

CURRENT AFFAIRS

WEEKLY

WEEK: 4
OCTOBER
2023

MAINS

- GS- I**
 - ▣ IMPACT OF NON-PARTICIPATION OF MARRIED WOMEN IN THE WORKFORCE IN INDIA
- GS- II**
 - ▣ CANADA'S ACTIONS ARE IN VIOLATION OF VIENNA CONVENTION
 - ▣ SC'S GUIDELINES FOR IMPLEMENTATING POSH ACT
 - ▣ SPECIALISED AND LOCAL LAWS (SLLS)
 - ▣ IMPLEMENTING CRIMINAL PROCEDURE IDENTIFICATION ACT
 - ▣ ERADICATING MANUAL SCAVENGING IS THE RESPONSIBILITY OF CENTRE & STATES: SC
 - ▣ ETHICS COMMITTEE OF LOK SABHA: AN OVERVIEW
- GS- III**
 - ▣ AN OPPORTUNITY TO RECAST INDIA'S FOOD SYSTEM
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- ▣ 11th century Sanskrit Alphabet discovered in Neelkhantheswar Mahadev Temple

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- ▣ Heat belts
- ▣ Cyclone Tej

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- ▣ India-Japan chip supply chain partnership

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- ▣ Paintbrush swift butterfly

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- ▣ India's First Regional Rapid Transit System (RRTS) inaugurated

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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.

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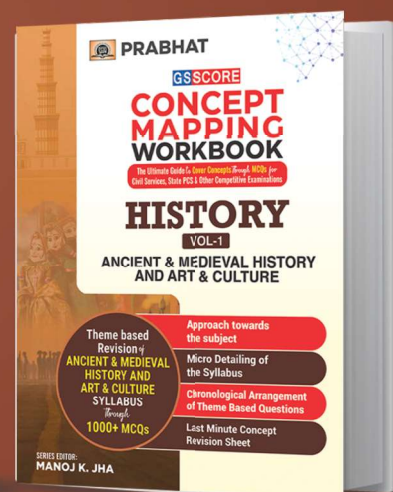
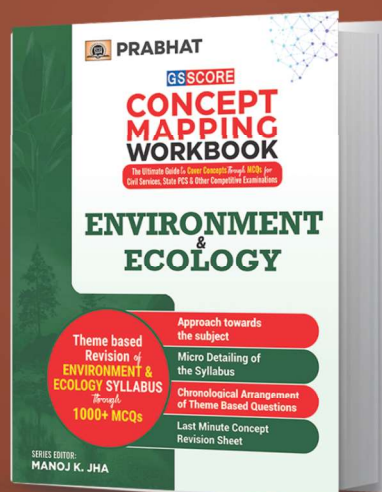
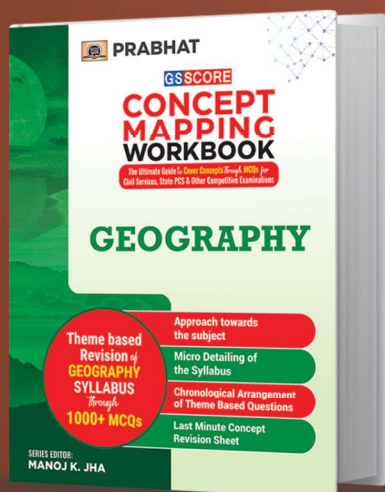
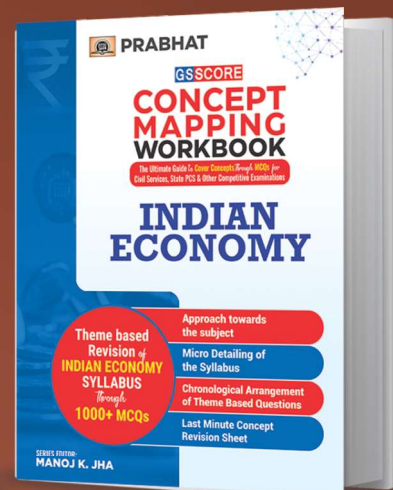
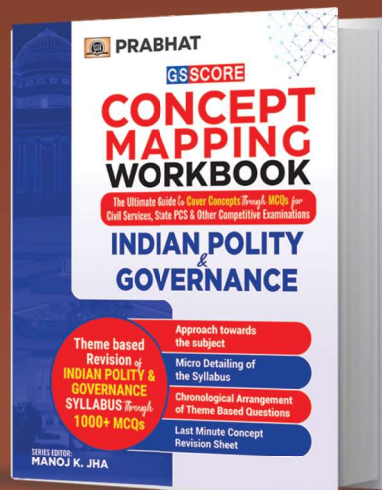
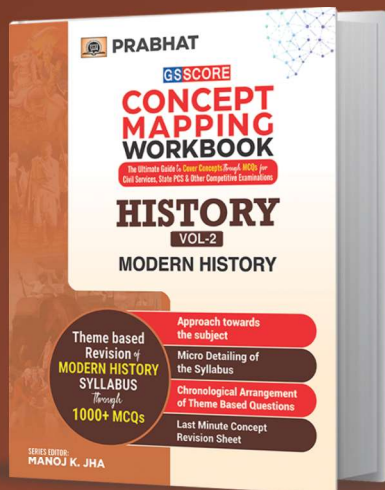
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Section A [MAINS]

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- ❧ Canada's actions are in violation of Vienna Convention
- ❧ SC's Guidelines for implementing POSH Act
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IMPACT OF NON-PARTICIPATION OF MARRIED WOMEN IN THE WORKFORCE IN INDIA

Context: The impacts of the non-participation of married women in the workforce in India are considerable, given their substantial representation among the working-age population.

- ◆ The labour market entry of women is influenced by a range of individual and societal factors.

Macro Impact of Low Women's Labor Force Participation

- ◆ Reduced women's labour force participation affects economic prospects and intra-household decision-making power.
- ◆ Consequences on economic progress at the national level are significant.
- ◆ Gender disparities persist in terms of work roles and remuneration.

Global Trends in Female Labour Force Participation

- ◆ Worldwide female labour force participation remains low, with a 2022 global LFPR of 47.3%.
- ◆ Decline in female LFPR is observed in developing nations, including India, where it dropped from 28% to 24% between 1990 and 2022.

Challenges for Married Women in the Labour Market

- ◆ After marriage, many factors contribute to the decline in women's LFPR, such as limited education, family obligations, and societal disapproval.
- ◆ Marriage intensifies domestic obligations and imposes social and cultural barriers to women's workforce participation.
- ◆ Several factors, including religion, caste, geography, wealth, and societal norms, affect women's labor market entry.

Professional Challenges for Married Women

- ◆ After marriage, women prefer flexible, close-to-home employment.
- ◆ Gender-based professional costs lead to disparities in career choices, income, age at marriage, and fertility decisions.

- ◆ Socioeconomic status influences women's decision to engage in the labor market.

Marriage's Impact on Labor Force Participation

- ◆ Married women aged 25-49 exhibit lower employment rates, with a 5% decrease in FLFPR from 2004-05 to 2022-23.
- ◆ Illiterate women are more likely to participate in the labor force after marriage compared to well-educated women.

Sectoral Trends and Promoting Women's Empowerment

- ◆ Agriculture remains the dominant sector for female employment.
- ◆ Social and cultural factors significantly influence women's labor market entry.
- ◆ Married women have the lowest participation rates.
- ◆ Adequate day-care services are essential to encourage female labor force participation.

Recommendations

- ◆ Improve access to high-quality day-care services for women in the workforce, covering formal and informal sectors.
- ◆ Enhance support for women's economic empowerment in the context of high economic growth.
- ◆ The economic impact of reduced participation of married women in the workforce is substantial, affecting economic prospects and household dynamics. This phenomenon is not unique to India but reflects a global challenge with persisting gender disparities in the labour market. Solutions must address not only societal and cultural barriers but also practical issues like access to day-care services.

CANADA'S ACTIONS ARE IN VIOLATION OF VIENNA CONVENTION

Context: Recently, External Affairs Minister of India has mentioned that Canada's action against India, are against Vienna Convention.

Background:

- ◆ Due to the ongoing diplomatic tussle between Canada and India new developments keep surfacing in the background.

- ◆ In this regard recently Indian Foreign minister mentioned that Ensuring diplomats' safety is most fundamental part of **Vienna Convention**.
- ◆ India is reviewing security situation that led to Indian missions suspending visa services in Canada.

Concerns Raised by India:

- ◆ **Diplomats' Safety Violation:** India has accused Canada of violating the Vienna Convention on Diplomatic Relations, asserting that ensuring the safety and security of diplomats is the most fundamental aspect of the convention.
- ◆ **Pro-Khalistan Threats:** India is closely tracking the situation in Canada and has pointed to threats made by pro-Khalistan groups that called for the murder of Indian diplomats. These threats have escalated tensions.
- ◆ **Certain Canadian Politics:** Without specifying names, India highlighted its issues with a "certain segment" of Canadian politics, suggesting that this segment supports pro-Khalistan elements.
- ◆ **Parity in Diplomatic Representation:** India's main concern is not just the withdrawal or expulsion of diplomats but the principle of "parity." It argues that Canada maintains a significantly higher number of diplomats in India.
- ◆ **Interference in Domestic Affairs:** India accused Canadian diplomats stationed in the country of interfering in its domestic affairs, indicating a need for them to refrain from such involvement.

What are Vienna Convention and its Importance?

- ◆ The Vienna Convention on Diplomatic Relations is an international treaty that governs the conduct of diplomatic relations between independent countries. It was adopted in 1961 and entered into force in 1964.
 - ▶ The primary purpose of this convention is to ensure the smooth functioning of diplomacy by regulating the privileges and immunities of diplomats, as well as the rights and responsibilities of both sending and receiving states.
- ◆ One of the most fundamental principles is diplomatic immunity.
 - ▶ It grants diplomats certain privileges and immunities, such as immunity from arrest, civil jurisdiction, and taxation in the host country. This immunity ensures that diplomats can carry out their duties without fear of legal harassment.
- ◆ The convention emphasizes the importance of respecting the sovereignty of the receiving state.

Diplomats must not interfere in the internal affairs of the host country.

- ◆ The convention establishes that diplomatic premises, such as embassies and consulates, are inviolable. The host country is obligated to protect these premises from intrusion or damage.
- ◆ Diplomats and their families are exempt from some local laws of the host country. However, this exemption is not absolute and should not be abused.
- ◆ The convention sets out procedures for the termination of diplomatic relations, protecting the interests of both parties when such a decision is made.



SC'S GUIDELINES FOR IMPLEMENTATING POSH ACT

Context: Recently, the Supreme Court (SC) has issued directions to the Centre, States and Union Territories for appointment of District Officer in each district of India with aim of implementing POSH Act in a better way.

What is the decision of Supreme Court?

- ◆ The Apex Court interpreted **Section 5 of the POSH (Protection of Women from Sexual Harassment) Act** and expressed that the concerned provision made it mandatory for appointment of a District Officer.
- ◆ The Supreme Court directed that the Principal Secretary of the **State/UT Ministry of Women and Child** will personally ensure appointment of a **district officer** in each district within their territorial jurisdiction, as mentioned **within four weeks**.

Section 5 of POSH Act:

The appropriate Government may notify a **District Magistrate or Additional District Magistrate** or the Collector or Deputy Collector as a District Officer for every District to exercise powers or discharge functions under this Act.

- ◆ The Court also stated that the word "may" used in Section 5 with respect to appointment of District Officer does not make the **provision discretionary**.
- ◆ The bench of Apex Court said the District Officer, is the most important functionary in the system, tasked with keeping the redressal and monitoring framework both intact, and smoothly running and hence his/her appointment is important for streamlining the implementation of the Act.

- ◆ The Supreme Court has also asked the appropriate government or district officers in question, to also **"undertake effort to spread awareness on the existence of local committees, and make them approachable for the unorganised sector"**.

What is POSH Act?

- ◆ The POSH Act is a legislation enacted in 2013 to address the issue of sexual harassment faced by women at the workplace.
- ◆ Guidelines given by Supreme Court in **Vishaka vs State of Rajasthan** formed the base of the above-mentioned law.

What is Sexual harassment as per the provisions of POSH Act?

Sexual harassment as defined by POSH Act - includes unwelcome acts such as **physical contact and sexual advances, a demand or request for sexual favours, making sexually coloured remarks, showing pornography, and any other unwelcome physical, verbal, or non-verbal conduct of a sexual nature.**

What is the Key Provisions of POSH Act?

- ◆ The Act places a legal obligation on **employers to prevent and prohibit sexual harassment in the workplace.**
- ◆ Employers are required to constitute an ICC at each workplace with **10 or more employees** to receive and address complaints of sexual harassment.

The Complaints Committees have the powers of **civil courts** for gathering evidence.

- ◆ Employers must undertake awareness programs, provide a safe working environment, and **display information about the POSH Act at the workplace.**
- ◆ The Act lays down a procedure for filing complaints, conducting inquiries, and providing a fair opportunity to the parties involved.
- ◆ Non-compliance with the Act's provisions can result in penalties, including **fines and cancellation of business licenses.**

Mandatory Steps taken by Company against POSH Compliance in India

As per the POSH Act, every company is required to take the following mandatory steps:

- ◆ **Appoint an Internal Complaints Committee (ICC):** As per the POSH Act, every company with more than 10 employees must appoint an ICC. The ICC must have

at least 4 members, including a Presiding Officer who is a senior-level employee of the company. At least 50% of the members of the ICC must be women.

- ◆ **Display notice of sexual harassment policy:** The POSH Act requires companies to display a notice of their sexual harassment policy in a conspicuous place at the workplace. The notice must include the name and contact details of the ICC Members.
- ◆ **Conduct awareness programmes:** Companies are required to conduct regular awareness programmes for all employees on sexual harassment and the procedures for filing complaints under the POSH Act.
- ◆ **Investigate complaints promptly:** All complaints filed with the ICC must be investigated promptly and action taken against the perpetrator, if found guilty.

Concerns associated:

- ◆ **The law is largely inaccessible to women workers in the informal sector:** As more than 80% of India's women workers are employed in the informal sector.
- ◆ **Huge underreporting:** Due to the power dynamics of organisations, fear of professional repercussions (loss of employment), and concrete evidence is often lacking, etc.
- ◆ **Lacunae in the constitution of ICCs:** 16 out of the 30 national sports federations in the country had not constituted an ICC to date.
- ◆ **Improper composition of ICCs:** ICCs either had an inadequate number of members or lacked a mandatory external member.
- ◆ **Lack of clarity in the law:** About how to conduct such inquiries, lack of awareness in women employees about who to approach in case of facing harassment, etc.



SPECIALISED AND LOCAL LAWS (SLLS)

Context: Tabling of the new set of Criminal Laws has brought into attention the need for enacting and reforming Special and Local Laws that can be more effective in redressing grievances.

What is a Special and Local Law?

- ◆ **They are such laws** that applies to a particular place or especially to a particular member or members of a class of persons or things in the same situation but not to the entire class, and that is unconstitutional if the classification made is arbitrary or without a reasonable or legitimate justification or basis.



Need for enactment of new SLLs?

- ◆ SLLs provide for focused remedy to a legal grievance with a specialised approach and understanding of the issues.
- ◆ SLLs have ignited crucial debates concerning the boundaries of the state's power in criminalization, particularly with respect to individual rights and liberties.

What is the need for reform in SLLs?

- ◆ Many Special and Local Law, e.g. **Unlawful Activities (Prevention) Act (UAPA)**, suffer from ambiguity and vagueness in their definition thus making their provisions uncertain.
- ◆ SLLs in some case provide for their own procedure to be followed which at times may not showcase clarity.

Statistics regarding SLLs:

In 2021, nearly **39.9%** of all cognizable offenses registered fell under SLLs, according to Crime in India Statistics.

Need of such a legislation:

- ◆ As Indian society moves ahead, the complexities in it are bound to increase, this therefore calls for more specialised laws to deal with them.
- ◆ Failing to enact SLLs and incorporate the substantive and procedural aspects of SLLs into ongoing reform efforts represents a significant limitation.

Way Ahead:

- ◆ **Clarity and Precision in SLLs:** It is essential to revisit and review existing SLLs to eliminate ambiguity and vagueness in their definitions.
 - Special attention should be given to the drafting process to ensure that the language used in SLLs is accessible and understandable to all stakeholders, including legal professionals, law enforcement agencies, and the general public.

- ◆ **Standardization of Procedures:** Establishing uniform procedural guidelines can enhance the effectiveness of SLLs and simplify the process for all parties involved.
- ◆ **Public Awareness and Legal Literacy:** To maximize the impact of SLLs, it is essential to invest in public awareness and legal literacy programs. These programs should aim to educate the public about their rights, obligations, and the specific SLLs that may affect them.
- ◆ **Continuous Review and Reforms:** The legal landscape is dynamic, and new challenges emerge over time. Therefore, the process of enacting and reforming SLLs should be ongoing and responsive to the changing needs of society.

IMPLEMENTING CRIMINAL PROCEDURE IDENTIFICATION ACT

Context: The Central Government is set to roll out DNA and Face-matching systems in 1,300 police stations across the country in accordance with Criminal Procedure Identification Act, passed by the Parliament in April 2022.

What are the provisions of Criminal Procedure Identification Act, 2022?

- ◆ The Act does not explicitly mention collection of DNA or Face-matching data.
- ◆ It provides **legal sanction** to the police to **collect physical and biological samples** of convicts as well as those accused of crimes.
- ◆ Any person **convicted, arrested or detained** under any preventive detention law will be required to provide measurements to a police officer or a prison official.
- ◆ It aims to **ensure the unique identification** of those involved with crime and to help investigating agencies solve cases.

Which agency shall implement the Act?

- ◆ The **National Crime Records Bureau (NCRB)** has been tasked with rolling out the Act and Standard Operating Procedures (SOPs) that are to be followed by police officials while procuring the data.
- ◆ It will be the Union Home Ministry through the NCRB will be the repository of database.
- ◆ On the suggestion of NCRB, states have been asked to identify locations and prepare the sites where the **Measurement Collection Unit (MCU)** maybe established.

- It is pertinent to know that under National Automated Fingerprint Identification System (NAFIS), workstations and scanners have been put up at around 1300 police stations across the country.

What is NAFIS?

It is another project managed by NCRB. It has fingerprint details of more than one crore people, accused and convicts, across the country. NAFIS has been integrated with **Criminal Procedure Identification Act**.

POSH Training - Organizational Benefits



- Union Home Ministry has constituted the Domain Committee for successful implementation of the Act with representatives from State Police, Central Enforcement Agencies and other key stakeholders.

Difficulties in implementing the Act:

- Making equipment needed for implementation the Act available throughout India.
- Connectivity with a centralised database.
- Training the state police forces in using the technology.

Significance of the Act:

- Availability of Modern Techniques:** The Act will open up the inclusion of modern techniques to capture and record appropriate body measurements. The existing law allowed taking only fingerprint and footprint impressions of a limited category of convicted persons.
- Help Investing Agencies:** It will help the

investigating agencies to gather sufficient legally admissible evidence and establish the crime of the accused person.

- Making Investigation More Efficient:** It provides legal sanction for taking appropriate body measurements of persons who are required to give such measurements and will make the investigation of crime more efficient and expeditious and will also help in increasing the conviction rate.

Issues with Law:

- Violation of Privacy:** Seemingly technical, the legislative proposal undermines the right to privacy of not only persons convicted of a crime but also every ordinary Indian citizen. It has provisions to collect samples even from protestors engaged in political protests.
- Unawareness among Detainees:** Although it provides that an arrested person (not accused of an offence against a woman or a child) may refuse the taking of samples, not all detainees may know that they can indeed decline to let biological samples be taken.
- Ambiguous Provisions:** Replacing the 1920 Identification of Prisoners Act, the proposed law considerably expands its scope and reach.
- Violation of Article 20:** Enables coercive drawing of samples and possibly involves a violation of Article 20(3), which protects the right against self-incrimination.
- Handling of Data:** Provision of preserving the record for 75 years (effectively for life), other concerns include the means by which the data collected will be preserved, shared, disseminated, and destroyed.
 - Collection can also result in mass surveillance, with the database under this law being combined with other databases such as those of the Crime and Criminal Tracking Network and Systems (CCTNS).

ERADICATING MANUAL SCAVENGING IS THE RESPONSIBILITY OF CENTRE & STATES: SC

Context: The Supreme Court in a recent judgement held the Union and States are duty-bound to the pledge to completely eradicate manual scavenging through the stringent implementation of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.

What is Manual Scavenging?

- Manual evacuation refers to the process of removing human and animal waste from dry toilets and transporting it for disposal.



- As per the "Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 (MS Act, 2013)" manual scavenging means manually cleaning, carrying, disposing of, or handling in any manner, human excreta in an insanitary latrine.
- It is prohibited with effect from December 2013.
- It was officially banned by the anti-manual scavenging Act in 1993 as a degrading practice.

Government Initiatives:

- The Prohibition of Employment as **Manual Scavengers and their Rehabilitation Act, 2013** prohibits the construction or maintenance of unhygienic toilets, and the hiring of any person by hand cleaning or hazardous cleaning of sewer pipes and swimming pools.
 - It also provides measures to rehabilitate people identified by the Municipality as service providers.
- Article 21** of the Constitution guarantees the '**Right to Life**' and also with dignity.
- Swachhta Abhiyan App:** It has been developed to identify and geotag the data of insanitary latrines and manual scavengers so that the insanitary latrines can be replaced with sanitary latrines and rehabilitate all the manual scavengers to provide dignity of life to them.

Way Forward:

- Proper Ownership:** Nations need to accurately calculate the number of workers involved in cleaning up toxic mud.
- Empowering Local Authorities:** With the **Swachh Bharat Mission** identified as a priority area by the 15th Financial Commission and the available funds for smart cities and urban development provide a strong case to deal with the problem of manual seizures.

- Social Sensitisation:** To deal with social punishment after hand-to-hand extinction, it is necessary to first acknowledge and understand why and why hand-breaking continues to be included in the classification system.
- Need for Strict Law:** If the law creates a legal obligation to provide sanitation services to organs of state, it will create a situation where the rights of these workers will not be suspended.



ETHICS COMMITTEE OF LOK SABHA: AN OVERVIEW

Context: The Lok Sabha Ethics Committee is going to take up Nishikant Dubey's complaint against Mahua Moitra in "Cash for Query" row.

History of Ethics Committee:

- The **Ethics Committee in Parliament** was formed by a resolution adopted at the Presiding Officers Conference held in New Delhi in October, 1996 which desired the legislatures to explore the possibility of constituting Ethics Committee.
- In pursuance of this resolution that endeavour for setting up of Ethics Committee in Indian Legislatures began in right earnest.
- It was in Rajya Sabha that such a Committee was first established.
- The Ethics Committee, Rajya Sabha, the first such Committee by any legislature in India was constituted by the Chairman, Rajya Sabha on 4 March 1997, to oversee the moral and **ethical conduct of the Members** and to examine the cases referred to it with reference to ethical and other misconduct of Members.
- In the case of Lok Sabha, a study group of the House Committee of Privileges, after visiting Australia, the UK, and the US in 1997 to look into practices pertaining to the conduct and ethics of legislators, recommended the constitution of an Ethics Committee, but it could not be taken up by Lok Sabha.
- The **13th Speaker (G. M. C. Balayogi)** constituted the First Ethics Committee of Lok Sabha on 16th May, 2000.
- The Terms of reference of this Ethics Committee (Thirteenth Lok Sabha) were:**
 - To oversee the moral and ethical conduct of the Members; and
 - To examine the cases referred to it with reference to ethical and other misconduct of the Members.

Structure of the Ethics Committee

- ◆ The Ethics Committee in the Lok Sabha consists of **15 members**. The Speaker appoints members of the committee for one year.

The Ethics Committee in the Rajya Sabha consists of **10 members**, including its Chairman, who is nominated by the Chairman of the Rajya Sabha.

How can a complaint be filed with Committee?

- ◆ Any person can complain against a Member through another Lok Sabha MP, along with evidence of the alleged misconduct, and an affidavit stating that the complaint is not "false, frivolous, or vexatious". If the Member himself complains, the affidavit is not needed.
- ◆ The Committee does not entertain complaints based only on media reports or on matters that are sub judice. The Committee makes a prima facie inquiry before deciding to examine a complaint.
- ◆ The Committee presents its report to the Speaker, who asks the House if the report should be taken up for consideration.
- ◆ After examining a complaint, the committee makes recommendations to the Speaker of the Lok Sabha.
- ◆ Speaker may take appropriate actions, which can include issuing warnings, admonishments, or recommending the expulsion of the member from the respective house.

Limitations and criticisms:

- ◆ The Ethics Committee primarily deals with matters related to the ethical conduct of MPs. More serious complaints, such as those involving corruption or serious breaches of privilege, may be referred to other committees like the Committee on Privileges or special panels specifically established by the Lok Sabha or Rajya Sabha for such cases.
- ◆ The work of the Ethics Committee sometimes overlaps with the Committee on Privileges, as both committees may handle matters related to the conduct of MPs.
- ◆ The Committee on Privileges, in addition to overseeing the conduct of MPs, is responsible for safeguarding the freedom, authority, and dignity of the Parliament as a whole.

Conclusion

The Ethics Committee plays a crucial role in upholding the ethical standards and conduct of members of parliament and ensuring that their behaviour aligns with the principles and values of the Indian Parliament. It is part of the broader framework of parliamentary committees in India that serve various functions in the legislative process.



AN OPPORTUNITY TO RECAST INDIA'S FOOD SYSTEM

Context: Recently, the world has celebrated as **World Food Day, 2023** has highlighted that the importance of Food System. In India, the immense population presents a dual challenge of both **malnutrition and insufficient farm incomes, which are closely linked to environmental issues.**

About Food System –

- ◆ A food system encompasses all the **processes, activities, and resources** involved in the production, distribution, consumption, and disposal of food.
 - It includes the entire journey of food from farm to table and beyond, covering aspects such as farming, processing, transportation, marketing, and waste management.

Significance of Food system

- ◆ **Food Security:** A well-functioning food system is essential for providing a stable and reliable food supply, ensuring that people have access to sufficient, safe, and nutritious food.
- ◆ **Nutrition:** It influences the availability and accessibility of diverse and healthy food options,



which directly impacts the nutritional well-being of a population.

- ◆ **Economic Growth:** The food system is a significant contributor to the economy, providing livelihoods for millions of people. Efficient food systems can stimulate economic growth and reduce poverty.
- ◆ **Environmental Impact:** Food systems have a substantial environmental footprint. Their sustainability is crucial for mitigating the impact of agriculture on climate change, land use, and water resources.
- ◆ **Health Outcomes:** A well-functioning food system can positively influence public health by making healthier food choices more accessible and affordable.
- ◆ **Social Equity:** It plays a role in social equity by ensuring that all members of society have access to food, regardless of their economic status or geographic location.
- ◆ **Cultural and Traditional Values:** Food systems are deeply linked to cultural and traditional values. Preserving and promoting these values is essential for maintaining cultural diversity.
- ◆ **Innovation and Technology:** Food systems often drive innovation in agriculture, processing, and distribution, which can improve productivity and reduce waste.

Issues in India's food System

- ◆ **Malnutrition:** India faces a complex nutritional challenge characterized by two coexisting issues.
 - ▶ Despite significant progress, a substantial portion of the population still grapples with nutrient deficiencies.

According to the **National Family Health Survey 2019-21**, around 35% of children suffer from stunted growth, and 57% of women and 25% of men experience anemia.

- ▶ In parallel, unbalanced diets and sedentary lifestyles have driven a surge in obesity, affecting 24% of adult women and 23% of adult men.
- ▶ Initiatives, including a nationwide anti-malnutrition campaign led by the Prime Minister, have been launched to address this issue.
- ◆ **Farm Income:** Farmers, particularly those with marginal and small-scale land holdings, face the challenge of insufficient incomes.

- ▶ According to a report from the Transforming Rural India Foundation, more than 68% of marginal farmers rely on non-farm activities to supplement their earnings.
- ▶ Excessive dependence on the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and casual labor signifies restricted opportunities and a deficiency of skills for diversifying their income sources.
- ◆ **Environment Security:** India's food production is becoming more susceptible to risk due to the depletion of natural resources and shifting climate patterns.
 - ▶ The 2023 soil health survey presents a worrisome scenario, highlighting that nearly 50% of India's arable land is experiencing a shortage of organic carbon, a crucial indicator of soil health.
 - ▶ Groundwater, the primary source of irrigation, is rapidly diminishing, especially in states like Punjab, where more than **75% of groundwater** assessment areas are being excessively exploited. This situation poses a threat to the economic resilience of farmers.
 - ▶ Way Ahead
- ◆ **Changing Consumer Preferences for Healthier Diets:**
 - ▶ The process begins with a shift in consumer preferences towards more nutritious and eco-friendly diets.
 - The private sector plays a critical role in influencing what people choose to eat. Lessons learned from promoting the consumption of imported food items can be applied to locally-grown millets.
 - ▶ Collaborative efforts involving civil society, health advocates, and social media influencers can encourage people to make healthier and sustainable dietary choices.
 - ▶ Additionally, government initiatives like the Public Distribution System and mid-day meal programs can significantly impact the dietary preferences of a significant part of the population.
- ◆ **Supporting Farmers' Transition to Sustainable Farming:**
 - ▶ Ensuring that farmers have stable incomes requires supporting their shift to profitable and environmentally-friendly agricultural practices.
 - ▶ Expanding and broadening such programs to include practices like agroforestry, conservation agriculture, and precision farming is essential.
 - ▶ Shifting from providing input subsidies to offering direct financial support per hectare of cultivated land can encourage efficient input use and create an equal footing for agroecological practices.

- ▶ A portion of agricultural research and extension service budgets should be allocated to sustainable farming methods.
- ◆ **Promoting Sustainable and Inclusive Agricultural Value Chains:**
 - ▶ Boosting rural incomes depends on increasing the value addition of agricultural products within rural areas.
 - Enterprises like DeHaat and Ninjacart, among others, facilitate direct connections between farmers and buyers.
 - Additionally, facilitating the trade of produce among Farmer Producer Organizations (FPOs) ensures that farmers receive a fair share of the value, as demonstrated by select FPOs in Odisha.



FINTECH SECTOR AND GROWTH

Context: The Reserve Bank of India's (RBI) proposed framework for a Self-Regulatory Organisation (SRO) for the fintech sector is expected to come up in a year.

About Fintech:

- ◆ Fintech" is a term that combines "financial" and "technology".
- ◆ It refers to companies and technologies that leverage digital innovations to provide financial services in a more efficient, accessible, and innovative manner.
- ◆ Fintech encompasses a wide range of services, including digital payments, peer-to-peer lending, robo-advisors, blockchain technology, and more.
- ◆ These technologies are made to go beyond traditional financial systems and offer new solutions to consumers and businesses.

What is an SRO?

- ◆ An SRO is a non-governmental organization that sets and enforces rules and standards relating to the conduct of entities in the industry (members) with the aim of protecting the customer and promoting ethics, equality, and professionalism.
- ◆ SROs typically collaborate with all stakeholders in framing rules and regulations.

Working:

- ◆ Their self-regulatory processes are administered through impartial mechanisms such that members operate in a disciplined environment and accept penal actions by the SRO.
- ◆ SRO is expected to address concerns beyond the narrow self-interests of the industry, such as to protect workers, customers, or other participants in the ecosystem.

What are the functions of an SRO?

- ◆ The recognized SRO will serve as a two-way communication channel between its members and the RBI.
- ◆ It will work towards establishing minimum benchmarks and standards and help instill professional and healthy market behavior among its members.
- ◆ SROs will impart training to the staff of its members and others and will conduct awareness programs.
- ◆ It will establish a uniform grievance redressal and dispute management framework across its members.

RBI's Expectations from Fintech Players:

- ◆ **Industry Best Practices and Compliance:** Fintech firms are urged to develop and adopt industry best practices, aligning with local laws. This includes establishing robust privacy and data protection norms.
- ◆ **Avoiding Mis-Selling and Ensuring Ethical Business Practices:** Fintech entities should set standards to prevent mis-selling and uphold ethical conduct in their operations.
- ◆ **Transparency in Pricing:** It is expected that fintech companies maintain transparency in pricing, ensuring that customers have a clear understanding of the costs involved in their services.

Why fintech industry is important?

- ◆ **Financial Inclusion:** Through digital platforms and mobile apps, fintech companies have made it easier for people to access banking, payments, lending, and investment services.
- ◆ **Innovation and Disruption:** Fintech companies are known for their innovative approaches to financial services. They leverage technology to create new products, services, and business models.
- ◆ **Efficiency and Cost Reduction:** Fintech companies often use automation, artificial intelligence, and blockchain technology to streamline operations.
- ◆ **Improved Customer Experience:** Fintech companies place a strong emphasis on user experience and design.

- ◆ **Innovative Payment Solutions:** They revolutionized the way we make payments. This includes the development of digital wallets, peer-to-peer payment platforms, and cryptocurrency.
- ◆ **Access to Capital for Small Businesses:** Fintech platforms, such as peer-to-peer lending and crowdfunding, have provided alternative sources of funding for small businesses and startups.
- ◆ **Data-Driven Insights and Personalization:** Fintech companies often leverage big data and advanced analytics to provide customers with personalized financial advice and insights.

GLOBAL TAX EVASION REPORT 2024

Context: The European Union Tax Observatory in its 'Global Tax Evasion Report 2024' has called for a global minimum tax on billionaires equal to 2% of their wealth.

About the report –

The European Union Tax Observatory has released 'Global Tax Evasion Report 2024', which mentioned that:

- ◆ Tax evasion is enabling billionaires to enjoy effective tax rates equivalent to **0% to 0.5%** of their wealth
- ◆ Global minimum tax on billionaires equal to **2% of their wealth**.
 - ▶ The report argues that a 2% tax on billionaires is reasonable, considering that their wealth has grown at an average annual rate of **7% since 1995**, while their effective tax rates often remain as low as 0% to 0.5%.
- ◆ **Impact of international efforts-**
 - ▶ The success of automatic exchange of bank information — in reducing offshore tax evasion by a factor of three over the **past 10 years**.
 - There is still the equivalent of 10% of world GDP in offshore household financial wealth, but only 25% of it evades taxation.
- ◆ **Reasons identified by the report for continuation of Tax evasion –**
 - ▶ Possibility of owning financial assets that escape being

reported on because not all offshore financial institutions comply with the requirement of automatic exchange of bank information.

- ▶ Wealthy individuals who used to hide **financial assets** in offshore banks have started shifting their holdings to asset classes not covered under this agreement, for e.g. – **Real Estate**.
 - ▶ The **global minimum tax of 15%** for multinational corporations (MNCs), adopted in 2012, has been undermined by a growing list of loopholes.
 - ▶ Some MNCs use '**green**' tax credits for low carbon transition to reduce their tax rates below the minimum.
 - ◆ **Emerging Tax Competition:** The report highlights the rise of preferential tax regimes in the EU and the UK, targeting wealthy foreign individuals.
 - ▶ These regimes offer tax exemptions or reductions to incoming residents but weaken overall tax collection and have negative spill over effects on other countries.
 - ◆ **Recommendations:**
 - ▶ Minimum corporate tax of 25% and remove the loopholes that foster tax competition. Introduce a new global minimum tax for billionaires equal to 2% of their wealth.
 - ▶ Move towards the creation of a Global Asset Registry (International register of all wealth and assets).
 - ▶ Institute mechanisms to tax wealthy people who have been long-term residents in a country and choose to move to a low tax country.
- What is Tax Evasion?**
- ◆ Tax evasion is the illegal act of deliberately and knowingly **underreporting, concealing, or misrepresenting** information on a tax return to **reduce tax liability**.
 - ▶ It involves activities such as hiding income, inflating deductions, or using offshore accounts to avoid paying the taxes owed to the government.



- It is distinguished from tax avoidance, which is the legal practice of minimizing tax liability through legitimate means such as deductions and tax credits.

Effect of Tax evasion on Global Economy:

- ◆ **Reduced Government Revenue:** Tax evasion results in governments collecting less revenue than they are entitled to. This reduction in revenue can lead to budget deficits and limit the government's ability to fund essential public services such as healthcare, education, and infrastructure development.
- ◆ **Inequitable Tax Burden:** When individuals or businesses engage in tax evasion, the burden of funding government services falls disproportionately on law-abiding taxpayers. This can lead to a sense of unfairness and erode public trust in the tax system.
- ◆ **Weakened Social Safety Nets:** Lower tax revenues can force governments to reduce spending on social safety net programs like welfare, unemployment benefits, and healthcare. This can negatively impact vulnerable populations and increase income inequality.
- ◆ **Reduced Economic Development:** Tax evasion can hinder economic development by limiting the government's ability to invest in infrastructure and public services, which are essential for fostering economic growth.
- ◆ **Capital Flight:** Tax evasion often involves the use of offshore accounts and tax havens. This capital flight can drain resources from the domestic economy, limit investment opportunities, and reduce economic stability.
- ◆ **Global Economic Imbalances:** Tax evasion can exacerbate global economic imbalances by diverting funds away from countries where taxes are evaded and toward tax havens. This can distort trade balances and hinder cooperation in addressing global economic challenges.

Key International Initiatives and Measures:

Steps taken by India to curb tax evasion:

- Income-tax Act, 1961 (Search and Seizure);
- Treaties such as Double Tax Avoidance Agreement (DTAA),
- Tax Information Exchange Agreement (TIEA),
- The Benami Transactions Informants Reward Scheme.
- Reduced base corporate tax for existing companies to 22 percent and new manufacturing firms to 15 percent.

- ◆ **Common Reporting Standards (CRS):** The CRS is an international framework developed by the **Organisation for Economic Co-operation and Development (OECD)** to facilitate the automatic exchange of financial information between tax authorities. It requires financial institutions to report account information of foreign taxpayers to their respective tax authorities, which is then shared with the taxpayer's home country.
- ◆ **FATCA (Foreign Account Tax Compliance Act):** Enacted by the United States, FATCA requires foreign financial institutions to report information about U.S. account holders to the Internal Revenue Service (IRS). Many countries have entered into intergovernmental agreements with the U.S. to implement FATCA's requirements.
- ◆ **Base Erosion and Profit Shifting (BEPS):** The OECD's BEPS project addresses tax planning strategies used by multinational corporations to shift profits to low-tax jurisdictions. BEPS recommendations aim to close tax loopholes, prevent double taxation, and ensure that profits are taxed where economic activities occur.
- ◆ **Double Taxation Treaties:** Many countries have **double taxation treaties (DTTs)** in place to prevent double taxation and promote international cooperation. DTTs often include provisions for the exchange of tax information between countries.
- ◆ **Tax Information Exchange Agreements (TIEAs):** TIEAs are bilateral agreements that facilitate the exchange of information on tax matters between countries. These agreements are crucial for addressing tax evasion and promoting transparency.



IMF-WORLD BANK ANNUAL MEETINGS 2023

Context: Recently, the annual meetings of the world's most influential multilateral financial institutions, the World Bank (WB) and the International Monetary Fund (IMF), concluded in Marrakech, Morocco.

Key takeaways of the meet:

- ◆ **World Bank's say:**
 - As per World Bank estimates, approximately **60% of the global poor** are expected to reside in fragile and conflict-affected nations.
 - It highlights challenges faced by countries lacking **fiscal buffers** to absorb economic shocks, calling for responsive financial models.
 - **World Bank outlines strategies:**

- Implementing contingencies for countries with budget constraints due to debt servicing and disaster relief, to prevent a financial squeeze during crises.
- Harmonizing global macroeconomic standards and procedures for increased partnerships.
- Mobilizing new financial and debt relief instruments, aiding clients in portfolio management and resilience-building.
- ▶ Issues rose about the exclusion of **civil society** from the proceedings of the **Just Energy Transition Implementation Plan (JET-IP)** in South Africa, emphasizing the need for transparency and accountability in climate transitions.
- ◆ **International Monetary Fund (IMFs) views:**
 - ▶ IMF's Managing Director outlines climate efforts, including aiding **high emitting nations** in policy formulation for reducing carbon intensity.
 - ▶ Assistance provided to vulnerable countries in maintaining financial stability during climate-induced shocks.
 - ▶ Creation of the Resilience Sustainability Trust for climate-focused assistance, alongside the allocation of **Special Drawing Rights (SDRs)** to member countries.
 - ▶ Challenges highlighted:
 - The feasibility of altering **IMF quota shares**, including introducing a 'one country, one vote' system, is considered unlikely in the current regime.
 - Unfulfilled promises to review the IMF's quota regime, as discussed in recent meetings, prompt concerns about technicalities being obscured for media and **civil society organizations (CSOs)**.

CYBER INSURANCE CRITICAL FOR SMALL, MEDIUM ENTERPRISES

Context: India's economic landscape heavily relies on the contribution of **Small and Medium Enterprises (SMEs) and Micro, Small and Medium Enterprises (MSMEs)**, which collectively account for more than **28% of the GDP**, offering employment opportunities and fostering trade. However, this economic vitality comes with its own set of challenges, particularly in the digital era, where the implications of cyber risks loom large.

The Vulnerability of SMEs and MSMEs

- ◆ SMEs and MSMEs are prime targets for cyber-attacks.
 - ▶ Recent findings:
 - India reports more cyberattacks than any other country globally.
- ◆ Government has taken steps to enhance data privacy through initiatives like the **Digital Personal Data Protection Bill**; businesses need to be equipped to address the consequences of a cyberattack.
- ◆ Cyberattacks, ranging from **data breaches and malware attacks to phishing scams and denial-of-service incidents**, pose significant threats to SMEs and MSMEs.
 - ▶ Many cyberattacks on SMEs and MSMEs take the form of ransomware or cyber extortion.
- ◆ These enterprises are particularly vulnerable due to their limited resources compared to larger corporations. Moreover, they often lack dedicated cybersecurity teams.
- ◆ **Intangible costs** - The erosion of trust is a paramount concern, as many SMEs and MSMEs rely on trust-based relationships with their clients.
 - ▶ A breach of data integrity can erode customer confidence, leading to a significant loss of clients and affecting revenue.

The Role of Cyber Insurance

- ◆ Cyber insurance emerges as the **first line of defense** for organizations seeking to fortify their cybersecurity.
- ◆ It offers a financial safety net, covering the expenses associated with **cyber incidents, including data breaches and ransomware attacks**.
 - ▶ For financially constrained SMEs, cyber insurance can be the critical difference between survival and insolvency.
- ◆ Recognizing the unique challenges faced by SMEs and MSMEs, insurance providers now offer specialized cyber insurance solutions tailored to their specific needs.
- ◆ These policies not only account for the scale of their operations but also address the extent of digital reliance and the specific cyber risks they encounter.
- ◆ Cyber insurance provides a shield against ransomware threats, covering a spectrum of expenses, such as **notification costs** i.e. the expenditures incurred when informing customers and other affected parties about a data breach.
- ◆ Cyber insurance policies extend their support to legal expenses arising from data breaches.
 - ▶ Additionally, they often encompass the costs associated with recovering lost or compromised data.

- ◆ Cyber insurance typically offers coverage for business interruption, compensating for the income lost during downtime triggered by a cyber-event.
 - ▶ Many cyber insurance policies also grant access to experts who can guide businesses through the process of managing and mitigating the impact of such incidents.
- ◆ Cyber insurance policies frequently encompass provisions for reputation management, aiding businesses in navigating the aftermath of a cyberattack and rebuilding trust with stakeholders.

SME and MSME sector in India:

- ◆ The Micro, Small and Medium Enterprises (MSMEs) sector stands as a vital cornerstone of the Indian economy, making substantial contributions to its growth.
 - ▶ This extensive network accounts for approximately 45% of the manufacturing output in India.
- ◆ The MSMEs play a crucial role in providing jobs to around 110 million individuals, which represent roughly **22-23% of the total workforce** in the country.
 - ▶ It is the **second-largest employment generator** after the agriculture sector.
- ◆ To unlock the full potential of MSMEs and drive the Indian economy towards higher growth, it is essential to develop targeted policies.

Key initiatives by Government of India to enhance Cyber Resilience –

- ◆ **Digital Seva Setu:** Launched in Gujarat, the Digital Seva Setu program aims to provide government services to citizens, including MSMEs, at their doorsteps. It promotes the adoption of digital services and, in the process, focuses on the importance of cybersecurity.
- ◆ **Digital MSME Scheme:** The Ministry of Micro, Small, and Medium Enterprises has launched the Digital MSME Scheme, which promotes the use of cloud computing for MSMEs. This encourages businesses to store their data securely in the cloud, reducing the risks associated with on-premises data storage.
- ◆ **Cyber Yodhas:** This is an initiative by the Data Security Council of India (DSCI) and focuses on creating a skilled cybersecurity workforce. Under this program, cybersecurity awareness and training are provided to MSMEs and individuals in rural and semi-urban areas.

- ◆ **CERT-In (Indian Computer Emergency Response Team):** CERT-In is the government's nodal agency for responding to cybersecurity incidents. It offers MSMEs a platform to report and seek assistance in case of a cyber-incident.
- ◆ **Digital Payments Security Alliance:** This initiative focuses on enhancing the security of digital payment systems. As digital transactions become more common for MSMEs, ensuring their security is vital.
- ◆ **National Cyber Security Policy:** The government introduced a National Cyber Security Policy, which provides a framework for securing cyberspace and preventing cyber threats. This policy impacts MSMEs by setting standards for securing their digital assets.
- ◆ **Cyber Swachhta Kendra (Botnet Cleaning and Malware Analysis Centre):** Launched by the Indian Computer Emergency Response Team (CERT-In), this initiative provides free tools and solutions to remove malware and botnets from MSME computer systems.

Way Ahead:

- ◆ **Awareness and Training:** The first step in improving cybersecurity for MSMEs is to raise awareness about the risks. Many small business owners are not fully aware of the potential threats they face. Training programs and workshops on cybersecurity should be organized to educate MSME owners and employees about safe online practices.
- ◆ **Risk Assessment:** MSMEs should conduct a cybersecurity risk assessment to understand their vulnerabilities. Identifying weak points in their digital infrastructure can help them take appropriate measures.
- ◆ **Access to Resources:** The government and industry associations should provide MSMEs with resources and tools to enhance their cybersecurity. This can include access to affordable cybersecurity software, guidelines for best practices, and information on emerging threats.



NEARLY HALF A MILLION INDIANS MIGRATED TO OECD COUNTRIES IN 2021: REPORT

Context: As per the latest edition of **International Migration Outlook 2023**, highlights that the recent developments in migration movements and the labour market inclusion is shifting towards the OECD countries.

Organization for Economic Cooperation and Development (OECD):

- The Organization for Economic Co-operation and Development (OECD) is a unique forum where the governments of **37 democracies** with market-based economies collaborate to develop policy standards to promote sustainable economic growth.

About the Report:

- ◆ The “**International Migration Outlook**” is an annual publication produced by the Organization for Economic Cooperation and Development (OECD) that provides a comprehensive analysis of international migration trends and policies
- ◆ It offers insights into;
 - Recent migration trends, labor migration, family reunification, asylum and refugee policies, immigrant integration, and policy developments in various countries, providing a comprehensive overview of international migration dynamics and policies.

Highlights of International Migration Outlook 2023:

- ◆ India specific Migration data:
 - **High Migration Flows:** India witnessed the highest migration flows to OECD countries in 2021 and 2022, making it the top country of origin for new migrants.
 - **Replacement of China:** India replaced China as the main country of origin for new migrants to OECD countries in 2020 and continued to hold this position in 2021 and 2022.

China and Romania: China ranked second with a considerable gap, and Romania followed as the third country of origin for new migrants to OECD nations in 2021.

- ◆ Concerns highlighted:
 - **Policy Responses to Climate-Induced Displacement:** The report noted an increasing interest among policy makers and the international community in addressing displacement caused by climate change, even though few OECD countries had introduced explicit policies to respond to this issue.
 - **Climate-Induced Displacement in Colombia:** Colombia initiated discussions in 2023 about recognizing climate-induced displacement and establishing measures to support affected individuals. It marked the first of its kind in Latin America.

◆ Factors responsible for migration:

- OECD comprises 38 member countries, mostly wealthy developed nations that attract migrant workers and students.
- **Acquisition of OECD Nationality:** In 2021, approximately **0.13 million Indian citizens** acquired the nationality of an OECD country, primarily in the United States, Australia, and Canada. A significant number of Mexicans also gained nationality in another OECD country, primarily becoming U.S. citizens.
- **Refugee Inflows from Ukraine:** Due to the on-going **Russia-Ukraine war**, the OECD witnessed record-level inflows of refugees, with over **10 million people** becoming either internally displaced or refugees in the region.

Human Migration:

- ◆ Human migration is the movement of people from one place in the world to another.
 - It can be voluntary migration or involuntary migration.
- ◆ The International Organization for Migration (The United Nations Migration Agency) defines a migrant as any person who is moving or has moved across an international border or within a state away from his/her habitual place of residence, regardless of :
 - Person's legal status
 - Whether the movement is voluntary or involuntary
 - What the causes for the movement are
 - What the length of the stay is

Impacts of Human Migration

◆ Positive Impacts:

- **Remittances:** One of the most substantial positive impacts of emigration is the inflow of remittances from Indian expatriates living and working abroad. Remittances contribute significantly to India's economy, helping to stabilize the balance of payments and supporting the well-being of families back home.
- **Foreign Exchange Reserves:** The remittances sent by Indian emigrants help boost India's foreign exchange reserves, which are vital for trade and economic stability.
- **Investment:** Emigrants often invest in India by starting businesses, purchasing property, or investing in various sectors. This can lead to economic growth and job creation.
- **Knowledge and Skills Transfer:** Many emigrants acquire advanced knowledge and skills in their host countries, which they may later transfer to

India. This can have a positive impact on sectors such as technology, medicine, and education.

◆ Negative Impacts:

- ▶ **Labor Shortages:** In certain regions and industries, emigration can lead to labor shortages. This is particularly evident in agriculture, where seasonal migration is common, and in healthcare, where trained professionals may leave for opportunities abroad.
- ▶ **Brain Drain:** Emigration of highly skilled professionals, such as doctors, engineers, and researchers, can contribute to a "brain drain" and result in a loss of expertise that is critical for India's development.
- ▶ **Social Impact:** Families are often separated due to emigration, which can have social and psychological impacts on individuals left behind. This includes the challenges of maintaining family relationships over long distances.
- ▶ **Dependency on Remittances:** Overreliance on remittances can make some families and regions economically dependent on emigrant family members, leading to vulnerabilities when remittances decrease.
- ▶ **Policy Challenges:** The government must create policies and mechanisms to protect the rights and

welfare of emigrants, which can be challenging to enforce, particularly for low-skilled workers.



MSP CALCULATIONS NEEDS REVISION

Context: Recently, the need for MSP revision was highlighted, as if the MS Swaminathan recommendations were followed, the Minimum Support Price (MSP) of the six crops would be higher.

Key Highlights:

- ◆ The National Commission of Farmers also known as the **Swaminathan Commission** recommended that the MSP should at least be **50 per cent more than the weighted average CoP**, which it refers to as the C2 cost.
- ◆ The government maintains that the MSP was fixed at a level of at least 1.5 times of the all-India weighted **average Cost of prices (CoP)**, but it calculates this cost as **1.5 times of A2+FL**.
- ◆ Below is the projected cost of production for the **Rabi Marketing Season (RMS) 2024-25** for different crops based on A2+FL and C2 formulae.

Crop	C2	MSP announced (Rs/qlt)	MSP acc to C2+50%
Wheat	1652	2275	2478
Barley	1614	1850	2421
Gram	4547	5440	6820.5
Lentil	4890	6425	7335
Rapeseed & Mustard	4068	5650	6102
Safflower	5414	5800	8121

Cost Concepts used calculating MSP

- ◆ There are several cost concepts that the **Commission for Agricultural Costs and Prices (CACP)** considers while recommending MSPs of 23 crops.
 - ▶ **Cost A2** - These are the costs the farmer actually pays out of his/her pocket for buying various inputs ranging from seeds to fertilisers to pesticides to hired labour to hired machinery or even leased-in land.
 - ▶ **Cost A2 +FL** - In agriculture, farmers also use a lot of family labour and if their cost is imputed and added to cost A2, that concept is called cost A2+FL.
 - ▶ **Cost C2** - the Comprehensive cost (cost C2), it

includes imputed costs of family labour, imputed rent of owned land and imputed interest on owned capital.

- ▶ National commission on farmers head by M.S Swaminathan recommended a 50 per cent margin over C2, which is also being the demand of the farmers.

Challenges in Hiking MSP

- ◆ The government believes that providing a 50% margin over the C2 cost for all crops is not feasible.
- ◆ Typically, the C2 cost is significantly higher, around 35-40% more than the A2+FL cost, which would necessitate substantial MSP (Minimum Support Price) increases. For instance, the MSP for paddy

would need to increase by 46%, cotton by 52%, and so on.

- ◆ It's worth noting that the cost-plus pricing approach for MSPs, whether it's based on cost A2+FL or C2, has its risks as it doesn't take into account the demand side.
- ◆ The terms of reference for the Commission for Agricultural Costs and Prices (CACP) fail to consider factors like demand-supply dynamics, production costs, price trends in both domestic and international markets, terms of trade, and price parity between different crops when making MSP recommendations.

STATE OF GLOBAL COASTAL ADAPTATION

Context: According to a new study published in the journal *Nature Climate Change*, coastal cities in India like Mumbai, Ghoramara (Sunderbans), Puri (Odisha) and Konkan regions fall under the 'moderate-to-high' category of climate adaptation risks.

Key points of the study:

- ◆ **About:** Experts from multiple countries, including India, assessed the state of global coastal adaptation by analysing **61 coastal case studies**. These included **34 urban and 28 rural regions**.
 - ▶ They are distributed across Africa (10 cases), Asia (7), Australia and New Zealand (7), Central and South America (9), Europe (10), North America (11) and Small Islands (7).
 - ▶ Mumbai (urban), Konkan region (rural), Ghoramara (rural) and Puri (urban) regions scored 39, 42, 44, and 47, respectively. These regions have been given aggregate scores, which range from **0-68**.
- ◆ No systematic correlation can be established between the **level of adaptation effort** and the level of socioeconomic development in these regions.
- ◆ **Risks highlighted:**
 - ▶ Low-lying coastal settlements face a severe risk of coastal flooding. They represent roughly 11 per cent of the global population densities and account for 14 per cent of the global gross domestic product.

◆ Researchers classified the 61 case studies into four categories:

- ▶ Urban areas with relatively high population and asset densities (A1).
- ▶ Urban areas with relatively lower population and asset densities or middle-size cities (A2).
- ▶ Rural areas with high-value economic activities such as agriculture or tourism (A3).
- ▶ Rural areas with non-market high-value features like cultural or natural (A4).

◆ Being a densely populated urban region,

- ▶ Mumbai is in the A1 category.
- ▶ Puri is in A2 as it is a moderately populated urban region.
- ▶ Konkan region is a rural area with high-value economic activities (A3).
- ▶ Ghoramara is a rural area with non-market high-value features (A4).

◆ On the basis of Climate adaptations:

- ▶ **Ghoramara:** The adaptation plans were observed to be generic and local adaptation plans from state agencies were absent.
- ▶ **Konkan Region:** The researchers highlighted that there were no adaptation plans for the Konkan region as well. The state action plan did not specifically address all the climate hazards comprehensively as multiple coastal hazards were ignored or neglected.
- ▶ **Mumbai:** Though Mumbai has a climate action plan, its adaptation strategies did not accurately assess risks and did not specifically consider the adaptation needs of its vulnerable inhabitants, the paper pointed out.
- ▶ **Puri:** The Puri region has action plans but there have been no sector-specific adaptation strategies or identification of communities most at risk.



Upcoming Global Stocktake Report:

Assessing the adaptation imprints for a wider panel of key risk areas is indeed critical to inform the **Global Stocktake** undertaken under the **United Nations Framework Convention on Climate Change**, and that will start by 2023 and then occur every five years.

- The **Global Stocktake** aims to evaluate progress on climate action at the global level.

**PINK BOLLWORM THREAT FOR BT COTTON**

Context: According to a recent study, the **Pink Bollworm in India has grown to become worse than the American bollworm and affecting significantly to cotton farmers.**

- ◆ This is the fourth story in a series about pink bollworm attacks on Bt cotton in the North Zone, comprising **Punjab, Haryana and Rajasthan.**

Bt Cotton introduction in India:

- ◆ Bt cotton was introduced to India in 2002 after its success in the United States and Australia in 1996.
- ◆ Before that, the **American bollworm** had become the biggest threat to cotton crops as it had developed resistance to synthetic pyrethroids, organophosphorus and carbamates (group of insecticides).
- ◆ From 1985-2002, it caused heavy

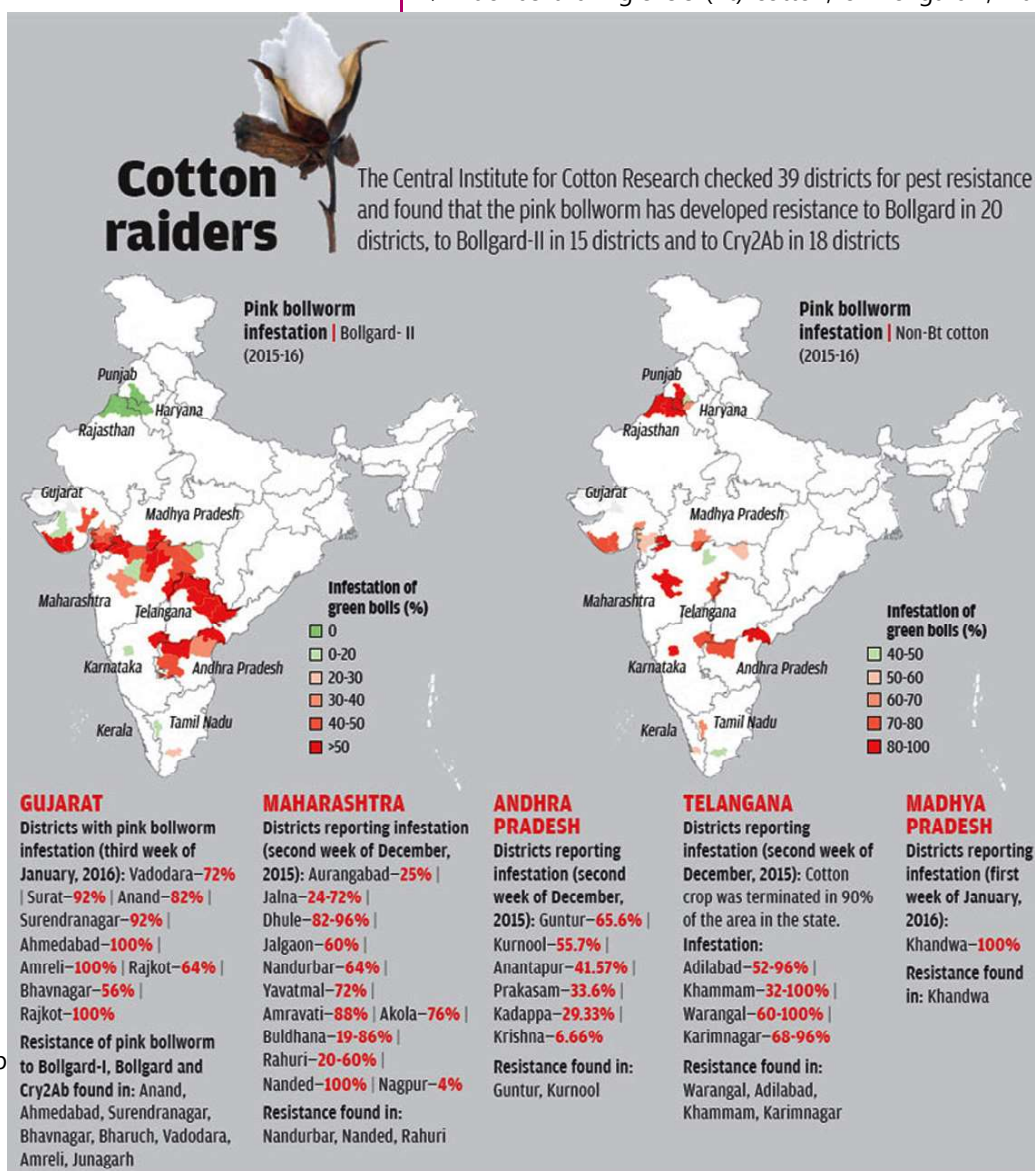
economic losses to farmers in all 11 cotton-growing states of India.

What is Bt Cotton?

- **Bt cotton** is an insect-resistant transgenic crop designed to combat the bollworm.
- The first two generations of Bt have seen introduction of '**Cry1Ab**' and '**Cry2Bc**' genes from the soil bacterium, **Bacillus thuringiensis (Bt)**, into the cotton seed, which make the crop resistant to the attack of pink bollworm.

Pests getting resistant to Bt Cotton:

- ◆ Indian farmers have faced consistent losses of Bt cotton crops due to pink bollworm attacks since the mid-2000s, when scientists found that the insect had become resistant to the genetically modified variety of cotton.
- ◆ *Bacillus thuringiensis* (Bt) cotton, or Bollgard-I, was



introduced to protect the crop against all three species of bollworms (American, spotted and pink bollworms) as it was encoded with Cry1Ac toxin.

- ◆ In 2005, scientists with the Indian Agricultural Research Institute started monitoring if pests were growing resistant to Bt cotton. A year later, Bt cotton was encoded with **Cry2Ab gene** for improved resistance against the **American bollworm**.

About Pink Bollworm:

- The pink bollworm, scientifically known as *Pectinophora gossypiella*, is a destructive pest that primarily infests cotton plants.
- It is named "pink" bollworm due to the pinkish hue of its larvae.
- These insects feed on the cotton bolls, damaging the cotton crop and reducing its yield and quality.
- Pink bollworm larvae burrow into the cotton bolls, where they feed on seeds and plant tissues.

STAGES OF PINK BOLLWORM



- ◆ But in 2008, researchers found unusual survival of pink bollworm in Amreli district of Gujarat, indicative of the pest's resistance to Bt cotton. Later, through

scientific study, in 2009-10, scientists confirmed pink bollworm's resistance to **Cry1Ac gene** in four districts of Gujarat.

- ◆ In 2017-18, widespread pink bollworm infestation was reported in Maharashtra and the southern states.
- ◆ Then in 2021-22, a pink bollworm outbreak was reported in Punjab and Haryana.
- ◆ By 2023, resistant populations of pink bollworm to Bt cotton were established in the **North Zone including north Rajasthan districts**.

Way Forward:

- ◆ In recent years, pink bollworm infestations have posed a significant threat to cotton cultivation in various regions, particularly in India.
- ◆ Farmers have faced challenges in managing these pests due to their ability to develop resistance to conventional pesticides.
- ◆ To combat the pink bollworm, integrated pest management strategies, including the use of genetically modified Bt cotton varieties and the deployment of sterile insect release programs, have been implemented.
- ◆ These efforts aim to reduce the impact of pink bollworm infestations and safeguard cotton production, which is crucial for the textile industry and livelihoods in affected regions.



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I am highly obliged towards GS SCORE for its best evaluation and assessment mechanism which helped me to crack UPSC in first attempt.

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I am very thankful to GS Score for realizing my dreams into reality. The well-crafted all India Test Series helped me a lot and augmented my score significantly.

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Section B [SPECIALS]

Topic

☞ India's First Regional Rapid Transit System (RTS) inaugurated

INDIA'S FIRST REGIONAL RAPID TRANSIT SYSTEM (RRTS) INAUGURATED

Context: Recently, the Prime Minister inaugurated the first leg of the Regional Rapid Transit System (RRTS), India's first mass rapid system dedicated to regional connectivity.

- Trains on the first section will eventually cut the journey time between **Delhi and Meerut** to less than an hour.

About:

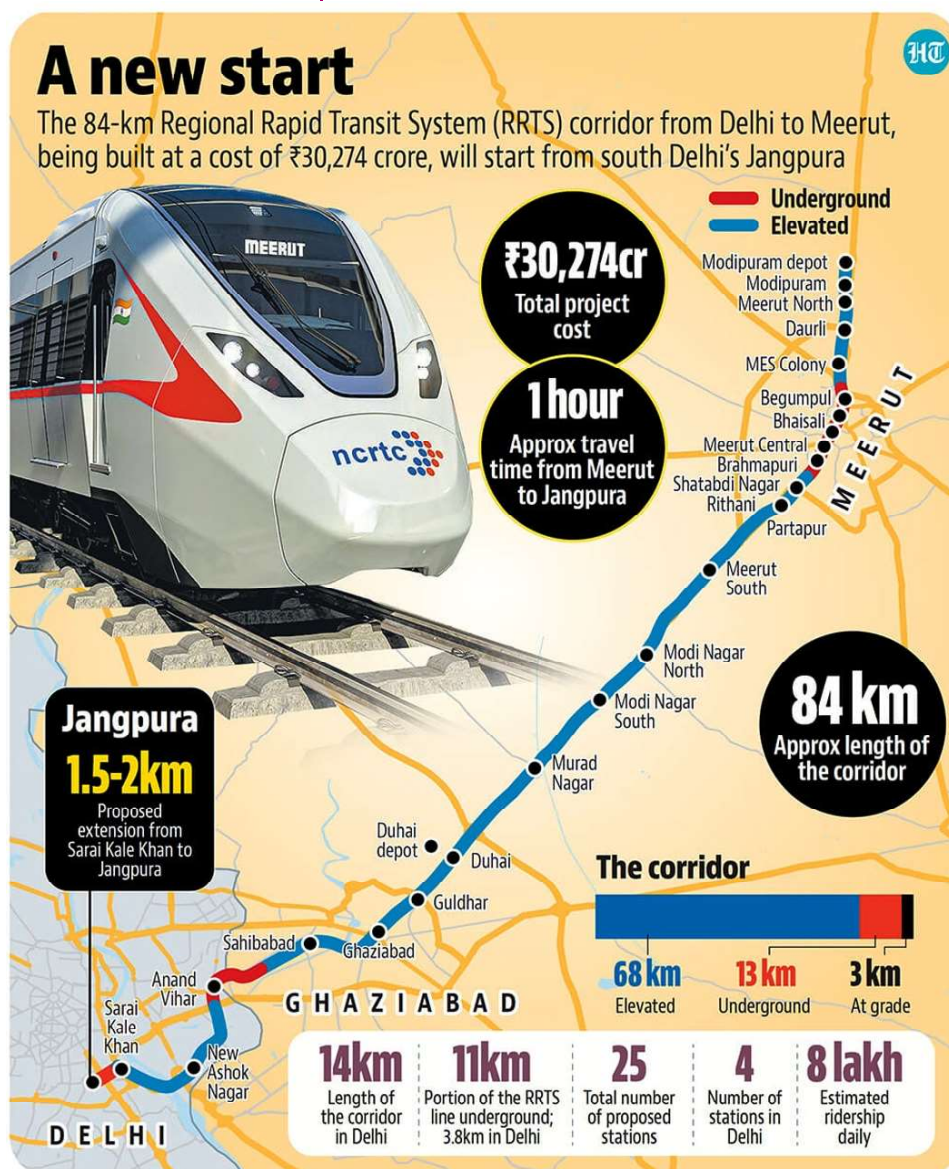
- India's first regional rapid train, between **Delhi and Meerut**, has been named "**Namo Bharat**".
- The events held:** The projects which got the green signal includes;
 - inaugurate the priority section of the Delhi-Ghaziabad-Meerut Regional Rapid Transit System (RRTS) corridor and
 - Flag off the "**RapidX train**" connecting **Sahibabad and Duhai Depot**.
- Construction:**
 - The **National Capital Region Transport Corporation (NCRTC)** has constructed the RRTS also known as **Namo Bharat**.
 - NCRTC is a joint venture company of the Central government and the governments of **Delhi, Haryana, Rajasthan and Uttar Pradesh**.
 - NCRTC, under the **Ministry of Housing and Urban Affairs**, is mandated with implementing the RRTS project across the National Capital Region.

its core, the RRTS is an integrated, mass transit network.

- It aims to ensure balanced and sustainable urban development through better connectivity and access across the NCR.

Origin

- The idea of such a network lies in a study which the **Indian Railways** was commissioned to carry out in the year **1998-99**.
- The study identified the possibility of an RRTS network to connect various locations in the NCR through fast commuter trains.



The Regional Rapid Transit System (RRTS):

- With semi high-speed rail connectivity at

- ◆ The proposal was re-examined in the year 2006 with the extension of the **Delhi Metro lines** to some NCR towns such as **Gurgaon, Noida and Ghaziabad**.
- ◆ It was soon taken up by the National Capital Region Planning Board (NCRPB) while developing its Functional Plan on Transport for NCR-2032.
- ◆ NCRPB identified and recommended eight RRTS corridors to connect NCR towns with high speed rail-based commuter transit services.

Objective

- ◆ It seeks to unlock the entire potential of the NCR in various ways in addition to enhancing multi-modal connectivity at the existing transportation hubs.
- ◆ One of the most significant aims of the project is to nudge commuters towards public transportation.
- ◆ Hence, it will have a positive impact on relieving the congestion both on its road/highways as well as existing metro and railway networks.
- ◆ The project aims to give a push to employment generation and the opening up of newer commercial hubs along the current contours of the NCR.
- ◆ Shorter travel times are expected to increase the overall economic productivity of the region.

Features

- ◆ RRTS trains will travel significantly **faster than metro trains**.
- ◆ These will operate at a speed of **160 km/hour** but are designed to be able to run at **speeds up to 180 km/hour**.

- ◆ The RRTS is modelled on systems such as the **RER in Paris, Regional-Express trains in Germany and Austria as well as the SEPTA Regional Rail in the United States**, among others.

How is the RRTS different from existing metro or railways systems?

- ◆ When compared with metros, the RRTS network is faster.
- ◆ Compared with the Indian Railways, though the RRTS train will cover relatively smaller distances. It will do so at higher frequency and provide relatively more comfort than the average Railways coach.

Role of Science and Technology in Economic Growth:

In economics, it is widely accepted that technology is the key driver of the economic growth of countries, regions and cities. Technological progress allows for the more efficient production of more and better goods and services, which is what prosperity depends on.

- ◆ **Time is Money:** Technology can save the time it takes to produce a good or deliver a service, contributing to the overall profits of a business.
- ◆ **Efficiency:** Technology can contribute to the efficiency of a business's output rate, allowing for larger quantities of products to be moved or of services to be rendered.
- ◆ **Specialization:** Technology has to lead to an increase in the division of labour and specialization of jobs within a business, further contributing to the efficiency with which a business can run.

Benefits	Consequences
<ul style="list-style-type: none"> • Improved Connectivity: Railways enhance accessibility, linking remote areas to urban centers, promoting inclusivity and reducing regional disparities. • Reduced Traffic Congestion: Efficient rail networks reduce the dependency on road transportation, mitigating traffic congestion and lowering pollution levels. • Job Creation: The construction and operation of railways generate employment opportunities, both directly and indirectly, in various sectors such as construction, maintenance, and services. • Development of Industrial Corridors: Railways can serve as the backbone of industrial corridors, promoting the development of industries along their routes. 	<ul style="list-style-type: none"> • Land Displacement and Disruptions: Railway expansion may necessitate land acquisition and potentially disrupt local communities, leading to social and environmental challenges. • Maintenance and Operating Costs: The upkeep and operation of railway networks require significant financial investment, which can be a burden on public budgets. • Environmental Impact during Construction: Construction activities can disrupt natural habitats, leading to soil erosion, habitat loss, and disturbances to local flora and fauna.

- ◆ **Natural Resources:** Technology has a huge effect on the ability of businesses and governments to access natural resources and use them in the most effective ways possible to benefit both the business and the economy.

- ◆ **Industrial Expansion:** Thanks to the increased efficiency of labour with the ever-improving state of technology, businesses can increase total output, which in turn leads to higher profits and greater economic development.
- ◆ **Research:** Better technology has led to further research into nearly every sector of business and science, meaning businesses can benefit from all sorts of technological advancements.
- ◆ **The Internet and International Trade:** Information technology is the single most important element in the success and growth of international trade and job market growth, allowing businesses to share information and conduct trade in less time than the blink of an eye.

Conclusion

In conclusion, the expansion of railway infrastructure brings about a range of consequences, both positive and negative. While railways significantly improve accessibility, reduce traffic congestion, and contribute to environmental sustainability, they also pose challenges like land displacement, environmental disruptions, and potential safety concerns. Striking a balance between reaping the economic and societal benefits and addressing the associated drawbacks requires meticulous planning, community engagement, and a commitment to sustainable development.



Section C [PRELIMS]

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- ❧ Gujarat's Dhordo village gets UNWTO recognition
- ❧ 11th century Sanskrit Alphabet discovered in Neelkhantheswar Mahadev Temple
- ❧ Heat belts
- ❧ Cyclone Tej
- ❧ India-Japan chip supply chain partnership
- ❧ Periodic Labour Force Surveys (PLFS) 2019-23
- ❧ Marine Cloud Brightening
- ❧ Tapeworm is spreading in Kenya



GUJARAT'S DHORDO VILLAGE GETS UNWTO RECOGNITION

Context: Recently, the list of Best Tourism Villages 2023 has been released by United Nations World Tourism Organization (UNWTO) where the Dhordo village of Gujarat made to get included in it.

About the List of Best Tourism Villages 2023:

- ◆ The villages are evaluated under **nine key areas**, including;
 - Cultural and Natural Resources
 - Promotion and Conservation of Cultural Resources
 - Economic Sustainability
 - Social Sustainability
 - Environmental Sustainability
 - Tourism Development and Value Chain Integration
 - Governance and Prioritization of Tourism
 - Infrastructure and Connectivity
 - Health, Safety, and Security
- ◆ Best Tourism Villages by UNWTO recognizes outstanding **rural tourism destinations** with accredited cultural and natural assets, a commitment to preserving community-based values, and a clear commitment to innovation and sustainability across economic, social, and environmental dimensions.

About Dhordo Village:

- ◆ Dhordo village is famous for its cultural extravaganza that showcases the region's traditional **art, music, and crafts**.



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- ◆ The village is home to an annual 3-month festival called '**Rann Utsav**'.
- ◆ It also hosted the **first Tourism Working Group Meeting of the G-20** held under India's presidency.

- The **Rann Utsav** is a fun festival that takes place annually at the Rann of Kutch.
- A vibrant carnival that brims with **song, dance, culture, adventure and art**, it is said that during it, the beauty of the pristine land of Bhuj is accentuated on full moon nights.
- Golf carts, ATV rides, paintball, camel safaris, game cart excursions, paramotoring, and horse and camel rides are also a part of the celebration.

◆ Major Art forms:

- **Dhamadka Block Printing:** There are many printers using **madder roots** for printing **red colour**, rusty iron solution for **black colour** and **indigo for blue colour**.
- **Bhujodi Textile Handicrafts:** The weavers of Bhujodi are believed to be Vankars or Mughal migrants who came 500 years ago from Rajasthan.
 - They were initially engaged in weaving woollen blankets and veil cloths for the **Rabari community**.

United Nations World Tourism Organization (UNWTO):

- The **United Nations World Tourism Organization (UNWTO)**, is a United Nations agency working to promote tourism for sustainable development.
- The Best Tourism Villages initiative is part of the UNWTO Tourism for Rural Development Programme.
- The programme works to foster development and inclusion in rural areas, combat depopulation, advance innovation and value chain integration through tourism and encourage sustainable practices.
- **The initiative comprises three pillars:**
 - **Best Tourism Villages by UNWTO:** Recognizes outstanding rural tourism destinations with accredited cultural and natural assets, a commitment to preserving community-based values, and a clear commitment to innovation and sustainability across economic, social, and environmental dimensions.
 - **Best Tourism Villages by UNWTO Upgrade Programme:** Supports villages on their journey to meet recognition criteria, helping in areas identified as gaps during evaluation.
 - **The Best Tourism Villages Network:** a space for exchanging experiences and good practices, learning, and opportunities among its members, and it is open to contributions of experts and public and private sector partners engaged in the promotion of tourism as a driver for rural development.

11TH CENTURY SANSKRIT ALPHABET DISCOVERED IN NEELKHANTHESWAR MAHADEV TEMPLE

Context: Recently, Indian National Trust for Art and Cultural Heritage (INTACH) has discovered a sanskrit varnamala or alphabet in devnagri on stone slab made at temple wall of Neelkhantheswar Mahadev Temple in Madhya Pradesh.

Neelkhantheswar Mahadev Temple:

- It was built by the **Paramara king Udayaditya**. He was the son of the **great king Bhoja (1010-1050 AD)**.
- In central India, it is difficult to see precisely dated temples. But the Udayeshwar temple is one of the few, which has a precise date.



- Two inscriptions engraved on the temple record the construction of temple during **Paramara king Udayaditya** between 1059 to 1080.

Paramara Dynasty:

- The **Paramara Dynasty** was an Indian dynasty that ruled Malwa and surrounding areas in west-central India between 9th and 14th centuries.
- They belonged to the **Paramara clan** of the Rajputs.
- The dynasty was established in either the **9th or 10th century**, and its early rulers most probably ruled as vassals of the **Rashtrakutas of Manyakheta**.
- The dynasty reached its zenith under Bhoja, whose kingdom extended from **Chittor** in the north to Konkan in the south, and from the **Sabarmati River** in the west to Vidisha in the east.

About INTACH:

- The Indian National Trust for Art and Cultural Heritage (INTACH) was founded in **1984 in New Delhi** with the vision to spearhead heritage awareness and conservation in India.
- It works on conservation and preservation of not just our natural and built heritage but intangible heritage as well.

HEAT BELTS

Context: A new study reveals the emergence of an “extreme heat belt” in USA which is likely to spread in other regions of the world by 2030.

What are Heat belts?

- “**Extreme heat belt**” -- with at least **one day per year** in which the **heat index hits 125 Fahrenheit (52C)**.
- The developing “**Extreme Heat Belt**” forms a region of vulnerability for most of the states in US.

It was estimated that the extreme heat belt will expand from **50 counties in 2023** to more than **1,000 by 2053**.

Calculation of Heat Index:

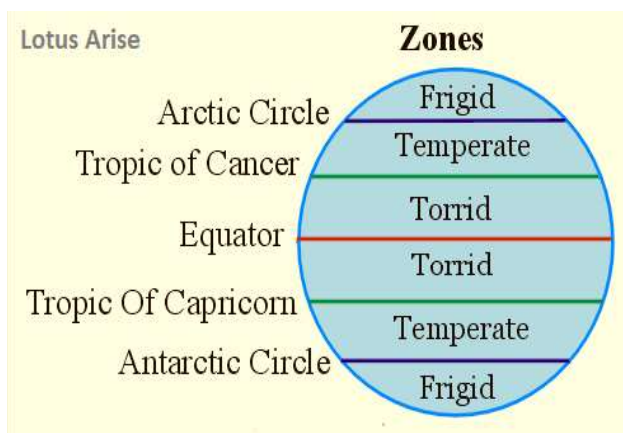
- The Heat Index is a parameter that considers both **temperature and humidity** to calculate the apparent temperature or “feel like” temperature for human beings.
- It helps in understanding the impact of humidity on high temperatures and how it contributes to human discomfort during hot weather.
- The Heat Index has been launched on an experimental basis by the **Indian Meteorological Department (IMD)**.
- It aims to provide general guidance for regions experiencing higher apparent temperatures causing discomfort to people.

Temperature belts of world

The three major heat zones of the Earth are:

- Temperate Zone:** This is the habitable heat zone of the Earth. There are two temperate zones lie in between in both $23\frac{1}{2}^{\circ}$ to $66\frac{1}{2}^{\circ}$ the hemisphere. These regions have moderate, tolerable temperatures.
- Torrid Zone:** This is the hottest zone of the Earth. The region that lies from the Tropic of Cancer (23.5° N),

across Equator (0°) to the Tropic of Capricorn (23.5°S) is considered the torrid zone (Tropical Zone). The Sun's ray falls directly at least once a year.



- ◆ **Frigid Zone:** This is the coldest zone of the Earth. This area lies to the north of the Arctic circle (66.6°N) and to the south of the Antarctic circle (66.5°S) and is permanently frozen. There is no sunlight for most of the months of the year in this zone.
- ◆ These are based on the distance they have from Equator. Frigid Zone

Importance of the Heat Zones

- ◆ This division of the Earth into different heat zones helps in understanding the climate changes and to study weather conditions across the world.

Mean Annual Temperature Distribution:

- ◆ **Isotherm** – An imaginary line joining places having equal temperatures.
 - ▶ The horizontal or latitudinal distribution of temperature is shown with the help of a map with isotherms.
 - ▶ The effects of altitude are not considered while drawing an isotherm. All the temperatures are reduced to sea levels.

CYCLONE TEJ

Context: The India Meteorological Department (IMD) has predicted the 'Cyclone Tej,' a depression gathering force in the Arabian Sea, intensified into an 'extremely severe cyclonic storm' near the coasts of Oman and Yemen.

between Al Ghaidah (Yemen) and Salalah (Oman) on October 24.

- ◆ This **very severe cyclonic storm** is predicted to lash with wind speeds around **115-125 kmph**.

Categories of Cyclones:

- ◆ **Category 1:** Wind speed of **90-125 kph**, negligible house damage, some damage to trees and crops.

Cat Cyclones in Arabian Sea:

- ◆ The frequency of "very severe cyclonic storms" has increased in recent years over the Arabian Sea.
- ◆ A very severe cyclone is defined as one with wind speeds touching **220 kmph**.
- ◆ **Category 2:** Destructive winds of **125-164 kph**. Minor house damage, significant damage to trees, crops and caravans, risk of power failure.
- ◆ **Category 3:** Very destructive winds of **165-224 kph**. Some roof and structural damage, some caravans destroyed power failure likely.
- ◆ **Category 4:** Very destructive winds of **225-279 kph**. Significant roofing loss and structural damage, caravans destroyed, blown away, widespread power failures.
- ◆ **Category 5:** Very destructive winds gusts of **more than 280 kph**. Extremely dangerous with widespread destruction.

INDIA-JAPAN CHIP SUPPLY CHAIN PARTNERSHIP

Context: The Union Cabinet has approved a **Memorandum of Cooperation (MoC) between India and Japan on developing a semiconductor supply chain partnership, which will focus on research and development (R&D), manufacturing, design, and talent development for the industry.**

About the partnership:

- ◆ **Background:** The MoC was initially signed in July 2023, between the IT Ministry and Japan's Ministry of Economy, Trade and Industry.
- ◆ **Objective:** The MoC intends to strengthen cooperation between India and Japan towards enhancement of the semiconductor supply chain, recognising the importance of semiconductors for the advancement of industries and digital technologies.

Semiconductor supply chain in India

- ◆ India currently imports all chips and the market is estimated to touch USD 100 billion by 2025 from

About Cyclone Tej:

- ◆ The cyclonic storm is predicted to move northwestwards and cross the Yemen-Oman coasts

USD 24 billion now. However, for the domestic manufacturing of semiconductor chips, India has recently launched several initiatives:

- ◆ The Union Cabinet has allocated an amount of Rs. 76,000 crore in 2021 for supporting the development of a 'semiconductors and display manufacturing ecosystem'.
- ◆ Consequently, a significant number of incentives would be provided to design companies to design chips.

India's initiatives to become 'Atmanirbhar' in semiconductor manufacturing

- ◆ India has also launched the **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS)** for manufacturing of electronics components and semiconductors.
- ◆ In 2021, India announced its roughly **USD 10 billion-dollar Production-Linked Incentive (PLI)** scheme to encourage semiconductor and display manufacturing in the country.
- ◆ In 2021, the MeitY also launched the **Design Linked Incentive (DLI) Scheme** to nurture at least 20 domestic companies involved in semiconductor design and facilitate them to achieve a turnover of more than Rs.1500 Crore in the next 5 years.

Top 5 Countries Producing Semiconductors

- Top 5 Countries that produce the most semiconductors are **Taiwan, South Korea, Japan, United States, and China**.
- **Taiwan and South Korea** make up about **80%** of the global foundry base for chips. TSMC, the world's most advanced chipmaker, is **headquartered in Taiwan**.
- Currently, foundries in Taiwan account for over **70%** of the chips that mobile devices made in India utilize, according to industry estimates by the **Indian Cellular and Electronics Association**.



PERIODIC LABOUR FORCE SURVEYS (PLFS) 2019-23

Context: Recent findings of the Periodic Labour Force Surveys (PLFS) assessing various forms of employment from April-June 2019 to 2023 have been released.

Key Findings –

- ◆ Trends in Gender Gap:

- ▶ The gender gap in earnings has increased for self-employed workers but decreased for regular wage workers.
- ▶ From 2019 to 2022, male regular wage workers earned 34% more than women, which decreased to 24% in 2023.

◆ Average Weekly Work Hours:

- ▶ Women work fewer hours than men across all types of work. In 2023, the largest gap in work hours was observed among self-employed workers, with men working 50% more hours than women.
- ▶ The gap was the smallest for regular wage workers, where men and women worked 51 and 43 hours per week, respectively.

◆ Earnings per Hour: When considering hourly earnings, the gap significantly reduces for regular wage workers.

- ▶ In 2023, men in this category earned 24% more than women over the week, but also worked 19% longer.
- ▶ The gap in hourly earnings for regular wage workers was only around 4%, down from 11% in 2019.

◆ Inequality in Hourly Earnings: Inequality in hourly earnings is higher for casual workers and the self-employed, though not as high as when considering total earnings.

- ▶ In 2023, male casual workers earned 23% more per hour than women, while the gap increased for the self-employed, reaching 87% in 2023.

◆ Factors Influencing Hours of Work: The choice of working hours is influenced by various factors,

- ▶ Including social norms that require women to handle domestic and child-rearing duties.
- ▶ This can limit women's choices for full-time employment and lead to disparities in working hours.

About Periodic Labour Force Survey:

- The Periodic Labour Force Survey (PLFS) is a comprehensive and recurring survey conducted by the Government of India through the **Ministry of Statistics and Programme Implementation (MoSPI)**.
- The primary objective of the PLFS is to collect data related to labor force participation, employment, and unemployment in the country.
- The survey aims to provide up-to-date and detailed information about the labor market in India, which is crucial for policymakers, researchers, and other stakeholders.



MARINE CLOUD BRIGHTENING

Context: The concept of marine cloud brightening is gaining prominence recently as a tactic for addressing extreme ocean heat and as a way to reduce coral bleaching and safeguard marine ecosystems.

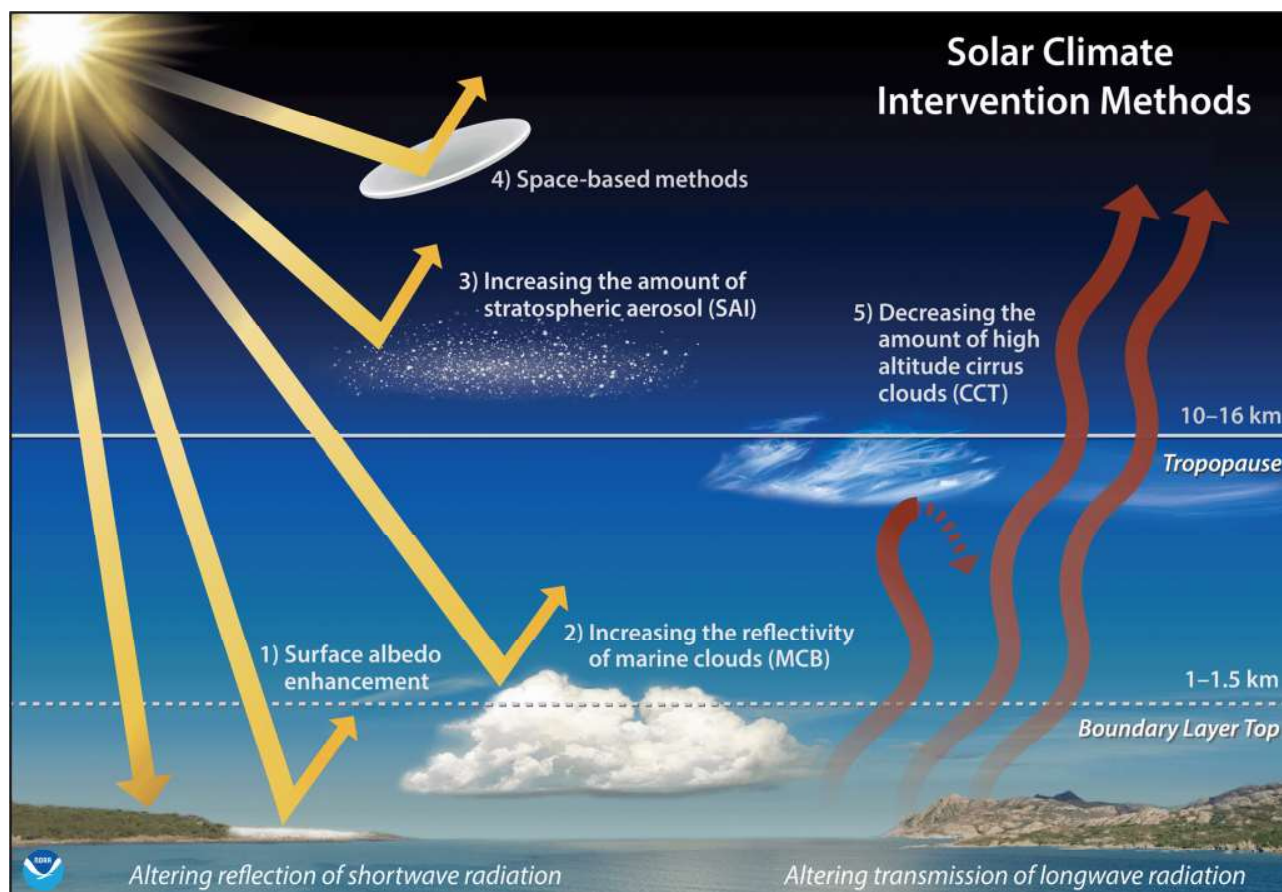
About:

- ◆ The concept of cloud brightening traces back to British cloud physicist **John Latham**, who proposed this idea in 1990 as a means to control global warming by altering the Earth's energy balance.
- ◆ Latham's calculations suggested that brightening clouds over vulnerable ocean regions could

counteract the warming caused by a doubling of pre-industrial atmospheric carbon dioxide.

Mechanism of Marine Cloud Brightening:

- ◆ In clean maritime air, clouds primarily form from sulphates and sea salt crystals, which are relatively scarce, leading to larger droplets with lower light reflection.
- ◆ Marine cloud brightening (MCB) seeks to boost marine cloud reflectivity (albedo), making clouds whiter and brighter.
- ◆ It involves using water cannons or specialized vessels to release fine sea water droplets into the atmosphere.
- ◆ As these droplets evaporate, they leave behind salt particles, serving as cloud condensation nuclei that foster the formation of denser, brighter clouds.

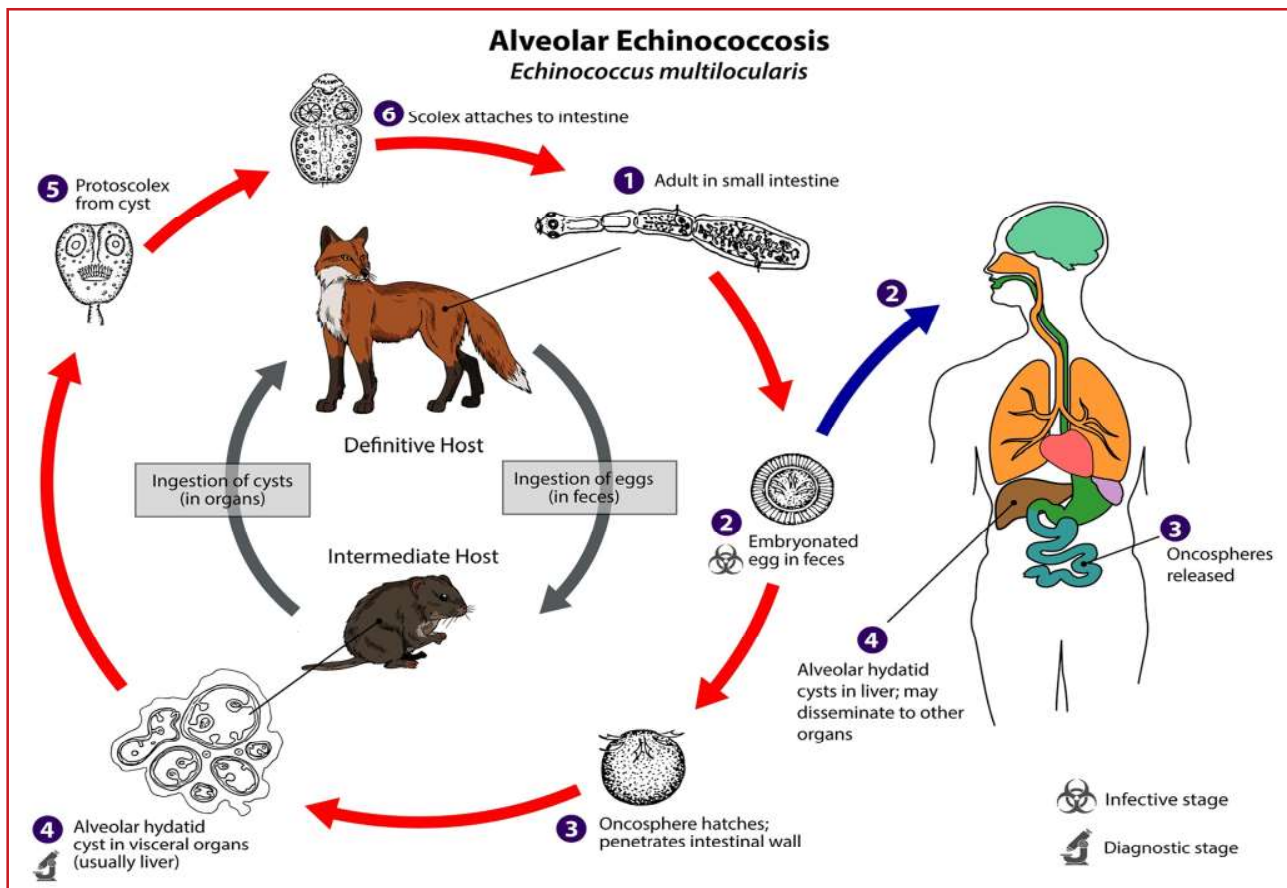


TAPEWORM IS SPREADING IN KENYA

Context: *Echinococcus granulosus*, a type of tapeworm, is a harmful parasite is spreading across Kenya.

What is a Tapeworm?

- ◆ A tapeworm is a parasite that can live and feed in human intestines. This is called a **tapeworm infection**.
- ◆ A young and inactive form of the tapeworm is called a **larval cyst**. It can stay alive in other parts of the body. This is called a **larval cyst infection**.
- ◆ Adult tapeworms cause an intestinal infection called **Taeniasis**



◆ **Spread:** The parasite can grow slowly in people for years to form thick-walled cysts in vital organs, such as the liver and lungs.

Known as **cystic echinococcosis**, or **hydatid disease**, it can cause abdominal pain, nausea and vomiting.

It can be fatal, if not treated.

◆ **Treatment:** Tapeworm infections are treated with anti-parasitic drugs. Treatments for larval cyst infections may include anti-parasitic drugs and surgery to remove the cyst.

◆ **Symptoms:**

- Stomachache or stomach pain
- Not wanting to eat
- Loose stools
- Diarrhea
- Weight loss
- Gas
- Hunger pains
- Cravings for salty food



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Section D [QUIK BYTES]

- ☞ Kati Bihu 2023
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Kati Bihu 2023



Assamese people celebrate Kati Bihu on the first day of the 'Kati' month, which usually falls in the middle of October.

- Kati Bihu 2023 falls on October 18 this year.

About:

- Kongali Bihu or Kati Bihu as it is commonly known derives its name from the month of Kartik which is traditionally known as Kati.
- Unlike Bohag Bihu, Kati Bihu is not a flamboyant festival and the festivities are more sombre in nature.
- This Bihu is celebrated during the time of relocation of the rice sapling during the month of October.
- The granaries of the farmers usually remain empty during this time, hence it is known as Kongali (poor) Bihu.

King Kulashakara Alupendra I



Recently, the Archaeologist discovers inscription announcing the death of King Kulashakara Alupendra I at Someshwara.

The **Someshwara inscription** is very significant in the study of **Tuluva history and culture**.

About:

- The inscription was the first record of the Alupas that announced the death of a king.
- It also mentioned terms related to the Siri cult, such as Siri, Dalya and Chattara (Chatra).
- The Keerthi sthamba or pillar found in the inscription is a replica of the original pillar found in the premises of a church in Kulashakara, a suburb of Mangaluru.

Who was King Kulashakara Alupendra I?

- Kulashakara Alupendra I was a famous ruler of the Alupas of South Canara.
- He was responsible for the establishment of new city called Kulashakara in Mangaluru.
- He also laid down strict rules and regulations for temple administration, which are still followed in all temples in this region.
- He was the first ruler to give royal patronage to Tulu language and culture, ruling from both the capitals, Mangaluru and Barkuru.

The Soma Cult:

- The Soma cult was founded by one Soma Sharma of Gujarat in the 11th century AD and it spread across the country.
- The Someshwara temple at Someshwara was built during the time of Kulashakara Alupendra in honour of Soma and adorned with Nava Durgas.
- Independent Navadurga sculptures in sitting posture are found in the temple.

CCI becomes member of International Competition Network's steering group



CCI joins the prestigious Steering group of **International Competition Network (ICN)** as a member at the ICN Annual Conference 2023 at Barcelona, Spain.

About International Competition Network (ICN) :

- The ICN comprises **140 competition** agencies from 130 countries.
- The ICN provides competition authorities with a specialised yet informal venue for maintaining regular contacts and addressing practical competition concerns.

Competition Commission of India (CCI):

- It is a statutory body.
- Competition Commission of India aims to establish a robust competitive environment.
 - ▶ Through proactive engagement with all stakeholders, including consumers, industry, government and international jurisdictions.
 - ▶ By being a knowledge intensive organization with high competence level.
 - ▶ Through professionalism, transparency, resolve and wisdom in enforcement.

Gyan Sahayak Scheme



As Gujarat government has announced **Gyan Sahayak Scheme** to fill vacancies in government schools with the appointment of teachers on contractual basis till the process of regular appointments is complete.

About:

- Gyan Sahayak Scheme is for government and grant-in-aid schools, especially for Mission Schools of Excellence.
- The government had declared hiring on contract **15,000 Gyan Sahayaks** in primary schools and 11,500 in secondary and higher secondary schools.
- A primary school Gyan Sahayak is eligible for a salary of Rs 21,000, secondary school Gyan Sahayak for Rs 24,000 and higher secondary school Gyan Sahayak for Rs 26,000 per month.
- The Gyan Sahayaks will replace the **Pravasi Shikshaks**, a scheme announced to serve the same purpose in 2015.

Digital crop survey

The Centre has asked **states and Union Territories** to digitise the process by adopting the **Digital Crop Survey system** from July 2024.



Guidelines for the survey:

- All states/ UTs were ordered to automate/digitise the process of area enumeration/girdawari of crops at field level, i.e. Digital Crop Survey, from 2024-25 Agricultural Year.
- The states and UTs shall use GPS enabled mobile application for collecting crop sown data of each plot for each season and share the village level aggregated data with **DA&FW (Department of Agriculture & Farmers' Welfare)** through API only.
- The states have been asked to collect information on "**basic parameters**", including
 - Village name, year, season, farmer ID, farm ID, crop name (at farm plot level), crop variety, crop sown area (at farm plot level),
 - Geotags of crop photos, geotags of farm boundary where the crop is sown, sowing/ planting date (at farm plot level),
- Irrigation type (at farm plot level), and irrigation source (at farm plot level).

"Chakra-II" operation



The Central Bureau of Investigation (CBI) has launched Operation Chakra-II to fight against transnational organised **cyber-enabled financial** crimes in India.

About:

- It is aimed at combating and dismantling infrastructure of organized cyber-enabled financial crimes in India.
- CBI conducted it jointly with national and international agencies and private sector giants.
- Chakra-1 was conducted by the CBI in coordination with the Interpol, the FBI and police forces of multiple countries.

Project 'Udbhav'



Recently, Defence Minister Rajnath Singh formally launched the Army's new initiative, "**Project Udbhav**".

About the project:

- **Objective:** The project seeks to harmonise India's time-honored strategic knowledge with contemporary military methodologies, aimed at addressing modern security challenges and preparing for future conflicts.
- Project Udbhav seeks to integrate ancient wisdom, such as the Arthashastra and Thirukkural, with contemporary military practices.
- It also emphasizes the study of prominent leaders and battles of the past.

- The initiative will serve as the foundation for indigenous strategic developments and a future-ready Indian Army.

Star rating programme for solar PV modules



Union Minister for Power, New and Renewable Energy has launched the initiative which provides ratings to Solar PV modules from 1-5 stars on the basis of the efficiency.

About the initiative:

- The Indian government has launched a star rating programme for solar photovoltaic modules, allowing consumers to choose panels with higher efficiency.
- The initiative provides ratings from 1-5 stars based on module efficiency, helping consumers make informed decisions when purchasing solar installations.
- Aim: This will also help build consumer confidence and give a push to solar installations in the country.
- Bureau of Energy Efficiency (BEE), under Ministry of Power, promotes the use of energy-efficient processes, equipment, devices and systems.
- It takes various steps to encourage preferential treatment for the use of energy-efficient equipment or appliances.

Purple Economy



Recently, the **b/Changemakers Award winner** Shanti Raghavan has been in news for helping disable people making a view towards 'Purple economy'.

What is Purple economy?

- It is also referred to as the care economy. It recognizes the importance of care work, empowerment and autonomy of women to the functioning of the economies, wellbeing of societies, and life sustainability.
- Care work can be paid or unpaid. Men's involvement in unpaid caregiving and domestic work is significantly lower compared to women.
- According to the ILO, the value of unpaid care work would be 0.4 percent of the GDP for men and 3.1 percent of the GDP for women.

India to surpass Japan to become 2nd largest eco in Asia by 2030: S&P Global

As per **S&P Global Market Intelligence**, India is likely to overtake Japan to become the world's third-largest economy with a GDP of **USD 7.3 trillion** by 2030.

About the Report:

- India's gross domestic product (GDP) is expected to grow 6.2-6.3 per cent in the fiscal year ending in March 2024, being the fastest-growing major economy this fiscal year.



- Asia's third-largest economy grew by a stellar 7.8 per cent in the April-June quarter.
- This rapid pace of economic expansion would result in the size of the Indian GDP exceeding Japanese GDP by 2030, making India the second largest economy in the Asia-Pacific region.
- By 2022, the size of the Indian GDP had already become larger than the GDP of the UK and also France.
- By 2030, India's GDP is also forecast to surpass Germany.

Present Global GDP scenario:

- The US at present is the **world's largest economy** with a GDP of USD 25.5 trillion. It makes up for a quarter of the world's GDP.
- China is the **second largest economy** with a GDP size of about USD 18 trillion, which is almost 17.9 per cent of the world GDP.
- Japan is a **distant third** with USD 4.2 trillion GDP, followed by **Germany** with USD 4 trillion GDP.

Fast Radio Bursts



A new study that documented the most distant "fast radio burst" mentions that, the FRBs can be used to measure the mass of the universe.

What are Fast Radio Bursts (FRBs)?

- Fast radio bursts (FRBs) are intense blasts of radio waves that can emit as much energy as the sun puts out in three day.
- Radio dispersion is imparted on each burst by intervening plasma, mostly located in the intergalactic medium.

The first fast radio burst to be described, the **Lorimer Burst FRB 010724**, was found in 2007 in archived data recorded by the **Parkes Observatory** on 24 July 2001

- The bursts last for several milliseconds (thousandths of a second). The bursts come from all over the sky, and are not concentrated on the plane of the Milky Way.
- Known FRB locations are biased by the parts of the sky that the observatories can image.

Gaganyaan Test Vehicle TV-D1

The Indian Space Research Organisation (ISRO) successfully conducted a test involving an in-flight abort demonstration and recovery of a crew module. The mission, known as the **Gaganyaan Test Vehicle TV-D1**.

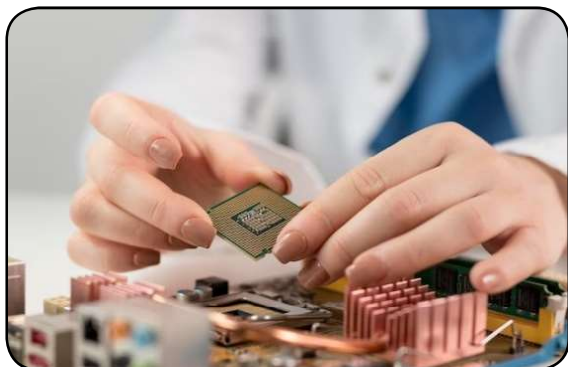
About the Mission:

- The Gaganyaan Programme envisages undertaking the demonstration of human spaceflight to Low Earth Orbit (LEO) in the short-term.



- The overall programme co-ordination, systems engineering and implementation will be carried out by ISRO.
- The mission objectives of the TV-D1 launch were Flight demonstration and evaluation of Test Vehicle subsystems; flight demonstration and evaluation of Crew Escape System including various separation systems; crew module characteristics; and deceleration system demonstration at higher altitudes and its recovery.

India Semiconductor Research Centre (ISRC)



The India Semiconductor R&D Committee handed over the report on the India Semiconductor Research Center (ISRC) to Union Ministry of State for Skill Development & Entrepreneurship and Electronics & IT.

About India Semiconductor Research Center (ISRC):

- The ISRC envisions the establishment of a world-class research institution focusing on;
 - Semiconductor processes,
 - Advanced packaging,
 - Compound semiconductors and
 - Fabless design and EDA tools.
- By fostering collaboration between industry, academia, and government, ISRC aims to nurture a vibrant semiconductor ecosystem.
- It is expected to facilitate seamless transfer from lab to fab, bridging the gap between research and manufacturing.
- The ISRC plans to invest strategically, focusing on achievable technology nodes and fostering collaborations with global research centres, academia and industry.
- The initiative aims to transform the centres of Excellence in India's academic institutions into globally competitive entities, attracting global companies to India.

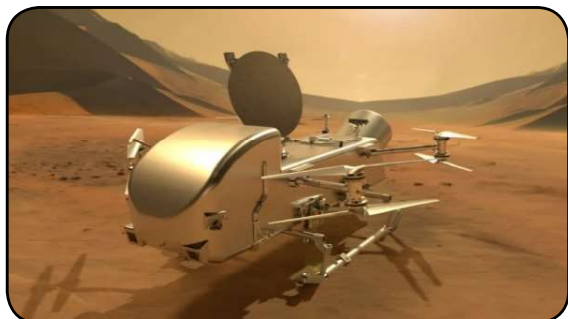
Nuclear-powered lander for Saturn's moon Titan

NASA is building a nuclear-powered lander for exploring 'Titan' — **Saturn's** largest moon having a dense atmosphere and low gravity.

- The Lander is a part of Dragonfly spacecraft will be launched by 2027.

About:

- Titan is a major target in NASA's quest to assess habitability and search for potential signs of life beyond Earth on worlds across the solar system.
- The lander, **Dragonfly rotorcraft**, is NASA's only mission to the surface of another ocean world.



- Titan is also thought to have a subsurface ocean of water.
- The lander will be equipped with cameras, sensors and samplers to help examine swaths of Titan known to contain organic materials that may have come in contact with liquid water beneath the organic-rich, icy surface.

Titan: Saturn's Largest Moon:

- Saturn's largest moon, Titan, is an icy world whose surface is completely obscured by a golden hazy atmosphere.
- Titan is the **second largest moon** in our solar system.
- Only Jupiter's **moon Ganymede** is larger, by just 2 percent.
- Titan is bigger than Earth's moon, and larger than even the planet Mercury.
- Titan's atmosphere is primarily nitrogen, plus a small amount of methane.

SPECIES IN NEWS

Snow Leopard



Every year October 23 is celebrated as World snow leopard day to highlight the importance of the species.

About:

- Snow leopards live in the mountains across a vast range of Asia.
- They are insulated by thick hair—in shades of gray or creamy yellow and covered with grayish black spots—and their wide, fur-covered feet act as natural snowshoes.
- **Habitat:** They can be found throughout high mountain ranges, including the Himalayas and the southern Siberian Mountains in Russia.
- They can also be found in the **Tibetan Plateau** and across a range that stretches from **China to the mountains of Central Asia**.
- **In India, their geographical range encompasses:**
 - **Western Himalayas:** Jammu and Kashmir, Himachal Pradesh.
 - **Eastern Himalayas:** Uttarakhand and Sikkim and Arunachal Pradesh.
 - Snow Leopard capital of the world: **Hemis, Ladakh.**
- **Protection Status:**
 - The snow leopard is listed as Vulnerable on the IUCN-World Conservation Union's Red List of the Threatened Species.
 - In addition, it is also listed in Appendix I of the Convention on International Trade of Endangered Species (CITES).
- It is listed in Schedule I of the Indian Wildlife (Protection) Act 1972.

Saltwater crocodiles



Saltwater crocodiles (*Crocodylus porosus*) are also known as estuarine crocodiles.

- It is the largest of the **23 species of 'extant'** or living crocodilians.
- It can also tolerate saltwater in the oceans and can travel long distances over the **open ocean, making use of tidal currents.**
- They are the largest living reptile, reaching up to **seven metres** in length.
- **Location:**
 - These crocodile species inhabit **brackish waters of wetlands** and marine intertidal environments from **Sri Lanka, India, Bangladesh, and Myanmar** east to the Solomon Islands and Vanuatu and south to Australia's northern coast.

Found in India:

- They are found in three locations in India — the Sundarbans, Bhitarkanika National Park and the Andaman and Nicobar Islands.
- It is one of the three crocodiles native to the Indian Subcontinent, along with the mugger crocodile (*Crocodylus palustris*) and the gharial (*Gavialis gangeticus*).

Paintbrush swift butterfly



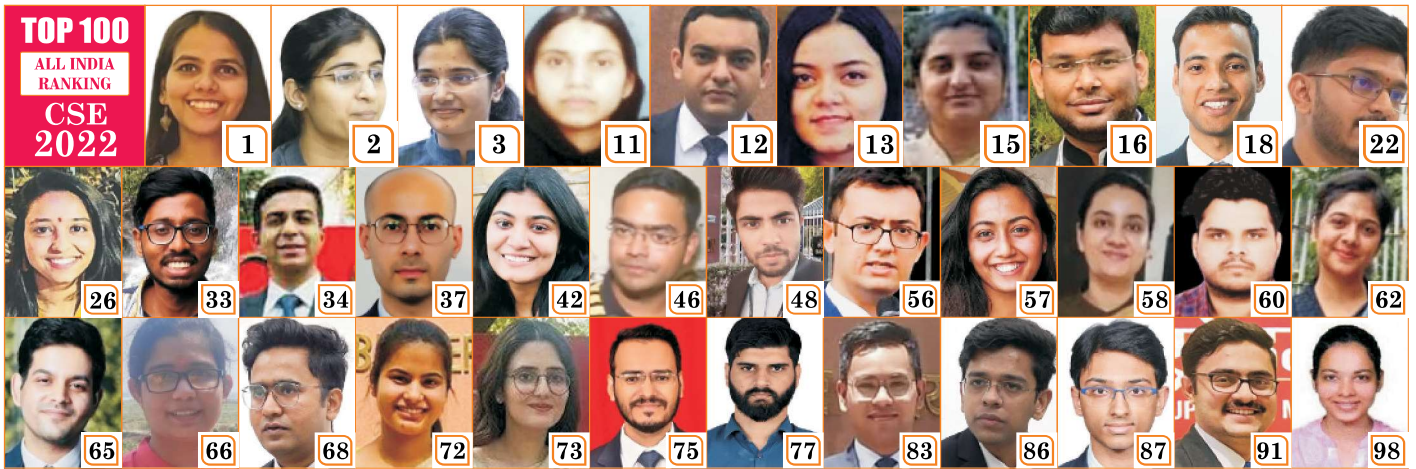
Under the **Wild Bhattiyat Project** initiated by the **State Forest Department** in 2022, a species of butterfly that is rare in the western Himalayas, the **paintbrush swift butterfly** has been documented for the first time in Himachal Pradesh's Chamba district.

- It was first described by lepidopterist Frederic Moore more than 145 years ago.

About the Species:

- The paintbrush swift is a butterfly species of the Hesperidae family.
- **Scientific name:** *Baoris farri*
- It is identified based on two separated spots in the upper forewing cell.
- The species' **larvae feed** on bamboo and some other grass species.
- **Habitat:** Its habitat is distributed in northeast, central and south India, and rare in Uttarakhand.
- **Threats:** Habitat loss and scarcity of larval host plants are major causes of the decline in the butterfly population. An increase in pesticide use, deforestation, and climate change.
- **Conservation status:** This species is legally protected in India under **Schedule IV** of the Wildlife (Protection) Act, 1972.





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