCIENCE & TECH.

- WALLABY
- ChatGPT, the latest natural language processing tool

NEWS IN SHORT

- Indonesia's Mount Semeru volcano erupts
- Indo-French partnership for National Parks
- India to assume chairmanship of Wassenaar Arrangement
- Supreme Court launches online portal for RTI
- Centre widens ED power
- Odisha's Kutia Kondh tribe
- Private equity funds
- DRDO hands over Akash missile details to MSQAA
- ISRO and Social Alpha sign MoU to establish SpaceTech Innovation Platform
- Singapore and India conclude Exercise Agni Warrior (XAW) 2022
- New species of bagworm moth named after St. Thomas College
- IIT Madras builds and deploy Wave Energy Generator-Sindhuja-I
- A new design for President's standard, colour and crest for Indian Navy

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– Disclaimer –

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS
WEEKLY

CONTENTS

WEEK - 1 (DECEMBER, 2022)

Section - A: MAINS CURRENT AFFAIRS			
Area of GS		Topics in News	Page No.
GS I	SOCIETY	• Women constitute one-third of Internet users in India: Report	2
		• 'Annihilation of Caste' and the Struggle for Water Equality	3
GS II	POLITY & GOVERNANCE	• Blockchain & its utilisation in Public Digital Infrastructure	4
	INTERNATIONAL RELATIONS	• Connecting India's East with the Indo-Pacific	5
		• China's moves in the Indian Ocean	6
GS III	ECONOMY	• RBI announces 4-tiered regulatory framework for UCB	7
		• The G7's oil price cap & India's position	8
		• Global layoffs & impact on India	9
		• What is hurting India's growth?	10
		• Regenerative agriculture & its increasing need	10
	ENVIRONMENT	• Poor soil management threatens food security	11
	SECURITY	• Chinese surveillance vessel 'Yuan Wang 5' re-enters Indian Ocean	14
Section - B: SPECIAL			
Area of GS		Topics in News	Page No.
GS III	ECONOMY	• The lingering crisis of labour post-pandemic	16
Section - C: PRELIMS CURRENT AFFAIRS			
Area of GS		Topics in News	Page No.
GS II	INTERNATIONAL RELATIONS	• Arunachal Pradesh Frontier Highway along LAC	19
		• International Lusophone Festival begins in Goa	19
	POLITY & GOVERNANCE	• Tribal Development Report 2022	20
		• Future of education in digital age	21
		• OBC sub-categorisation panel's report in 'final stages'	22

GS III	ENVIRONMENT	• Colonialism changed the way plants are distributed around the World: Study	23
		• Australia's Great Barrier Reef is 'in danger'	24
		• Amazonian biodiversity: Indigenous convoy to bring focus to threats during Montreal summit	25
	SCIENCE & TECH.	• Sea Sponges & threats to them	26
		• WALLABY	27
		• ChatGPT, the latest natural language processing tool	27
		• Case Study	29

Section - D: NEWS IN SHORT

Topics in News	Page No.
• Indonesia's Mount Semeru volcano erupts	31
• Indo-French partnership for National Parks	31
• India to assume chairmanship of Wassenaar Arrangement	31
• DRDO hands over Akash missile details to MSQAA	32
• ISRO and Social Alpha sign MoU to establish SpaceTech Innovation Platform	32
• Singapore and India conclude Exercise Agni Warrior (XAW) 2022	32
• New species of bagworm moth named after St. Thomas College	33
• IIT Madras builds and deploy Wave Energy Generator- Sindhuja-I	33
• A new design for President's standard, colour and crest for Indian Navy	33
• Dr Rajendra Prasad	34
• Indian scientist Acharya Jagadish Chandra Bose (1858-1937)	34

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SECTION: A
(MAINS)

CURRENT AFFAIRS

WOMEN CONSTITUTE ONE-THIRD OF INTERNET USERS IN INDIA: REPORT

CONTEXT:

In a report "India Inequality Report 2022: Digital Divide", released by an NGO called Oxfam India, it has been found that **Women constitute one-third of Internet users in India.**

Key Highlights:

- Indian women are 15 per cent less likely to own a mobile phone.
- They are 33 per cent less likely to use mobile internet services than men.
- **In Asia-Pacific:** India fares the worst with the widest gender gap of 40.4 per cent.
- **Rural-Urban digital divide:** Only 31 per cent of the rural population uses the Internet compared to 67 percent of their urban counterparts.
- **State-wise Data:**
  - Maharashtra has the highest internet penetration, followed by Goa and Kerala.
  - Bihar has the lowest, followed by Chhattisgarh and Jharkhand.
- **Religion-wise Data:** Among all religions, Sikhs have the highest likelihood of having a computer followed by Christians, Hindus and lastly Muslims.
- **Caste-wise Divide:** The likelihood of access to a computer is more for the General and OBC groups than for the SC and ST populations.
- **Debunking perception about computer devices:**
  - **Rural Areas:** The use of computer devices decreased in rural areas. Pre-pandemic, only 3 per cent of the rural population owned a computer.
  - **Urban Areas**: The number of people with computers is 8 per cent.

Growing inequality is accentuated by the digital divide:

- The growing inequality based on caste, religion, gender, class, and geographic location also gets replicated in the digital space.

India's rank in UN's e-participation index (2022)

- The report highlighted that India ranked 105 out of 193 nations in the UN's e-participation index (2022).
- The index is a composite measure of three important dimensions of e-government, namely provision of online services, telecommunication connectivity and human capacity

Why do we need women to have equal access to mobile devices?

- The essential requirement for ***modern civic participation***.
- The government is moving to an ***'integrated e-service delivery'*** system.
- **Financial entitlements are *increasingly tied to mobile phones.***
- COVID-19 pandemic **accelerated reliance on digital technology**

Determinants of women's mobile phone use:

- **Access to the handset:** Women's dependence on men for phone ownership and lower proximity to phones
- **Phone characteristics**: The poorer functionality of women's phones.
- **Digital skills**: In many cases, women's usage of mobile is constrained by limited digital skills.
- **Permitted and desired use**: Narrow expectations and desires around how women would use phones.
- **Time allocation:** Women were subject to social norms that discouraged using a phone for leisure.

Patriarchal gender norms limit women's use of mobile phones:

- **Domestic focus**: wherein, married women were expected to focus their energy on the maintenance of the home
- **Patriarchal exogamy,** wherein on marriage, women join their husband's family and leave behind their natal family
- **Purity**: wherein married women must avoid any suspicion of sexual relations outside marriage and
- **Subservience**: wherein married women submit to the needs and wishes of their husbands and their in-laws.

Suggestions

- **Accessibility:** Union and state governments to ensure universal access to internet connectivity by investing in digital infrastructure.

- This will not only make the internet affordable but also push for greater accessibility to smartphones.

- **Digital literacy camps:** The report also recommended that digital literacy camps be conducted, especially in rural India, to teach the use of technology in schools, and digitize panchayats.
- **Establish grievance redressal mechanism:** It will help to handle edtech and healthtech-related complaints by parents, children, and other consumers.
- **Bridge India's current income inequality:**
  - It can be done by improving the income of the poor
  - Setting a decent minimum living wage
  - Easing the indirect tax burden on citizens
  - provision of universal health and education services

Emancipation of Women- Digital India Initiatives:

- **Wireless Women for Entrepreneurship and Empowerment (W2E2):** It is a programme designed to create women's microlevel social enterprises based on Information and Communication Technology (ICT).
- **ArogyaSakhi**: The programme is crafted to help rural women develop their own personalities to provide health care to rural areas.
- **Internet Saathi**: It is a long-term vision of Ratan Tata, Former Chairman of Tata Sons. Ratan Tata joined hands with Google and Intel to help women in rural India to access the Internet in large numbers.
- **National e-Governance Plan:** The Plan provides opportunities to rural women entrepreneurs for citizen-centric services including access to land records and utility bill payments.
- **Sanchar Kranti Yojna (SKY)-Chhattisgarh:** Under SKY, college students, women residing in rural areas and every individual, who falls under the poverty line, will be offered a free mobile phone.

'ANNIHILATION OF CASTE' AND THE STRUGGLE FOR WATER EQUALITY

CONTEXT

The journey of the struggle for water equality in India started since a century ago when the resources were distributed based on Caste.

So, let us assess how the struggle has converted to a 'political issue' and then a 'right', which still influences peoples' life.

Background:

- The most organized of the movements occurred in **Mahad** in 1927. A group led by B.R. Ambedkar tried to gain the right to draw water from a tank in the town.
- The movement lost but the matter went to court, where a judge decreed that the tank was '**public property'.**
  - Since then, Ambedkar's participation marked a departure in political history.

Positive outcomes which led to Equality:

- Between the two judgments of ***1914 about Mochi and 1931 about Mahad*** — case law had established an important principle: A source belonging to a **public body (in the 1914 case a temple) was a 'public good'.**
- Together these incidents succeeded in making the struggle for equality a political issue.
- The events of 1927, about Mahad, marked a significant departure **in Dalit politics** and inaugurated urban-centered regional associational forms.
- The year after the Mahad judgment, **Gandhi's All India Anti-untouchability League was formed**.

Untouchability in India:

Untouchability is believed to have been first mentioned in Dharmashastra. The term is most commonly associated with the treatment of the Dalit communities in the Indian subcontinent who were considered "polluting".

The journey towards legality:

- At the time of Indian independence, Dalit activists began calling for **separate electorates** for untouchables in India to allow fair representation.
- Officially labeled the **Minorities Act**, to guarantee representation for Sikhs, Muslims, Christians, and Untouchables in the newly formed Indian government.
- The Act was supported by British representatives such as **Ramsay MacDonald**.
- In 1932, Ambedkar proposed that the untouchables create a separate electorate which ultimately led Gandhi to fast until it was rejected.
- National leaders such as Gandhi opposed a separation within Hindu society at the time, although he took no exception to the demands of the other minorities.
- The **1950 national constitution of India**legally abolished the **practice of untouchability.** It provided measures for affirmative action in both

educational institutions and public services for Dalits and other social groups who lie within the caste system.

- These are supplemented by official bodies such as the **National Commission for Scheduled Castes and Scheduled Tribes.**

BLOCKCHAIN & ITS UTILISATION IN PUBLIC DIGITAL INFRASTRUCTURE

CONTEXT

The digitization of governance is led by the Government, which is least automated for using services and is affected by the Pandemic, Russia-Ukraine War, and the economic slowdown.

The digital infrastructure is a public good and must be governed by government agencies for ensuring accountability.

⊙ ABOUT

The Blockchain Technology:

- The blockchain is a ledger maintenance technology that keeps track of every change to your digital data and renders it individually purposed, always verified, non-tamperable, and shareable.
- Because such a ledger is verified, it does not require a **third party to authenticate** the data presented every time you present your digital data into an application.

Digital Public Goods are open-source software, open data, open AI models, open standards, and open content that adhere to privacy and other applicable laws and best practices, do no harm by design and help attain the SDGs.

What is a Public digital Infrastructure (PDI)?

- PDI refers to solutions and systems that effectively provide essential society-wide functions and services in the public and private sectors.
- This includes digital forms of **ID and verification, civil registration, payment (digital transactions and money transfers), data exchange, and information systems**.
- They are open-source, customizable, and localizable.
- **Benefits:** increase resilience, avoid vendor lock-in, leverage existing solutions and adapt them to local needs, support interoperability between different platforms and solutions, and have the ability to respond swiftly and effectively to global crises.

Using Blockchain as PDI:

- Public Digital Infrastructure (PDI) on the blockchain is built on the digitized data registries shared on it publicly without violating data privacy or private use. Applications built on this infrastructure will enable ease of governance, making it transparent and responsive.
- This will also unleash the potential of the technology start-up ecosystem to create new governance and social ecosystem applications for the world from India.
- **Possible applications:**
  - Government benefits like **cash transfers** are supported by foundational DPI.
  - **MOSIP** has been used for **pandemic-related subsidy payments**
  - It is an **open-source** identity platform that can then be used to access a wide variety of **government and private services**.
  - MOSIP allows national identity systems to be context-specific and based on local laws and decisions
  - MOSIP is representative of the adaptable, interoperable, and transparent qualities of DPGs
  - Funded by the Bill & Melinda Gates Foundation, Tata Trust, Omidyar Networks, and NORAD.

Blockchain technology has been used as Public digital infrastructure by the Philippines, Morocco, and Togo, and piloted in Sri Lanka, Ethiopia, and Guinea.

Major advantages of using blockchain in governance:

- **Transparency**: Blockchain allows traceability of information and ensures nothing is unduly modified. This is a big advantage in enhancing democratic governance and adds accountability.
- **Data protection**: Blockchain allows users to own and control their data through private and public keys. The owners also decide when and how a third party can access this information.
- **Improved efficiency:** The technology eliminates go-betweens from the process and reduces the risk of human errors and time consumed in hierarchical approvals.

- **Manpower requirements**: Blockchain will significantly reduce the manpower requirements.

Blockchain Use Cases explored by NITI Ayog:

- **Land Records:** Creating a new system to manage land record transfer and ownership
- **Pharmaceutical drugs supply chain:** 'self-regulation' of the sector through blockchain enabled trust
- **SuperCert:** Anti-fraud identity intelligence blockchain solution for educational certificates. It is creation of a block of student certificate – hashed version of the certificate on the blockchain.
- **Immunization Supply Chain:** Building A New Immunization Infrastructure for India – Unified and Enhanced by Blockchain
- **Chit Funds:** A blockchain based model to enhance trust and unlock value creation
- **Insurance (Medical, Automotive, etc.):** A blockchain system would allow same-time access to the shared truth on patient health (past and present), processing status of the current claim.
- **EV Battery Swapping:** Exploiting the 'smart contract' feature of blockchain applications would allow for more efficient swapping of batteries at charging stations.
- **Organic Farming:** Placing information regarding the lifecycle of crops on a blockchain will help improving trust in the self-certification process and establishing traceability at the point of sale.

CONNECTING INDIA'S EAST WITH THE INDO-PACIFIC

CONTEXT

An effective way to work for a 'free, open, inclusive, peaceful, and prosperous Indo-Pacific is to involve our eastern regions, using the cultural, environmental, and historical linkages.

India's Indo-Pacific Strategy via Northeast:

- **Common to India's other policies:** India's Northeastern states, situated between Delhi and Southeast Asia over the Bay of Bengal, anchor the convergence of **Japan's Free and Open Indo-Pacific (FOIP) vision** and **India's Act East policy.**
- **Strategic Geographic location**: Northeast is a key frontier in India's Indo-Pacific engagement as it borders China and Bhutan to the north and Bangladesh and Myanmar to the west and east making connectivity easier.

India's Act East policy:

- India's Act East Policy focuses on the extended neighborhood in the **Asia-Pacific region.**
- India has upgraded its relations to a strategic partnership with **Indonesia, Vietnam, Malaysia, Japan, the Republic of Korea (ROK), Australia, Singapore, and the Association of Southeast Asian Nations (ASEAN**) and forged close ties with all countries in the Asia-Pacific region.
- Further, apart from ASEAN, ASEAN Regional Forum (ARF), and East Asia Summit (EAS), India has also been actively engaged in regional fora such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), Asia Cooperation Dialogue (ACD), Mekong Ganga Cooperation (MGC) and Indian Ocean Rim Association (IORA).
- Other important schemes for North-east
  - Prime Minister's Development Initiative for North East Region (PM-DevINE)
  - North East Special Infrastructure Development Scheme (NESIDS)
  - Pradhan Mantri Gati Shakti Master Plan: for developing infrastructural facilities in North East region

The North-eastern states joining hands with Indo-Pacific:

- The Northeast which comprises **seven States** has been witnessing transformation as it heads towards better security conditions and development.
- Since 2018, India's '**Look East' and 'Act East' policies** have moved into the phase of Indo-Pacific policy and strategy.
- Recently, both Indo-Pacific conclaves were hosted by the **Asian Confluence**, a think tank leading in the study of India's northeast.
  - The first was in partnership with the **Ministry of External Affairs and Manipur University**, and
  - The second had the **United States Consulate General** in Kolkata as the partner.
- But, there, the still issues that need to ensure adequate security, speed up economic development and connect better with the rest of India and Southeast Asian nations.

How merging the Northeast with the Indo-pacific strategy can be helpful for India?

- **For economic development:** The Northeast is on the right path to concentrate on economic development.
- **Making the region as a hub of Indian Ocean island countries**: With the improvement in roads linking north-eastern towns and job creation for thousands of graduates, India can harness their potential to

attract investments, jobs, and students from south Asian countries.

- **For example**; Manipur can be promoted as the hub of **medical tourism** for other Indian States and neighbors such as Myanmar.
- The State's **research and development facilities** can also be used to leverage the region's biodiversity.

- **Helpful in the development of Northeast**: Accelerated development requires increased investment by Indian corporates and foreign investors as well as better management.
- **Using Cultural influence**: By expanding the reach of **cultural diplomacy and people-to-people cooperation** through greater educational exchanges, tourism, and trade is desirable for a stronger Indo-Pacific.
  - An ambitious endeavor by **75 artists** from nine countries highlighted the region's '**unity in diversity** through music, dance, drama, and cuisine.

The linkage between Northeast and South Asia:

Developments	Challenges
• Connectivity through the North-eastern states became a priority for India's foreign policy in 2003, providing a new dimension to the **Look East Policy (LEP).** • **Seven Sister's Corridor project:** The Centre has envisaged connecting the NE state capitals to the EW highway through the Seven Sister's Corridor project. ➢ This will link the capitals of the seven states and the border points of Bhutan, Bangladesh, and Myanmar.	• It is a problem, as extending the linkages with Southeast Asia with the Northeast remains unfulfilled, as there are no potential markets on the Indian side of the border. • The economic reforms and policies initiated by both Central and State governments do not complement the existing infrastructure in these states. • The trade between India and ASEAN is mostly manufacturing products and is restrictive towards **agricultural products**. • Therefore the NE states do not have a comparative advantage in India's export to ASEAN.

CHINA'S MOVES IN THE INDIAN OCEAN

CONTEXT

China International Development Cooperation Agency (CIDCA) convened the first, "China-Indian Ocean Region Forum". It can be seen as the latest Chinese initiative focusing on the Indian Ocean Region (IOR).

Key Highlights of the Forum:

- It is "the first high-level official development cooperation forum jointly held by China and countries in the Indian Ocean Region" and has "over 100 participants.
- **Theme: '**Shared Development: Theory and Practice from the Perspective of the Blue Economy**.**
- **Marine Disaster Prevention and Mitigation Cooperation Mechanism:**
  - China proposed to establish a marine disaster prevention and mitigation cooperation mechanism between China and countries in the Indian Ocean region.
  - China expressed its willingness to provide **necessary financial, material, and technical support to countries in need.**

Where does India stand?

- According to CIDCA, India was invited to this forum and added that China "looks forward to meeting India at the next forum". That prospect appears unlikely.
  - New Delhi has viewed China's recent moves in the region warily.
  - India sees the ***Indian Ocean Rim Association (IORA***) as an already established platform for the region.

Indian Ocean Rim Association (IORA):

- It was established in 1997 and is a regional forum that seeks to build and expand understanding and mutually beneficial cooperation through a consensus-based, evolutionary and non-intrusive approach.
- IORA has 23 member states and 9 Dialogue Partners.
  - **Members**: Australia, Bangladesh, Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates, and Yemen.
  - China is a dialogue partner in the IORA.

- The IORA Secretariat is based in **Mauritius.**
- The association gains importance from the fact that the Indian Ocean carries half of the world's container ships, one-third of the world's bulk cargo traffic, and two-thirds of the world's oil shipments.
- It is a **lifeline of international trade and transport and the Indian Ocean region is woven together by trade routes** and commands control of major sea lanes.

What are China's plans for the IOR?

The CIDCA forum is the latest initiative to reflect Beijing's view that:

- It has a clear stake in the region.
- China has also proposed creating a forum "on the development of Indian Ocean Island countries".
- China is establishing a more frequent military presence in the waters of the IOR.
- Beijing's first-ever overseas military facility was set up in Djibouti near the Horn of Africa.

Concerns:

- China has often been accused of engaging in **"debt diplomacy**" in these countries under its Belt and Road Initiative allegedly in the name of infrastructure development.
- Since 2008, China has regularly **deployed a contingent of naval warships** in the Gulf of Aden and established its **first foreign military base in Djibouti in 2017**.
- At the same time, ***India's absence*** is seen as an attempt to **challenge India's traditional presence in the region** amid apprehensions of politicization of the Indian Ocean region.
- Moreover, the Chinese Foreign Ministry refused to disclose **who the participants were from other countries.**

RBI ANNOUNCES 4-TIERED REGULATORY FRAMEWORK FOR UCB

CONTEXT:

Recently, the Reserve Bank of India (RBI) announced a four-tiered regulatory framework for the categorization of **Urban Co-operative Banks (UCBs).**

Background

- The Reserve Bank of India had constituted the **Expert Committee on Urban Co-operative Banks**.
  - to examine the issues in the urban cooperative banking sector
  - to review regulatory/ supervisory approach for strengthening the sector
- Based on the recommendations of the Expert Committee, it has been decided to adopt a four-tiered regulatory framework, as against the existing two-tiered framework, for the categorization of UCBs.
- **Commencement:** The instructions shall be applicable with immediate effect.
- **Applicability:** This circular applies to all Primary (Urban) Co-operative Banks.

Why it was needed?

- The **element of heterogeneity** in the cooperative sector demands a tired structure to:
  - balance the spirit of mutuality and co-operation among UCBs of all sizes
  - spread their area of operation and undertake more complex business activities
- The categorization may be used for differentiated regulatory prescriptions aimed at **strengthening the financial soundness** of the UCBs.

UCBs have been categorized into the following four tiers for regulatory purposes:

- **Tier 1:** All unit UCBs and salary earners' UCBs (irrespective of deposit size), and all other UCBs having deposits up to Rs 100 crore
- **Tier 2**: UCBs with deposits of more than Rs 100 crore and up to Rs 1000 crore
- **Tier 3**: UCBs with deposits of more than Rs 1000 crore and up to Rs 10,000 crore
- **Tier 4:** UCBs with deposits of more than Rs 10,000 crore

Net worth and capital adequacy:

- RBI also has come out with norms pertaining to the net worth and capital adequacy of these banks.
- **Tier 1 UCBs** operating in a single district should have a minimum net worth of ₹2 crores.
- **For all other UCBs (in Tier 1, 2, and 3) tiers),** the minimum net worth should be ₹5 crores.
- The UCBs, which currently do not meet the revised minimum net worth requirement, will have to achieve the minimum net worth of ₹2 crores or ₹5 crores (as applicable) in a phased manner.

Minimum capital to risk-weighted assets ratio:

- The central bank also prescribed minimum capital-to-risk weighted assets ratio requirements for UCBs.

- **Tier 1 UCBs** have to maintain a minimum capital to risk-weighted assets ratio of 9 per cent of Risk Weighted Assets (RWAs) on an ongoing basis.
- **Tier 2 to 4 UCB**s have to maintain a minimum capital to risk-weighted assets of 12 per cent of RWAs on an ongoing basis.

About Co-operative Banks:

- They are distinct from commercial banks, were born out of the concept of co-operative credit societies where members from a community group together to extend loans to each other, at favorable terms.
- Co-operative Banks are broadly classified into Urban and Rural co-operative banks based on their region of operation.
- They are registered under the Co-operative Societies Act of the State concerned or under the **Multi-State Co-operative Societies Act, 2002.**
- The Co-operative banks are governed by the:
  - Banking Regulations Act, 1949
  - Banking Laws (Co-operative Societies) Act, 1955

Issues in UCBs

- **Recent Failures:** Cooperative banks in India have been struggling to survive for the last few years. The issue came into the limelight after the **Punjab and Maharashtra Cooperative (PMC)** bank fiasco.
- **Dual control:** For years, such banks have escaped scrutiny despite failures and frauds due to dual regulation by the state registrar of societies and the RBI.
- **Sinking balance sheet:** Sharper decline is seen both in terms of loans and deposits.
- **Declining number of UCBs**: After liberalization in licensing policy in 1993, nearly one-third of the newly licensed ones became financially unsound within a short period.
- **Diminished share in agricultural lending:** Despite their crucial role in agricultural sector, its share in total agricultural lending diminished considerably over the years from as high as 64% in 1992-93 to just 11.3 % in 2019-20.
- **Large share of rural cooperatives:** They make up 65% of the total size of all cooperatives taken together.

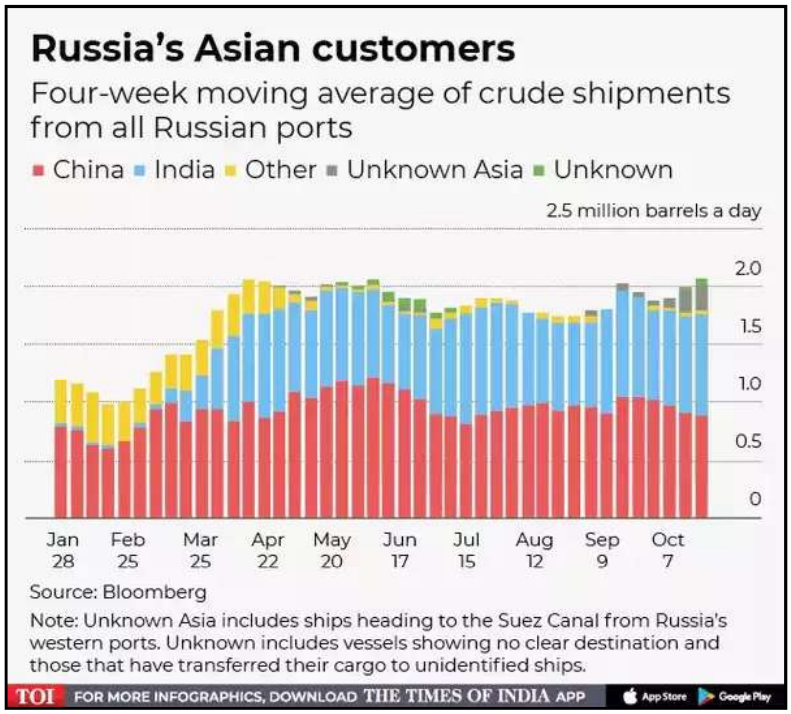
THE G7'S OIL PRICE CAP & INDIA'S POSITION

CONTEXT:

A surge in the oil prices was reported after a group of seven (G7), European Union (EU), and Australian proposal of capping Russian seaborne oil came into effect. But it may not impact Russia.

What is the price cap?

- A price-cap regulation is a form of economic regulation that establishes an upper limit on the prices that a utility provider can charge.



- The price cap is meant to **hurt Russia's finances** while avoiding a sharp oil price spike if Russia's oil is suddenly taken off the global market.
- The cap price as of now is $60 and is applicable only to those shipments which are going to be loaded after December 5th, 2022.

Counter-Measures by Russia:

- **Fear of Black Marketing:** It is possible for the shipping industry to misrepresent or obscure the origin of its cargo by using "dark fleet" tankers.
- **Russian Production complex with exemption:** Certain pieces of the Russian production complex, for example Sakhalin-2 project that is heavily funded by Japan can be a source of "un-capped" Russian crude in the market.
- **Selling refined products instead of crude:** There may be opportunities to divert Russian barrels "through refined or partially refined products" as the blends that includes Russian crude remains unaffected from the price caps.
- **Routing of Russian oil**: Russia can route its oil, through non-European shipping channels to countries such as China, Turkey, Indonesia and India to avoid cap pricing.
- **Not using western tankers:** Russia can refuse to use tankers that joined the oil cap scheme and could cut its oil exports relying on a smaller group of non-western tankers and insurers.

What is India's position?

- India has decided to **double its trade with Russia** in the "near foreseeable future".
- India remains **non-committal on any such pricing cap** arrangement.
- India could try to set up their own insurance providers to replace those barred by the by U.S., U.K. and Europe.

Initiatives taken to cut down Crude Oil Imports

- Urja Sangam 2015
- Production Sharing Contract (PSC) Regime
- Discovered Small Field Policy
- Hydrocarbon Exploration and Licensing Policy (HELP)
- New Exploration Licensing Policy (NELP)
- Ethanol Blending Programme (EBP)

GLOBAL LAYOFFS & IMPACT ON INDIA

⊙ CONTEXT

According to a global placement and coaching firm, a slew of **U.S. multinational companies including tech giants Amazon, Meta, Intel, and Twitter** have been observed as they announced **massive layoffs**, which can have an impact, on **India's export prospects**, especially in the **information technology (IT) sector.**

Why are layoffs becoming common?

- Due to the **economic recession** since the Pandemic.
- With **inflation soaring** in most parts of the world, central banks have been scrambling since March this year to rein it in by increasing rates so as to make it more costly to borrow and consume.
- **Due to Russia-Ukraine War**: The **International Monetary Fund (IMF)** has cited forecasts for **global GDP growth** in both 2022 and 2023 as gloomy, given the pandemic and ongoing Russia-Ukraine war.

What is the outlook for the Indian IT industry?

- The Indian IT services firms are among the largest employers in the organized sector and any global economic trend is bound to have an impact on their growth projections.
- The **attrition rates**, (the number of employees per 100 quitting on their own) of the top two firms, **TCS and Infosys,** show that these rates are still high, which means that there is enough business for the sector for competitors to draw away employees with the promise of higher salaries.

How will global layoffs impact India?

- **On start-ups**: The Indian start-up layoff tracker by Inc42 showed that more than 15,700 employees had been laid off in 2022 given tightening funding conditions.
- **Declining online content consumption:** A lesser share of internet users visiting educational websites since the decline of the pandemic is cited as one reason.
- **For cost cutting:** Managements look at headcount numbers critically when they want to cut costs and protect profit margins as they are accountable to investors.
- **On Big tech firms**: This will eventually affect **economic growth and jobs** in Indian firms too.

WHAT IS HURTING INDIA'S GROWTH?

CONTEXT

India's continuous revising growth estimates underline that the economy continues to be vulnerable to **external shocks** with **high inflation** and **rising interest rates.**

The current economic situation

- **The World Economic Outlook Report 2021:** As per this**,** Indian economy is expected to grow by 12.5% in 2021 and 6.9% in 2022.
  - Growth rate for India in 2021 is stronger than that of China.
- **Hindrance in Growth due to Pandemic**: However, the economic growth rate of India (and other countries) is affected by the rise in Covid infection rate and consequent lockdown.

What shows the vulnerability of the economy?

- The **Monetary Policy Statement 2022-23** has also announced the revised Bank Rate hiking by **50 basis points** from 5.65 per cent to 6.15 per cent.
- The RBI has increased **Repo rates for Banks** in the year 2022 several times. This shows that Indian economy is vulnerable to shocks.

Hence, there is an urgent need to boost demand through better job creation, while pumping up government spending on infrastructure projects and a strategy to boost India's economy.

What are the factors that increased the Growth Projection?

- **Economic Sector**: For India, a good run in the agriculture sector can led to an increase projection of development.
- **GST Collection**: Moreover, the GST collection for FY 2020-21 was record high at the value of Rs 1.24 lac crore (Rs 1.24 trillion).
- **Export sector**: It contributes to the delivery of services and to generate foreign currency for India.
- **Infrastructure sector**: It plays a vital role to make an economy resilient from shocks, as it maintains flow of capital between various sectors in a country.
  - It includes the railways, freight revenue, power sectors etc.

Factors Obstructing the Growth:

- **Increasing Inflation:** Due to the disruptions in supply chains globally amid **Russia-Ukraine war** since a year now, has increased the pace of Inflation in the developing countries including India.
- **Fluctuation in Interest rates:** The Central Bank usually increases interest rates when inflation is predicted to rise significantly above their inflation target.
  - Higher interest rates increase the cost of borrowing, reduce disposable income and therefore limit the growth in consumer spending.
- **Low Infrastructural growth:** Infrastructure affects growth through several supply and demand-side channels.
  - Investments in energy, telecommunications, and transport networks directly impact growth, as all types of infrastructure represent an essential input in any production of goods and services.
- **lack of adequate Monetary policy:** Future capital spending of the government in the economy is expected to be supported by factors such as tax buoyancy, the streamlined tax system with low rates, a thorough assessment and rationalisation of the tariff structure, and the digitization of tax filing.

REGENERATIVE AGRICULTURE & ITS INCREASING NEED

CONTEXT:

The Regenerative agriculture has been receiving much attention from all the stakeholders, as can be effective in building resilience of agroecosystems.

What is Regenerative Agriculture?

- Regenerative agriculture is a holistic approach to agriculture that focuses on the interconnection of farming systems such as, soil health, food quality, biodiversity improvement, water quality and air quality.
- It was used by Indigenous communities centuries ago, long before industrial agriculture occurred.

Principles Involved:

- Minimize soil distribution through conservation tillage

Conservation tillage is a tillage system that creates a suitable soil environment for growing a crop and that conserves soil, water and energy resources mainly through the reduction in the intensity of tillage, and retention of plant residues.

- Diversify crops to replenish nutrients and disrupt pest and disease life cycles
- Retain soil cover using cover crops
- Integrate livestock, which adds manure to the soil and serves as a source of carbon sinks.

Need of Regenerative agriculture

- The current intensive agriculture system has led to soil degradation and constant losses.
- There may not be enough soil to feed the world in the next 50 years.
- Soil fertility and biodiversity are also decreasing across the globe.
- Regenerative agriculture improves soil health through practices that increase soil organic matter, biota and biodiversity.
  - It also aims at enhancing water-holding capacity and carbon sequestration.
  - It facilitates soil aggregation, water infiltration, retention and nutrient cycling.
  - Regenerative agriculture also reduces erosion, provides habitat and food for diverse species and is beyond sustainability.

Benefits of Regenerative agriculture:

- Improves Yield
- Minimizes Cost of Production and Increases Farmers' Production
- Ensures Better Health
- Employment Generation
- Eliminates the application of chemical input
- Reduces Water Consumption
- Promotes Livestock Sustainability

Is Regenerative Agriculture Profitable?

- The answer is Yes. This increase in profitability was the result of two main factors: input costs and end markets.
- **Decreasing Input Costs:** Regenerative agricultural systems, over time, require less external inputs, primarily in the form of seed and fertilizer.

Push to Natural Farming (Union Budget 2022-23)

- The Central Government will **promote natural farming throughout the country**.
- States will be encouraged to **revise syllabus of agricultural universities** so as to meet the needs of natural, zero-budget and organic farming.
  - ICAR (Indian Council of Agriculture Research) has already constituted a committee for developing syllabus and curricula of Natural farming at undergraduate and post graduate level.
- Government is implementing a dedicated scheme of Bharatiya Prakritik Krishi Paddhati Programme (BPKP); Rashtriya Krishi Vikas Yojana (RKVY) etc.

POOR SOIL MANAGEMENT THREATENS FOOD SECURITY

CONTEXT

The consequences of the irreparable damage by soil degradation on human and healthy ecosystems can affect the government's food security efforts for sustainable future.

Importance of Healthy soil:

- **Essential for our survival:** It contributes to a number of cycles that make all life on Earth possible. These include carbon, nitrogen and phosphorus cycles.
- **Essential for Plant growth:** They support healthy plant growth to enhance both our nutrition and water percolation to maintain groundwater levels.
- **Regulate Earth's Climate:** Soils help to regulate the planet's climate by storing carbon and are the second largest carbon sink after the oceans.
- **Maintain Landscapes:** They help maintain a landscape that is more resilient to the impacts of droughts and floods.
- **Water Filtration:** It filters the rainwater and regulates the discharge of excess rainwater, preventing flooding.
- **Holds organic matter:** It is capable of storing large amounts of organic carbon; it buffers against pollutants.

Food security:

- Food is as essential for living as air is for breathing. But food security means something more than getting two square meals. It has following dimensions:

- **Availability:** It means food production within the country, food imports and the stock stored in government granaries.
- **Accessibility:** It means food is within reach of every person without any discrimination.
- **Affordability:** It implies that having enough money to buy sufficient, safe and nutritious food to meet one's dietary needs.

- Thus, Food security is ensured in a country only when sufficient food is available for everyone, if everyone has the means to purchase food of acceptable quality, and if there are no barriers to access.

Soil management for food security:

- Soil plays a significant role in enhancing food security of the world population. However, only 10%–12% of the natural soils are suitable for agriculture.
- Therefore, maintaining optimum food production proper land-use policies should be framed considering the degradation of the soil ecosystem day by day.

What is soil degradation?

- Soil degradation describes what happens when the **quality of soil declines** and diminishes its capacity to support animals and plants.
- Soil can lose certain physical, chemical or biological qualities that underpin the web of life within it.

How nutrient-deficient are Indian soils?

- Delhi based environmental think-tank the **Centre for Science and Environment** in its report **State of Biofertilizers and Organic Fertilizers in India** has flagged poor status of soil health and increasing consumption of chemical fertilizers in India.

Main drivers contributing to soil degradation:

- Industrial activities
- Mining
- Waste treatment
- Agriculture
- Fossil fuel extraction
- Processing and transport emissions

Reasons behind soil nutrient loss:

- soil erosion
- runoff
- leaching
- burning of crop residues

Key observations:

Macronutrient Deficiency	Micronutrients Deficiency
• 85 per cent of the samples were found to be deficient in organic carbon • 97 per cent samples were deficient in available nitrogen • 83 per cent were deficient in phosphorus • 71 per cent were deficient in potassium	• 47 per cent were deficient in Boron • 39 per cent were deficient in Zinc • 37 per cent were deficient in Iron • 36 per cent were deficient in Sulphur **(see figure on next page)**

State-wise analysis:

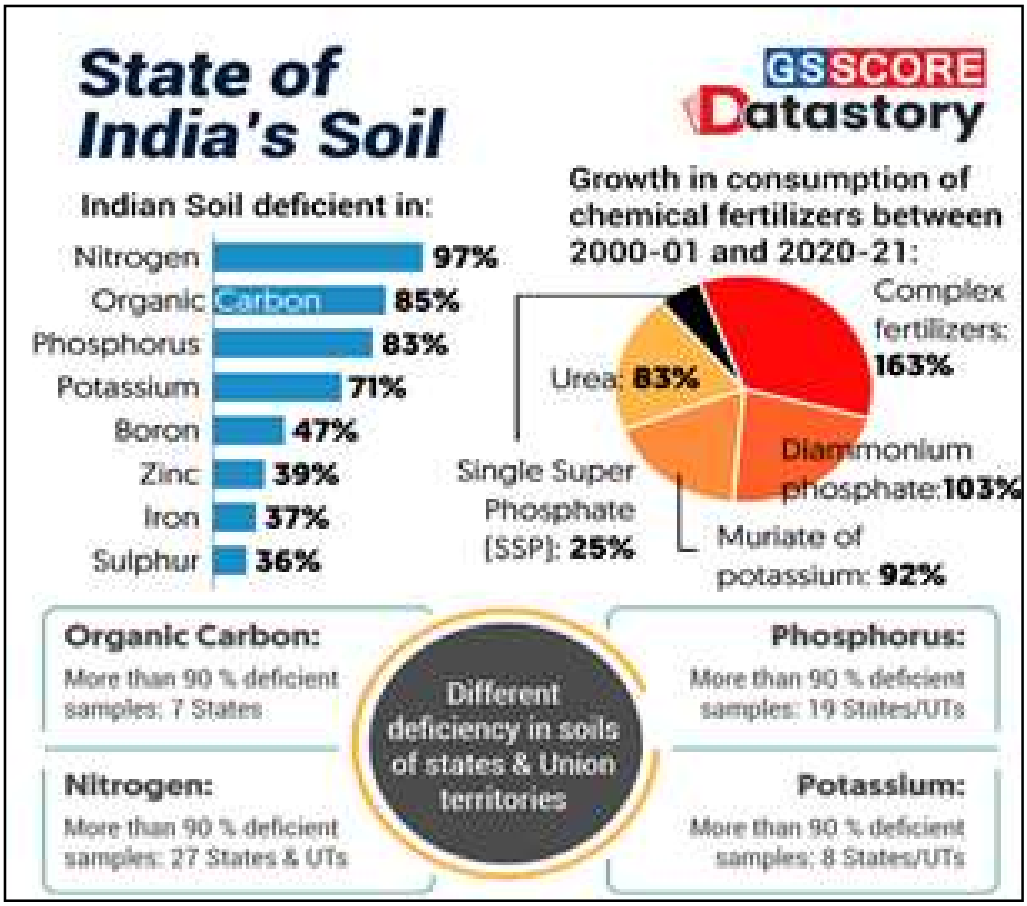
- Organic carbon deficiency is widespread across the country.
- Haryana's soils are the most deficient in organic carbon, followed by those of Punjab, Uttar Pradesh, Rajasthan, Tamil Nadu, and Mizoram.
- Nitrogen, phosphorus, and potassium deficiencies were recorded in at least half the samples in 32 states and UTs.

What is India's conservation strategy?

- The Government of India is implementing a ***five-pronged strategy*** for soil conservation.
  - This includes making soil chemical-free, saving soil biodiversity, enhancing soil organic matter, maintaining soil moisture, mitigating soil degradation, and preventing soil erosion.

Some Important initiatives:

- **Soil Health Card (SHC) scheme (2015)**: to provide the status of soil's health to farmers
- **Pradhan Mantri Krishi Sinchayee Yojana**: to prevent soil erosion, regeneration of natural vegetation, rainwater harvesting, and recharging of the groundwater table
- **National Mission for Sustainable Agriculture (NMSA)**: to promote traditional indigenous practices such as organic farming and natural farming.
- **Paramparagat Krishi Vikas Yojana:** Organic farming is promoted through the adoption of organic villages by cluster approach and Participatory Guarantee System (PGS) certification



CHINESE SURVEILLANCE VESSEL 'YUAN WANG 5' RE-ENTERS INDIAN OCEAN

CONTEXT:

According to the maritime vessel-tracking portal **marinetraffic.com,** Chinese vessel '**Yuan Wang 5'** has re-entered the Indian Ocean, which is seen as a surveillance move by China.

⊙ BACKGROUND:

- The Chinese presence in the Indian Ocean began in 2008 as piracy operations in the Gulf of Aden and has since maintained continuous presence in the region, even deploying nuclear attack submarines (SSN), on occasions.
- Yuan Wang-5 entered Indian Ocean last year for similar reasons.

> In a recent incident on November 2022, another vessel 'Yuan Wang 6' had entered the Indian Ocean Region (IOR) coinciding with a planned Indian missile launch, but the launch was then deferred.

The Chinese vessel 'Yuan Wanh-5':

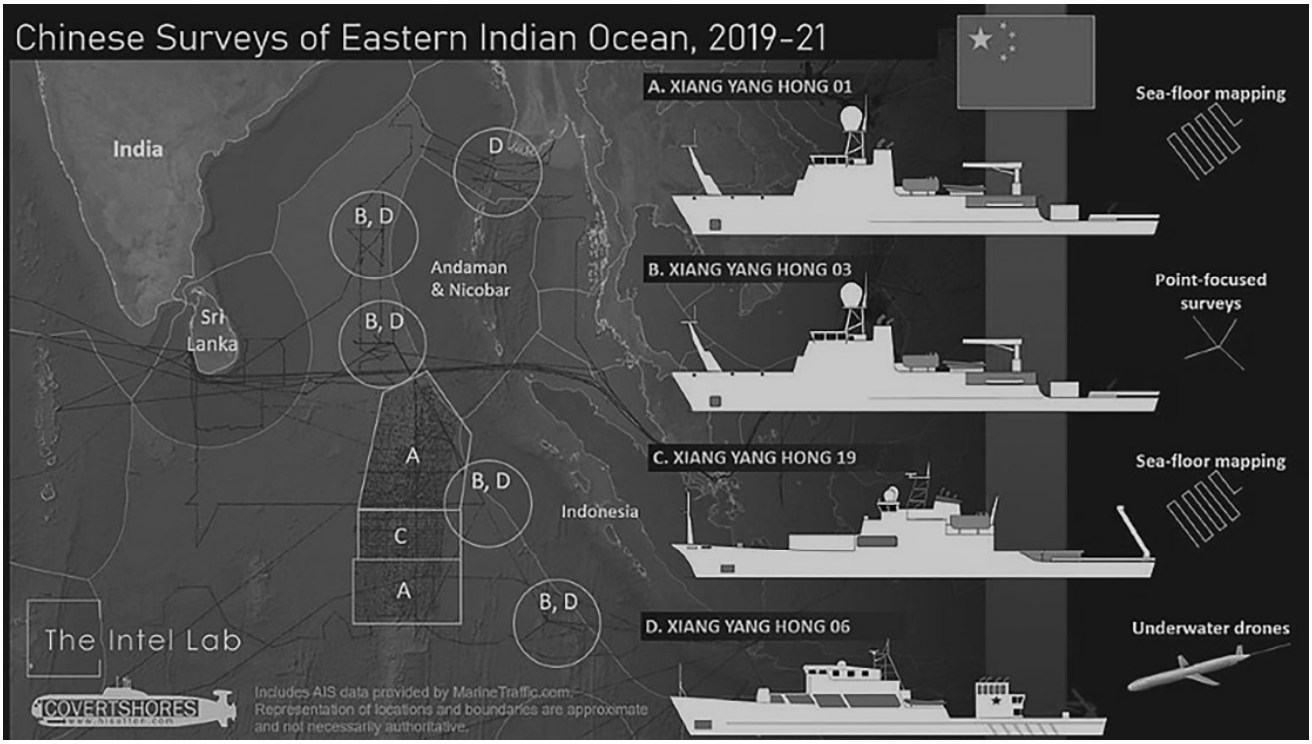
- Yuan Wang 5 is the Chinese marine research, satellite and ballistic missile vessel.
- It is currently mapping **Indian Ocean bed 2000 kilometres** (1100 nautical miles) south of Sri Lanka giving rise to the possibility of Beijing exploring a new sea route to Africa's eastern seaboard by bypassing contested Malacca, Sunda, and Lombok Straits.

China-Sri Lanka Agreement: (Reason for China's presence in Indian Ocean)

- The strategic ship has become a bone of contention between India and China after the concerns over the vessel being allowed to berth at **Hambantota port** by the Sri Lankan President.
- The Hambantota Port was leased to **China for 99 years** in 2017 by the then Prime Minister Ranil Wickremesinghe in a debt for equity swap as Sri Lanka had defaulted on the Chinese loan.
- The vessel left Hambantota on August 22 after Sri Lankans replenished the ship with food, diesel, oil, and lubricants.

India's concern:

- **Planned Tests:** The vessel entered into the Indian



Ocean coincides with a planned Indian long-range missile test going to held between December 15 and 16 in the Bay of Bengal region by India.

- India had also issued a notification **NOTAM (Notice to Airmen),** for a **no-fly zone** over the Bay of Bengal for a possible missile launch with a window between December 15-16, for a maximum distance of 5400 km.
  - The presence of Chinese vessel can disrupt the event.
- **Debt-diplomacy**: China has often been accused of engaging in "**debt diplomacy**" in the neighbouring countries to India, under its **Belt and Road Initiative** allegedly in the name of infrastructure development.
- **Increased presence in Indian Ocean**: Since 2008, China has regularly deployed a contingent of **naval warships** in the Gulf of Aden and established its first foreign military base in **Djibouti in 2017.**
- **Politicization of Indian Ocean**: At the same time, India's absence is seen as an attempt to challenge India's traditional presence in the region amid apprehensions of politicization of the Indian Ocean region.

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Section: B
(SPECIALS)

CURRENT AFFAIRS

THE LINGERING CRISIS OF LABOUR POST-PANDEMIC

⊙ CONTEXT

The International Labor Organisation (ILO) has recently released two reports*: 'Global Wage Report 2022-2023* **and '***Asia-Pacific Employment and Social Outlook 2022,* **highlighting the global employment scenario (post-pandemic).**

What does the data show?

- **Trends in Nominal wage:** The nominal wages rose to Rs17,017 per month in 2021 from Rs4,398 in 2006. The source referred to was the Ministry of Statistics and Programme Implementation.
- **Factoring in Inflation**: The real wage growth in India plunged to -0.2% in 2021 from 9.3% in 2006.
- **Negative Growth**: The negative growth in India started after the pandemic.

Neighbouring Countries:

- In China, the growth decreased from 5.6% in 2019 to 2% in 2022.
- In Pakistan, the growth is -3.8%.
- Figures for Sri Lanka were not available
- **Impact on low earners:** The greatest impact was on lower-income earners as they have to spend most of their disposable income on essential goods and services.

Is inequality rising?

- **At the Asia-Pacific level:** Only the jobs in high-skill occupations saw a recovery from the COVID-19 crisis, and the same is true across all sub-regions.
- **Hit on Low-to-medium-skill jobs:** There is an employment gain of 1.6% among high-skill workers between 2019 and 2021, but there is no such substantial gain among low-to-medium-skill workers.
- **Among G-20 Countries:** A significant gap in the average level of real wages between advanced G-20 countries and emerging G-20 countries such as India has been observed.
- It is on the level of about $4,000 per month in advanced economies and about $1,800 per month in emerging economies.

Asia-Pacific Regional Meeting (APRM) of the ILO:

- **The 17th APRM of ILO is being held in Singapore**.
- It came at an important juncture for the world of work as the region faces multiple challenges, including the continued impact of the COVID-19 pandemic compounded by the global food, energy and finance crises.
- It brought together representatives of governments, employers and workers' organisations from Asia, the Pacific and the Arab states.

Criticism of labour codes at the APRM:

- **Violation of the tripartite agreements**: India's new labour codes violate the tripartite agreements between workers, employers and the government and give a free hand to employers.
- The **power of inspection** has been left with employers through the new codes, and it will threaten the tripartite system in the country.
- Trade unions in India have been opposing such policies.
- The provisions given in the **Industrial Relations Code Bill will dilute the labour rights** of workers in small establishments having less than 300 workers
- **Mandatory compliance of registration of all workers** (with Aadhaar cards) on the Shram Suvidha Portal may lead to exclusion of many beneficiaries.
- The Code does **not emphasize social security as a right**, nor does it make reference to its provision as stipulated by the Constitution.

Other Highlighted Issues:

- Gigantic industries and MNCs do not observe uniform labour standards in the country.
- During the pandemic, contractual workers in the organised and government sectors faced difficulties with wages.
- Presently the workers are facing low wages, lack of job security and social security benefits and had to suffer poor working conditions.

What are the ILO's remedies?

- **Prudent price expectation:** It is crucial to safeguard the standard of living of low-income households against unexpected future inflation hikes.
- **Managing wage inflation**: The potential measures which are to be taken to safeguard the standard of living must not come from undesirable wage inflation.
- **Creation of decent formal wage employment**: It is a prerequisite for a more equitable distribution of wages and income, and is a key contributor to equitable and sustainable wage growth.
- **Focus on the gender pay gap:** The governments must focus on the gender pay gap as when women

leave the labor market, they are less likely to return than men.

- **Collective Efforts:** Collective efforts are required to gain momentum for growth. The government has to strengthen labor market institutions and wage policies.
- **Multilateral approach:** There is an urgent need to address the negative effects of climate change; increasing inequalities; the poverty, discrimination, violence, and exclusion endured by millions of people.
- **Taking down Discrimination:** The discrimination that women and girls continue to suffer in many parts of the world must end.
- **Ensuring HealthCare:** Access to vaccines, adequate sanitation and essential healthcare for all must be ensured.
- **Reducing the digital divide**: The growing digital divide between poor and wealthier countries needs to be reduced as it poses a potential speed-breaker when it comes to equitable growth.

Framework Regarding Labours in India:

- **Constitutional Framework:** Under the Constitution of India, Labour as a subject is in the Concurrent List and, therefore, both the Central and the State governments are competent to enact legislation subject to certain matters being reserved for the Centre.
- **Legislative Framework**: There have been several legislative and administrative initiatives taken by the government to improve working conditions and simplify labour laws. Most recent is the consolidated set of 4 labour codes which are yet to be implemented.

About the 4 Labour Codes:

- The Indian Parliament enacted 4 labour codes: the Industrial Relations Code, 2020; the Code on Social Security, 2020; the Code on Occupational Safety, Health, and Working Conditions, 2020; and the Code on Wages, 2020.
- These codes **aim to consolidate and simplify** the country's current and overlapping labour laws by combining 29 pre-existing labour laws into 4.
- Because labour is a **concurrent subject**, states must develop their own rules and only then can the codes be fully implemented.
- There are suggestions of a **phased implementation** as the Ministry of Labour and Employment lays the groundwork for the 4 new labour laws.
- Government measures to extend universal social security:
- **E-Shram portal**: Helps in identifying workers in the unorganized sector and prioritizing their needs.
- Extending health coverage through Employees' State Insurance Corporation ESIC.
- **Care for migrants**: Government scheme of One Nation One Ration card
- **Opportunities**: India has the largest youth population in the world and the country is observing a technological and entrepreneurial boom with start-ups mushrooming across the country.

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Section: C
(PRELIMS

CURRENT AFFAIRS

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ARUNACHAL PRADESH FRONTIER HIGHWAY ALONG LAC

⊙ CONTEXT:

Centre approved 1500-Km Arunachal Pradesh Frontier Highway along the Line of Actual Control (LAC). *(see the map below)*

About the Highway:

- **To be developed by:** Union Ministry of Road Transport and Highways (MoRTH)

> Arunachal Pradesh borders three of India's neighbours — **Bhutan, China and Myanmar**, stretching up to 1,630 km.

- The road will run close to the Line of Actual Control (LAC) with China.
- It is seen as one of India's biggest and toughest road construction projects.
- The proposed route will start at Mago, which borders Bhutan, and continue through **Tawang, Upper Subansiri, Tuting, Mechuka, Upper Siang, Debang Valley, Desali, Chaglagam, Kibithu, and Dong** before coming to an end at **Vijayanagar**, which is close to the Myanmar border.

Significance

- **Boost to military:** The construction of the Arunachal Frontier Highway will give the military a significant boost in capacity.
- **Better connectivity:** With this project, Arunachal Pradesh will have three national highways —
  - Frontier Highway
  - East-West Industrial Corridor Highway
  - Trans-Arunachal Highway

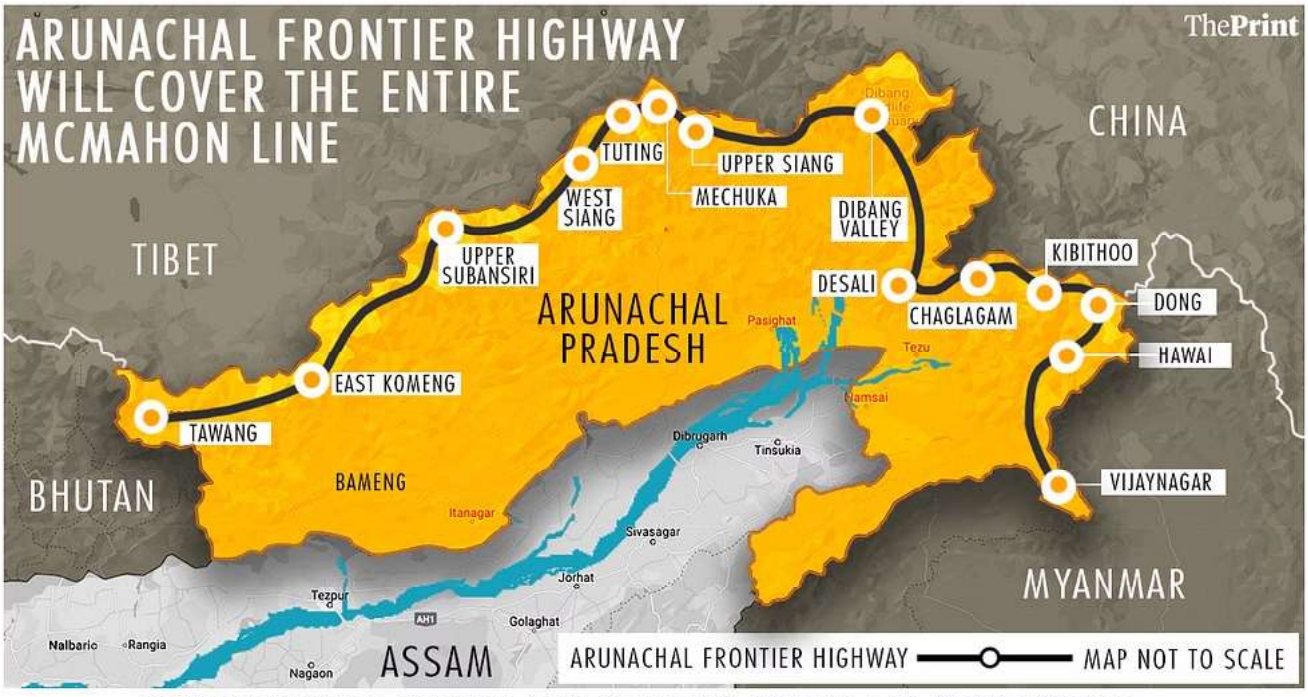
INTERNATIONAL LUSOPHONE FESTIVAL BEGINS IN GOA

⊙ CONTEXT:

The International Lusophone Festival has been launched in Goa.

What is Lusophone Commonwealth?

- The **Lusophone Commonwealth or the** Community of Portuguese Language Countries is a multilateral forum
- The forum was founded on 17 July 1996 at the 1st



REPRESENTATION PICTURE NOT SHOWING ACTUAL LAC DEMARCATION

CPLP Heads of State & Government Summit in Lisbon.

- **Members:** The founding members were Angola, Brazil, Cabo Verde, Guinea Bissau, Mozambique, Portugal and Sao Tome e Principe; while Timor Leste and Equatorial Guinea joined later.
- These 9 Lusophone countries comprise approximately 300 million people in 4 different continents (Africa, Latin America, Asia and Europe).

- India joined CPLP as an **associate observer** in July 2021.
- As part of India's engagement with CPLP, the Ministry of External Affairs celebrated the World Portuguese Language Day in Delhi on 5 May 2022, soon after joining CPLP.

TRIBAL DEVELOPMENT REPORT 2022

⊙ CONTEXT:

According to the Tribal Development Report 2022, India's tribal communities are at the bottom of the country's development pyramid even after 75 years of independence.

The **Bharat Rural Livelihood Foundation** was set up by the Union Cabinet in 2013 as an independent society under the **Union Ministry of Rural Development** to scale up civil society action in partnership with central and state governments.

About the Report:

Analysed parameters

- Livelihoods
- Agriculture
- Natural resources
- Economy
- Migration
- Governance
- Human development
- Gender
- Health
- Education
- Art & culture

- **Launched by:** The Bharat Rural Livelihood Foundation (BRLF)
- The report claims to be the first of its kind information since 1947 (after Independence).
- It focuses on the status of tribal communities at an all-India level and in central India.

Key findings:

- **Indigenous communities of India** have been pushed farther away from alluvial plains and fertile river basins into the harshest ecological regions of the country like **hills, forests, and dry lands.**
- The rules under **Forest Conservation Act in 1980,** has increased the conflict between environmental protection and the needs of **local Adivasi communities**, drove a wedge between people and forests.

The Demographic statistics:

- Tribal community forms 8.6 percent of the country's population according to the 2011 Census.
- Central India is home to 80% of the tribal communities in the country.
- Of the 257 Scheduled Tribe districts, 230 (90 percent) are either forests or hilly or dry lands.

Government Initiatives for empowering Tribals:

- **National Forest Policy of 1988:** It was in this policy that domestic requirements of local people were explicitly recognized for the very first time.
- **Capacity Building Initiative:** It is aimed at empowering tribal Panchayati Raj Institution (PRI) representatives by enhancing their decision-making capabilities at the local government level.
  - Apart from tribal development, it also focuses on **constitutional and legal provisions** that protect and promote the rights and welfare of the tribal population.
- **1000 Springs Initiative:** The initiative aims at improving access to safe and adequate water for the tribal communities living in difficult and inaccessible parts of rural areas in the country.
  - The initiative will help in **harnessing the potential of perennial springs' water** to address the natural scarcity of water in tribal areas.
  - It includes the provision of infrastructure for **piped water supply** for drinking; provision of water for irrigation; community-led total sanitation initiatives; and provision for water for backyard nutrition gardens, generating sustainable livelihood opportunities for the tribal people.

Status of Tribes Communities in India:

The **Dhebar Commission** constituted in 1973 created a separate category "Primitive Tribal Groups (PTGs)" which was renamed in 2006 as "**Particularly Vulnerable Tribal Groups** (PVTGs)".

- The most **commonly known tribes of India are Gonds, Bhils (or Wheels), Santhal, Munda, Khasi, Garo, Angami, Bhutia, Chenchu, Kodaba, and the Great Andamanese Tribes.**
- **Of all these** tribes, the **Bhil tribal group**, as per the 2011 census, is the **largest tribe** in India.
  - It constitutes a staggering 38% of the country's total scheduled tribal population.
- The major tribal communities have their roots in Maharashtra, Chhattisgarh, parts of Gujarat, Rajasthan, and North-eastern states.

Particularly Vulnerable Tribal Groups (PVTGs):

- Some tribal groups that remain more vulnerable among tribal groups are known as PVTGs (Particularly Vulnerable Tribal Groups).
- The PVTGs have some unique characteristics such as:
  - Dwindling or stagnant population
  - Extremely low level of literacy
  - Subsistence level of economy
  - Usage of pre-agricultural technology

FUTURE OF EDUCATION IN DIGITAL AGE

⊙ CONTEXT

Recently, a conference called 'enlightED' took place in Spain focusing on the question of education in the digital age.

About the 'enlightED':

- 'enlightED' is a global conference on education, technology, and innovation that started in 2018.
- This year it was the fifth edition of the summit held in Spain.
- Organised by: The "la Caixa" Foundation, Fundación Telefónica, IE University, and South Summit
- **The three main themes** for 2022 were:
  - Digital skills of today and tomorrow
  - Disruptive classrooms; and advancing equity
  - Inclusion through innovation

Key Points Discussed:

- Need of bringing digitization to underdeveloped communities
- Ending inequalities by empowering younger generations
- Role of social entrepreneurship in promoting inclusion
- Identifying new areas for development within a start-up ecosystem

Digital Education in India:

- Digital literacy is a **learning method using technology** and now believed to be the **future of learning.**

Present status:

- Recently, the Ministry of Education informed Lok Sabha that **less than 10% of schools** are **equipped with Information and Communication Technology (ICT)** tools or Digital Tools, in at least 10 states in India.
- **ICT Tools:** ICT tools for teaching and learning cover everything from digital infrastructures such as printers, computers, laptops, tablets, etc., to software tools such as Google Meet, Google Spreadsheets, etc.

- It aims at helping all students gain **knowledge in every corner of the country**.
- Recognizing the rapid development of digital education, the government has introduced a new **National Education Policy (NEP)** that **emphasizes digitizatio**n as well as the use of technology in education.

Initiatives by the state government:

Other Important Government Initiatives:

- PM eVidya
- Swayam Prabha TV Channel

- SWAYAM portal
- Digital Infrastructure for Knowledge Sharing (DIKSHA)
- NISHTHA on DIKSHA
- VidyaDaan
- National Educational Alliance for Technology (NEAT 3.0)
- CBSE Podcast- Shiksha Vani
- Digitally Accessible Information System (DAISY)

- **Video wall Chandigarh:** Video walls have been set up in 03 Senior Secondary schools. UT Chandigarh has provided all Secondary and Senior Secondary Schools with LCD projectors in ICT labs.
- **"Motor iskool":** Chhattisgarh has initiated "Motor iskool" to provide a face-to-face learning program.
- **Mobile Learning Van":** Gujarat has got Mobile Learning Van and Utilization Computer Lab Asset Mobile van for reaching its students for active learning.
- **"Alumni's Effort, Kerala"**: In Kerala, through a collective social effort by LSGs, Alumni, etc., all students were provided with access to Digital Classes, thereby ensuring an All-Inclusive digital learning model.
- **Chat-based assessment, Telangana**: The government of Telangana has launched a chat-based assessment and learning solution in the state with the support of ConveGenius and the Central Square Foundation.

Digital Gap in Education:

- It is a **gap between demographics and regions** having access to modern information and communications technology (ICT) and **those not having access.**
- It exists between **developed and developing countries**, **urban and rural populations, young and educated versus older and less-educated** individuals, and men and women.

OBC SUB-CATEGORISATION PANEL'S REPORT IN 'FINAL STAGES'

⊙ CONTEXT:

After more than five years of formation, the 'commission for the sub-categorisation of the Other Backward Classes (OBC)' is now in the final stages of finishing its task of coming up to further classify the nearly 3,000 caste groups within OBC.

Evolution of OBC status in India:

- The **Kalekar Commission**, set up in 1953, was the first to identify backward classes other than the Scheduled Castes (SCs) and Scheduled Tribes (STs) at the national level.
- The **Mandal Commission Report, 1980** estimated the OBC population at 52% and classified 1,257 communities as backward.
  - It recommended increasing the existing quotas, which were only for SC/ST, from 22.5% to 49.5% to include the OBCs.

Constitutional Backing for OBC reservation:

- The central government reserved **27% of seats** in union civil posts and services for OBCs **[Article 16(4)].**
  - The quotas were subsequently enforced in central government educational institutions [Article 15 (4)].
- In 2008, the Supreme Court directed **the central government** to exclude the creamy layer (advanced sections) among the OBCs.
- The **102nd Constitution Amendment Act, of 2018** provided constitutional status to the National Commission for Backward Classes (NCBC), which was previously a statutory body under the **Ministry of Social Justice and Empowerment.**

About the Commission to review OBC quota:

- The commission was set up on 2nd October 2017 under Article 340 of the Constitution.
- It was tasked with sub-categorisation of the Other Backward Classes (OBCs) and equitable distribution of benefits reserved for them.
- It was a five-member commission, headed by Justice G. Rohini (retd).
- It was initially given 12 weeks to submit its report to the President of India.
- Since then, the Ministry of Social Justice and Empowerment has extended the deadline more than 10 times.
- The distribution of quota for caste groups within OBC is being done remaining under 27% of quota for the OBC share holistically.

In 2015, the **National Commission for Backward Classes (NCBC)** recommended that OBCs should be categorised into extremely backward classes, more backward classes, and backward classes.

- NCBC has the authority to examine complaints and welfare measures regarding socially and educationally backward classes.

For what reason commission is making its Classification:

- To examine the **uneven distribution of reservation** benefits among different castes in the central OBC list.
- To work out the mechanism, criteria, norms, and parameters in a scientific approach for sub-categorisation within such OBCs.
- To take up the exercise of identifying the respective **castes/communities/sub-castes/ synonyms** for comprehensive data coverage.
- To study and recommend correction of any **repetitions, ambiguities, inconsistencies, and errors** of spelling or transcription.

Recommendations by the Committee:

- Since the final recommendations have not been disclosed by the committee till now but have been released a few last years.
  - It has met representatives of state governments, state backward classes' commissions, and community In 2021, the commission proposed to divide OBCs into **four subcategories numbered** 1, 2, 3, and 4 and split the 27% **into 2, 6, 9, and 10%,**
  - It also recommended the complete **digitization of all OBC records** and a standardised system of issuing OBC certificates.

COLONIALISM CHANGED THE WAY PLANTS ARE DISTRIBUTED AROUND THE WORLD: STUDY

Context: In a recent study in Vienna it has been found that 'alien plants' introduced by colonial powers from their native lands has led to 'destruction' of other plant species in the region affected.

Key Findings of the Study:

- Colonial Powers dominated the transfer of plant species across the world includes; the **British, the Spanish, the Portuguese and the Dutch.**
- **Source:** The team evaluated a database of naturalised alien plants **called 'GloNAF'** to determine patterns of similarity or diversity in the distribution of these plants.

GloNAF:

- It is a database of naturalised alien plants called **Global Naturalised Alien Flora (or GloNAF) t**o determine patterns of similarity or diversity in the distribution of these plants in different parts of the world.
- Using the 19,250 naturalised alien plant species on GloNAF, covering 1,183 regions the study has been conducted for the first time evaluating the colonial history with alien species.

Key findings:

- They found that parts of the world colonised by the same power had more similar flora than those that were unoccupied or ruled by a different power.
- Although alien plants were naturalised for their economic value, the phenomenon has taken a toll on the biodiversity and economy of colonised countries.

What are Alien Species?

- An alien species is a species introduced outside its normal distribution.

According to experts, alien species become 'invasive' when they are introduced deliberately or accidentally outside their natural areas, where they out-compete the native species and upset the ecological balance.

The most common characteristics of invasive species are;

- Rapid reproduction and growth
- High dispersal ability
- Ability to survive on various food types, and in a wide range of environmental conditions

- The ability to adapt physiologically to new conditions (called **phenotypic plasticity**)

Why they are considered harmful?

- **Reactive impact:** The alien invasive species are non-native to an ecosystem. They may cause economic or environmental harm or even adversely affect human health.
- **Further intensification of impact: The** negative effects of invasive alien species on biodiversity can be intensified by climate change, habitat destruction and pollution.
  - Isolated ecosystems such as islands are particularly affected.
- **Impact of well-being:** Loss of biodiversity further have major consequences on human well-being. This includes the decline of food diversity, leading to malnutrition, famine and disease, especially in developing countries.
  - It will also have an important impact on our economy and culture.

Impacts:

- **Economic impact**: Their negative impact on the economy costs countries billions of dollars in losses to agricultural production annually.
- **Environmental Impact**: Invasive species leads to affect the native species and can degrade ecology of the region.
- **Cultural impact**: The People of the region where alien species were introduced also adopts with the plant which affect the consumption and living pattern of a region with time.

Important Alien species brought in India during Colonial era:

- For instance, ***imli, or tamarind,*** was introduced to India from **tropical East Africa** and named *Tamarindus indica*. This was now misconcept by other that it was native to India.
- The ***Parthenium*** **invasive species** offers evidence too on similar grounds. It came to India as a contaminant with a wheat variety introduced in 1955.
- Since then, it has resulted in yield loss of up to **50% for different food crops**, according to a 2016 study conducted by reserachers.

AUSTRALIA'S GREAT BARRIER REEF IS 'IN DANGER'

⊙ CONTEXT:

Australia is opposed to the recommendation made in the joint report by IUCN and UNESCO's World Heritage Centre, to include the Great Barrier Reef (GBR) on the List of "World Heritage in Danger".

The Great Barrier Reef (GBR):

- It is the **World's most extensive and spectacular *"Coral Reef"* ecosystem** composed of over 2,900 individual reefs and 900 islands.
- The reef is located in the **Coral Sea (North-East Coast),** off the coast of Queensland, Australia.
- This reef structure is **composed of and built by billions of tiny organisms, known as coral polyps.**
- It was selected as a **World Heritage Site** in 1981.

What is a world heritage site?

- World Heritage Sites are cultural and/or natural sites considered being of '**Outstanding Universal Value,** which has been inscribed on the World Heritage List by the World Heritage Committee.

Inscribing a site on the List of World Heritage in Danger"

- This list is designed to inform the international community of conditions:
  - That threatens the very characteristics of a property inscribed on the World Heritage List.
  - To encourage corrective action.

- It allows the WHC:
  - To allocate immediate assistance from the World Heritage Fund to the endangered property
  - To gather international support and attention to the site.

When a site is added to World Heritage Site?

According to the **World Heritage Convention, the World Heritage Committee** (that administers the Convention) adds World Heritage Sites to the danger list if the site satisfies one of the criteria in either of the **two categories below.**

For cultural properties:

- **Ascertained Danger:**
  - serious deterioration of materials;
  - serious deterioration of the structure and/or ornamental features;
- **Potential Danger:**
  - modification of the juridical status of the property diminishing the degree of its protection;
  - lack of conservation policy;

For natural properties:

- **Ascertained Danger**
  - A serious decline in the population of the endangered species or the other species of Outstanding Universal Value for which the property was legally established to protect, either by natural factors such as disease or by human-made factors such as poaching.
  - Severe deterioration of the natural beauty or scientific value of the property, as by human settlement, construction of reservoirs which flood important parts of the property, industrial and agricultural development including the use of pesticides and fertilizers, major public works, mining, pollution, logging, firewood collection, etc.

Potential Danger:

- a modification of the legal protective status of the area
- planned resettlement or development projects within the property or so situated that the impacts threaten the property

Why Australia is saying 'NO'?

It's multiple other interests taking a back seat:

- It has to phase out "gill net fishing" which indiscriminately harms marine life.
- It would have to make substantial investments to compensate present fishing method.
- Losing political goodwill amongst fishermen who form a voting bloc in Queensland.

AMAZONIAN BIODIVERSITY: INDIGENOUS CONVOY TO BRING FOCUS TO THREATS DURING MONTREAL SUMMIT

⊙ CONTEXT:

A delegation of Indigenous Amazonians will be a part of the upcoming 15th Conference of the Parties (COP15) for the United Nations Convention for Biological Diversity (CBD), which aims to draw attention on threatening biodiversity loss in the Amazon rainforest.

About the Upcoming COP15 for CBD:

- COP15 CBD is an international meeting bringing together **governments from around the world.**
- Participants will set out new goals to guide global action to preserve biodiversity through 2030 to halt and reverse nature loss.
- The territories of Indigenous communities in the Amazon have been increasingly reported to be under threat.
- Key discussions:
  - Deforestation
  - Land degradation
  - Biodiversity losses
  - Impacts on Indigenous communities

Significance of Amazon forests:

- Climate science data show that Amazon basin spreads across millions of hectares in multiple countries and thus play a larger environmental role along with economic gain.
- It hosts massive sinks of sequestered carbon and the forests are a key factor in regulating monsoon systems.

- It harbours rich biodiversity and about 400 known indigenous groups who have prevented commercial from overrunning the lands.
- It's called the **"lungs of the planet**" for its role in sucking carbon dioxide out of the atmosphere and adding fresh oxygen to it.

Need for Conservation:

- **Biodiversity in the region**: The Amazon rainforest is home to 30 per cent of the world's species, comprising 40,000 plant species, 16,000 tree species, 1,300 birds and more than 430 species of mammals.
- **Land degradation**: Indigenous lands make up around 20 per cent of the Earth's territory, containing 80 per cent of the world's remaining biodiversity.
- **Climatic hazards:** More than 75 per cent of the Amazon rainforest has been heading towards a tipping point since the early 2000s, a study published in March 2022 said.
  - It may be losing its ability to bounce back from extreme events such as drought or fire, threatening to become a dry savannah-like ecosystem.
- **Impacting locals**: The territory of the Indigenous Kakataibo community of Puerto Nuevo in Peru lost 15 per cent of its tree cover between 2013 and 2021.

SEA SPONGES & THREATS TO THEM

⊙ CONTEXT

Earlier this year, New Zealand recorded the largest-ever sponge bleaching event off its southern coastline.

Now, the latest research shows the most severe impacts on sponges occurred in areas where the marine heatwave was most intense.

What are sea sponges?

- Sea sponges are among the most basic multicellular organisms on the planet. They come in a variety of sizes, colours, and textures.
- Sea sponges feature a shell-like or glass exterior layer with small pores (ostia) that penetrate deep into the soft interior structure.
- Water can flow in and out of the sponge through these pores. The sponge collects food and oxygen while also releasing waste which serves as food for other animals. These sponges also create tree-like, cup, and tube shapes, creating a forest-like structure. These so-called "sponge gardens." serve as shelter for a lot of other animals.
- The approximately 8,550 living sponge species are scientifically classified in the phylum *Porifera*, which is comprised of four distinct classes:
  - *Demospongiae* (the most diverse, containing 90 percent of all living sponges)
  - *Hexactinellida* (the rare glass sponges
  - *Calcarea* (calcareous sponges)
  - *Homoscleromorpha* (the rarest and simplest class, only recently recognized, with approximately 117 species)

Difference from Corals	
Corals are complex, many-celled organisms	Sponges are very simple creatures with no tissues.
All corals require saltwater to survive	While most sponges are found in the ocean, numerous species are also found in fresh water and estuaries.

Important ecological functions played by Sponges

- **Filtering water:** They filter large quantities of water, capturing small food particles.
- **Moving carbon:** They help in moving carbon from the water column to the seafloor where it can be eaten by bottom-dwelling invertebrates.
- **Maintaining food chain:** These invertebrates in turn are consumed by organisms further up the food chain, including commercially and culturally important fish species.
- **Habitat for marine species:** Sponges also add **three-dimensional complexity** to the sea floor, which provides habitat for a range of other species such as crabs, shrimps and starfish.

In New Zealand, they occupy up to 70% of the available seafloor, particularly in so-called mesophotic ecosystem at depths of 30-150m.

What causes bleaching?

- The sea sponges have **tiny organisms** that capture sunlight and make food through photosynthesis. The sponges depend on this food for survival.

- When water temperature rises, much like corals, these sponges push out these photosynthesizing organisms.
- In addition to food, these organisms are also a source of their colour. Hence, when sponges push them out, the sponges lose their colour (and turn white) as well as their source of food.

WALLABY

⊙ CONTEXT:

A radio telescope in remote Western Australia is helping to build a 3-dimensional map of the night sky, mapping nearby galaxies up to a billion light years away.

About WALLABY:

- WALLABY is a radio telescope in Western Australia that is helping astronomers build a three-dimensional map of the night sky.
- The **W**idefield **A**SKAP **L**-band **L**egacy **A**ll-sky **B**lind survey (or WALLABY) is one of two key surveys that are now running on the Australian SKA Pathfinder (ASKAP).
- It is an **innovative imaging radio telescope** located in an **extremely radio-quiet zone** (the Murchison Radio-astronomy Observatory) in Western Australia.

Aim of WALLABY:

- To observe three-quarters of the whole sky in the **21-cm line of neutral hydrogen** (or HI) at 30-arcsec resolution.
  - thereby detecting and imaging the gas distribution in hundreds of thousands of external galaxies in the local Universe.

The Hydrogen 21-cm Line:

- The hydrogen in our galaxy has been mapped by the observation of the 21-cm wavelength line of hydrogen gas.
- At **1420 MHz**, this radiation from hydrogen penetrates the dust clouds and gives us a more complete map of the hydrogen than that of the stars themselves since their visible light won't penetrate the dust clouds.

It will help the researchers to measure:

- measure the dark-matter distribution
- the internal motion of galaxies
- how these systems evolve and interact

What is radio astronomy and how is it used?

- The radio telescope is, an **astronomical instrument** consisting of a radio receiver and an antenna system that is used to detect radio-frequency radiation between wavelengths of about **10 meters (30 megahertz [MHz]) and 1 mm (300 gigahertz [GHz]**) emitted by extraterrestrial sources, such as stars, galaxies, and quasars.
- Unlike optical telescopes, **radio telescopes can detect invisible gas** and, therefore, can **reveal areas of space that may be obscured by cosmic dust**.
- **Cosmic dust** consists of tiny particles of solid material floating around in the space between the stars.
- **In its simplest form a radio telescope has three basic components:**
  - One or more antennas pointed to the sky, to collect the radio waves
  - A receiver and amplifier to boost the very weak radio signal to a measurable level, and
  - A recorder to keep a record of the signal.

CHATGPT, THE LATEST NATURAL LANGUAGE PROCESSING TOOL

⊙ CONTEXT:

The ChatGPT an artificial intelligence tool developed by OpenAI has created a buzz among computer scientists and programmers due to its creative capabilities.

About ChatGPT:

- ChatGPT is a ***'conversational' AI*** and will answer queries just like a human would.
  - It can answer follow-up questions.

- It can also "admit its mistakes
- It can challenge incorrect premises and reject inappropriate requests.

- It is being seen as a replacement for much of the daily mundane writing, from an email to even college-style essays.
- **Developed by:** OpenAI, a research, and development firm, was founded as a nonprofit in 2015.
- **Language Used:** It has used the **GPT 3.5 series of language learning models (LLM**).
  - GPT stands for **Generative Pre-trained Transformer 3.**
  - It relies on **deep learning techniques** to produce human-like text based on inputs.'

Why the ChatGPT is called a Language Model and not a chatbot?

- A language model is software that:
  - It prints out a sequence of words as output that are related to some words given as input with appropriate semantic relation.
  - It is often used in ***natural language processing (NLP) applications***, such as speech recognition, automatic translation, and text generation.
  - ChatGPT fits more appropriately in this definition and hence differs from chatbots.

ChatGPT as a neural network:

- **Neural network:** It can be considered as a large network of computers that can fine-tune its output of words based on the feedback given to it during stages of training.
  - ChatGPT has undergone this training process.
  - This training process and the technology together are called **Reinforcement Learning.**
  - All these technologies are part of artificial intelligence (also called Machine Learning).

How ChatGPT looks at words?

- **"Word embedding":** It represents words as a matrix of numbers that can be manipulated inside computers.
  - The context in which a word has been used is differentiated by the neural network mentioned above. Example; shoot appears with the 'gun' or appears with the 'camera'.
- **"Transformer":** It is a *refining technique* that is later on deployed to help a neural network to accurately "understand" the context of a sentence or a paragraph.
  - The output "comprehension" can be used for multiple purposes like answering a question etc.

Development of ChatGPT:

Use of language models:

- ChatGPT follows a generation of language models that were released by OpenAI in 2018.
- In 2018, OpenAI released the ***Generative Pre-Training (GPT)*** language, model.
  - Here, generative means that it is a type of neural network that can create new content based on input content, called Training Data.
  - This technology makes it suitable for creative tasks like writing a new story.

Transformer technique:

- GPT was improved and "Generative Pre-trained Transformer 2" or GPT-2 was released in 2019. GPT-3 with even more sophisticated neural networks was launched in 2020.
- In early 2022, GPT3.5 was released and ChatGPT is the successor to GPT3.5.

Other language models:

- ***BERT (Bidirectional Encoder Representations from Transformers)*** from Google.
- **Language Model for Dialogue Applications (LaMDA)** from Google

Accuracy of ChatGPT:

- The accuracy of ChatGPT or any language model can be measured using standard techniques like:
  - **ROUGE metric:** It is Recall-Oriented Understudy for Gisting Evaluation". It compares ChatGPT's output of content against a standard expected content and measures the overlap as a success percentage.

Is ChatGPT the most powerful NLP tool?

- For general purposes, ChatGPT can be considered the most powerful for now.
- However, it may not be equally powerful in specialized contexts, like an automatic conversational assistant for medical queries.

CASE STUDY

You are the District Collector in a small district of Bihar. After being appointed for several months, you observed that there is a lack of digitization of official works and there is a lot of paperwork done for daily affairs in the office. The issue was taking hold as you saw many people being waiting in queues with a bunch of papers in their hands to address their grievances. Also, you noticed the not-so-harmonious working environment resulting from the quarrels/argument resulting from the unproductive engagement over trivial issues like arranging documents in a specific order and adding to your surprise was the empty grievance box. So, as an administrative authority how will you solve the issue? What are the challenges do you face while implementing your decisions to change the system of working in the office.

INSTRUCTIONS

- The above case study and its correct approach is going to be discussed in a live session in our Telegram channel. You can submit your answer in the channel itself.
- To know more, join our channel (**GS SCORE : GS ANALYST**). Scan the QR Code.

Section: D

(NEWS IN SHORT)

Indonesia's Mount Semeru volcano erupts

- Indonesia's **Mount Semeru** is the highest mountain on Indonesia's main **island of Java.**
- It erupted on **December 4** spewing hot ash clouds a mile into the sky.
- **Location**: Around 800 kilometres (500 miles) southeast of capital Jakarta.
- **Last eruption**: Mount Semeru last erupted exactly one year ago, killing at least 51 people and damaging more than 5,000 homes.
- **Vulnerability of the island**: Indonesia sits on the **Pacific Ring of Fire**, where the meeting of continental plates causes high volcanic and seismic activity.

Indo-French partnership for National Parks

- With **French and Indian** technical and financial support, the **Indo-Pacific Parks Partnership** will facilitate partnership activities for interested '**natural parks' of the Indo-Pacific region.**
- These activities include biodiversity conservation, wildlife management and engagement with local communities.
- The **Kaziranga project** is a part of a larger Assam Project on Forest and Biodiversity Conservation (APFBC).
- Features of the Project:
  - The project conceptualised the **reforestation** of 33,500 hectares of land and

The training of 10,000 community members in alternate livelihoods by 2024.

India to assume chairmanship of Wassenaar Arrangement

- India would assume chairmanship of Wassenaar Arrangement on January 1, 2023.
- About:
- The Wassenaar Arrangement is an elite club of countries which subscribe to arms export controls, similar to the Nuclear Suppliers Group and the Missile Technology Control Regime.
- The body came into being in 1996.
- Members: The WA has 42 members, the latest entrant being India.
- With the exception of China, all the other permanent members of the U.N. Security Council are signatories of the WA, which is headquartered in Vienna.

DRDO hands over Akash missile details to MSQAA

Paving the way for its production and inching further close to 'Aatmanirbharta', the DRDO handed over all technical specifications and related materials of the land-forces version of the Akash weapon system to the Missile Systems Quality Assurance Agency (MSQAA).

About

- AKASH is a Short Range Surface to Air Missile System to protect vulnerable areas and points from air attacks.
- Akash Weapon System (AWS) can simultaneously engage Multiple Targets in Group Mode or Autonomous Mode.

It has built-in Electronic Counter-Counter Measures (ECCM) features

ISRO and Social Alpha sign MoU to establish SpaceTech Innovation Platform

- ISRO and Social Alpha signed an MoU to launch SpaceTech Innovation Network (SpIN).
- It would be India's first dedicated platform for innovation curation and venture development for the burgeoning space entrepreneurial ecosystem.
- SpIN will primarily focus on facilitating space tech entrepreneurs in three distinct innovation categories:
  - Geospatial Technologies and Downstream Applications
  - Enabling Technologies for Space & Mobility
  - Aerospace Materials, Sensors
  - Avionics

Singapore and India conclude Exercise Agni Warrior (XAW) 2022

The Singapore Army and the Indian Army successfully concluded Exercise Agni Warrior (XAW) 2022, in Devlali, India.

About

- It is a Bilateral Artillery Exercise.
- It is held in India since 2004.
- This year's exercise was the twelfth in the series.

The exercise culminated in a joint live-firing exercise involving the Singapore Armed Forces' (SAF) Singapore Light Weight Howitzer, Field Artillery Meteorological System, and the Indian Army's 155mm Field Howitzer 77B.

New species of bagworm moth named after St. Thomas College

- A new species of bagworm moth has been discovered by researchers of the Zoology department of St. Thomas College, Thrissur.
- The species, discovered from Koviloor at Vattavada in Idukki district, has been named Eumasia thomasii, in honour of the 133-year-old college.
- Eumasia thomasii belongs to the moth family Psychidae, which consist of very small-sized moths.

Eumasia thomasii is the third moth species to be discovered from India from the monotypic genus Eumasia.

IIT Madras builds and deploy Wave Energy Generator- Sindhuja-I

Researchers associated with IIT Madras have built and deployed a system that is capable of generating electricity using energy from sea waves.

About

- The system, known as Sindhuja-I, was deployed by researchers approximately six kilometers from the coast of Tuticorin based in Tamil Nadu, where the sea has a depth of approximately 20 meters.
- Sindhuja-I can is capable of producing 100 watts of energy.
- It is going to be scaled up to yield one megawatt of energy within the next three years.
- The Sindhuja-I system comprises a spar, a floating buoy, and an electrical module.

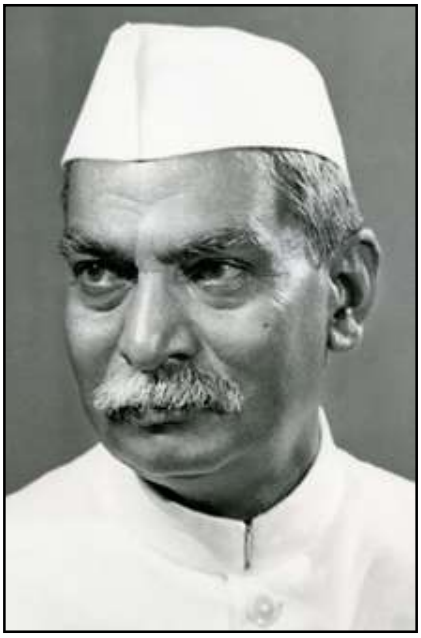
A new design for President's standard, colour and crest for Indian Navy

Recently, during the Navy Day celebrations at Visakhapatnam, the introduction of a new design for the President's Standard and Colour and Crest for the Indian Navy has been unveiled.

About

- The new design of the President's Standard and Colour comprises three main constituents;
  - The national flag in the upper-left canton adjacent to the staff,
  - The state emblem underscribed with 'Satyamev Jayate' in golden colour on the upper right canton on the fly side and,

A **Navy Blue-Gold Octagon** below the golden state emblem.



Dr Rajendra Prasad

Dr Rajendra Prasad's Birth Anniversary (3rd December)

- Rajendra Prasad, India's first president, was born on December 3, 1884, in Ziradei, Bengal Presidency (present-day Bihar).
- Dr. Rajendra Prasad was an Indian independence warrior, lawyer, teacher, and writer. From 1950 until 1962, he served as India's first President.
  - During the Indian Independence Movement, Rajendra Prasad joined the Indian National Congress.
  - He developed to become one of the region's prominent leaders and was a strong follower of Mahatma Gandhi.

He was India's first and longest-serving President, and he contributed

Indian scientist Acharya Jagadish Chandra Bose (1858-1937)

On the occasion of 164th birth anniversary of legendary Indian scientist Acharya Jagadish Chandra Bose Ministry of Culture organized an "International conference on the contributions of J C Bose: A Satyagrahi Scientist".

About

- Born on 30th November, 1858 to **Bama Sundari Bose and Bhagawan Chandra**, Bengal.
- He was a **Plant Physiologist and physicist** who invented the crescograph, a device for measuring the growth of plants.
  - He for the first time demonstrated that plants have feelings.
- He also pioneered what can only be described as the first use of **satyagraha** against the British almost two decades ahead of Mahatma Gandhi, who coined the term **'Satyagraha'** in 1906.

He was responsible for setting up the Bose Institute in Kolkata.

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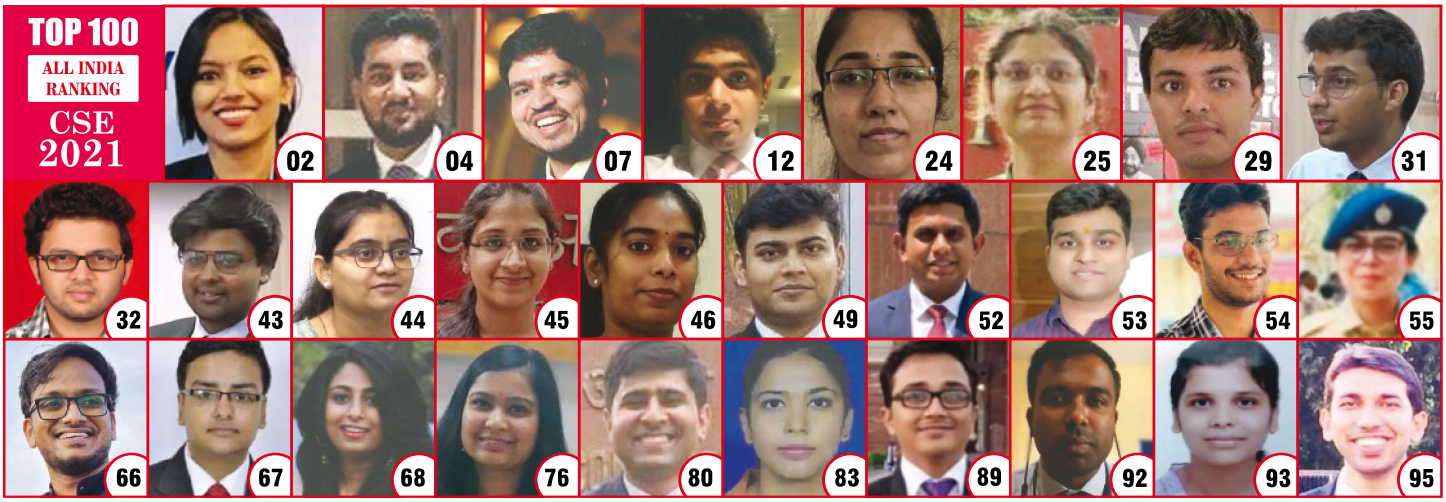
GS SCORE
An Institute for Civil Services

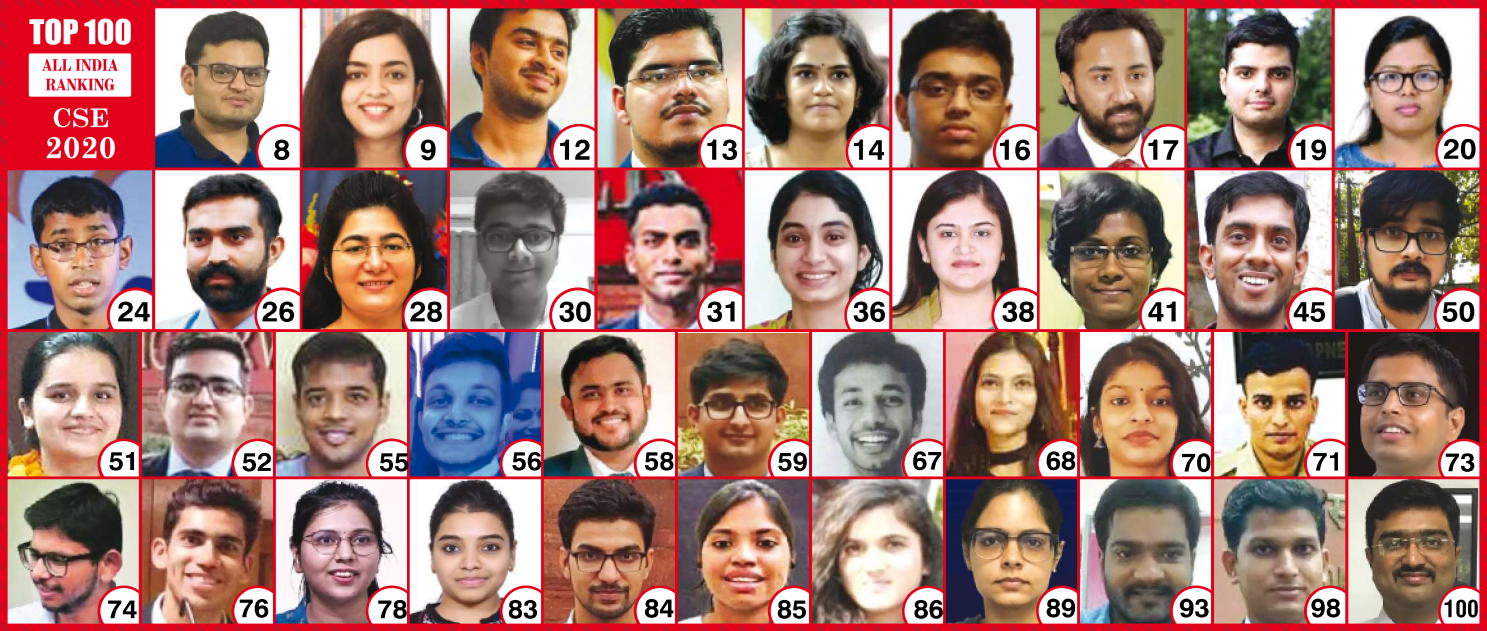
CSE RESULTS

TOP 100 ALL INDIA RANKING CSE 2021



SUCCESS IS A PRACTICE WE DO!

TOP 100 ALL INDIA RANKING CSE 2020



TOP 100 ALL INDIA RANKING CSE 2019