

CURRENT AFFAIRS

WEEKLY

WEEK: 4

MARCH
2024

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- GS- I**
 - ▣ FALLING FERTILITY RATE AND IMPACT ON INDIA
 - ▣ UP MADARSA ACT, A VIOLATION OF SECULARISM: ALLAHABAD HC
- GS- II**
 - ▣ INDIA RACING TO MINE BATTERY METALS UNDERSEA
 - ▣ US, UK & AUSTRALIA TO BUILD SSN-AUKUS SUBMARINES
 - ▣ INDIA BACKS PHILIPPINES' NATIONAL SOVEREIGNTY
- GS- III**
 - ▣ INDIA EMPLOYMENT REPORT 2024
 - ▣ INDIA TO REPLACE MINIMUM WAGE WITH 'LIVING WAGE'
 - ▣ SLOWDOWN IN FOREIGN DIRECT INVESTMENT
 - ▣ INDIA'S CLIMATE GOALS: NET-ZERO AND BLACK CARBON REDUCTION
 - ▣ SUSTAINABLE CONSTRUCTION

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- ▣ Mohiniyattam
- ▣ Gulaal Gota

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- ▣ La Nina set to return in India
- ▣ Heat Waves
- ▣ Baltimore's Francis Scott Key Bridge
- ▣ Kaveri River

INTERNATIONAL RELATIONS

- ▣ China to 'assist' Sri Lanka in building deep sea port
- ▣ PM Modi conferred Bhutan's highest civilian honour

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- ▣ Bima Sugam
- ▣ BhashaNet Portal

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- ▣ Meme coins
- ▣ T+0 settlement system

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- ▣ Digital Markets Act (DMA)
- ▣ China unveils Z-20 Helicopter
- ▣ India deploys 11 Submarines
- ▣ Pushpak 'Viman' lands successfully

Species in News

- Committee for Preservation of Great Indian Bustard
- New species of Deep-Sea Isopod
- Two new species identified in Kaziranga National Park
- Clouded leopard (*Neofelis nebulosa*)

Section D: TERMS OF THE WEEK

Section B: SPECIALS

- ◆ 'Effectiveness' of Carbon Credits

GS SCORE

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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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1
MOCK
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13
APRIL

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19
MAY

3
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02
JUNE

TEST
TIMING

PAPER 1: 9:30 AM to 11:30 AM
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SECTION

A

MAINS ARTICLES

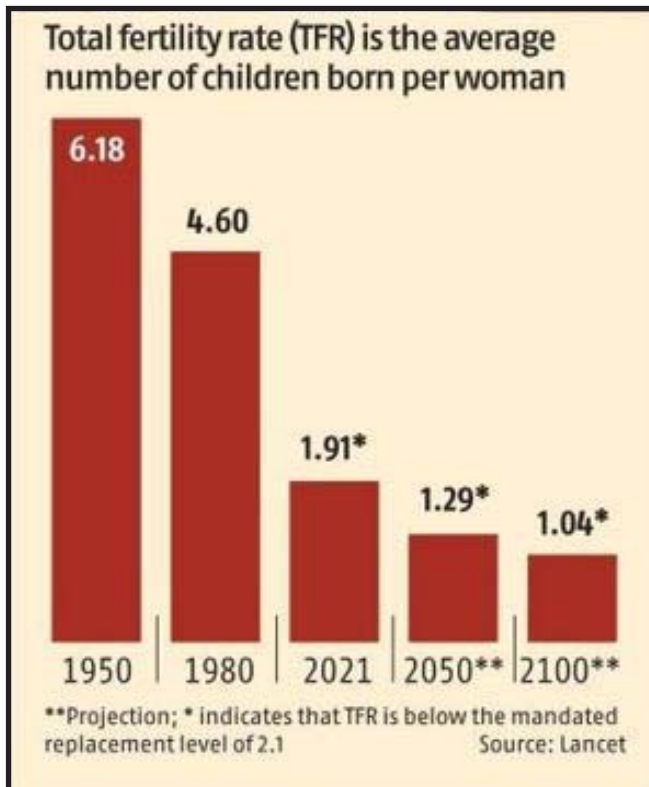
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8. Slowdown in Foreign Direct Investment
9. India's Climate Goals: Net-Zero and Black Carbon Reduction
10. Sustainable Construction

1. FALLING FERTILITY RATE AND IMPACT ON INDIA

Context: India's total fertility rate (TFR) is projected to decline to 1.29 children per woman by 2050 and slip further to 1.04 by 2100, according to a recent study by Lancet on global fertility rates.

Key-findings of the Lancet Study

- ◆ The study suggests that India's TFR, or the average number of children born to a woman, has been seeing a decline over the last century, with the fertility rate falling from 6.18 children per woman in 1950 to a projected 1.29 children per woman by 2050.
- ◆ The study stated that India has already fallen below the replacement level of fertility, required for a population to exactly replace one generation with another.



- ◆ In 2021, India's TFR was at 1.91 children per woman, below the necessary replacement fertility level of 2.1.
- ◆ The decline in TFR is in line with global trends, stating that its estimates forecast a decline in fertility rates all around the globe, over the coming century.

1: Dimension-Reasons behind the fall in the fertility rate

- ◆ **Delayed marriages:** With the delay in the age of marriage, the average age of first pregnancy has dropped from the mid-20's to mid to late 30's.

- ◆ **Women's workforce participation:** An increase in female literacy and women's workforce participation leads to busy lifestyles in urban areas and high stress jobs. It leads people to not consider having children at all.
- ◆ **Other factors:** The decline in fertility rates is also influenced by factors such as **extreme shifts in the global distribution** of live births due to:
 - ▶ improved female education
 - ▶ increasing usage of **modern contraception methods**

2: Dimension-Implications for the Economy

- ◆ **Imbalance:** Such a trend will pose challenges such as an **ageing population, labour force shortages, and potential social imbalances** due to gender preferences in the country.
- ◆ **Burdened economy:** The plummeting fertility rate in developed or high-income countries may result in an **ageing population, burdening national health insurance, social security programmes, and healthcare infrastructure.**
- ◆ **Political instability and security difficulties:** While the declining fertility rates might appear as a green signal for the environment, the uneven concentration of live births can lead to **tense situations** across the globe.

3: Dimension-Required Measures

- ◆ **Economic policies** that stimulate growth and job creation, alongside social security and pension reforms are essential in adapting to and mitigating the impacts of declining fertility rates.
- ◆ **Higher male engagement in household activities:** For women to be able to manage careers with motherhood, it would be crucial for men to take greater responsibility for household and care work.

FACT BOX: Replacement Level

- For a population to remain stable, a TFR of 2.1 children per woman is required, known as the replacement level.
- When the fertility rate falls below the replacement level, populations begin to shrink. In India, the replacement level is 2.1.

2. UP MADARSA ACT, A VIOLATION OF SECULARISM: ALLAHABAD HC

Context: In a significant ruling, the Allahabad High Court has struck down the **Uttar Pradesh Board of Madarsa Education Act, 2004 (Madarsa Act, 2004)** enacted by the state government.

Key-points highlighted by the High Court

- ◆ Terming the **Act** unconstitutional, the Allahabad High Court said the Act found to be a **violation of secularism**.
- ◆ The court said it was not possible to segregate and save any portion of the Act which would be of any relevance and maintained.
- ◆ The state has no power to create a **board for religious education** or to establish **board for school education** only for a particular religion and philosophy associated with it.
- ◆ It was the duty of the state to provide education, which is secular in nature, more particularly for minors, that is children up to the age of 18.
- ◆ It cannot discriminate and provide different types of education to children belonging to different religions.
- ◆ Any such action on the part of state would be **violative of secularism**.

1: Dimension- Secularism and Education in India:

- ◆ **Secularism** is part of the **basic structure of the Constitution**.
- ◆ The value of Secularism is deeply ingrained all through, and particularly in **Articles 14, 19, 22, and 25**.
- ◆ Education, being a fundamental right under **Article 21-A** of the Constitution, holds immense significance in fostering a democratic society and promoting social cohesion.
- ◆ Secularism in education implies that the state must provide education that is free from religious bias or affiliation.
- ◆ It entails offering a curriculum that is inclusive of **diverse perspectives, cultures, and beliefs, fostering a spirit of tolerance, pluralism, and respect for individual autonomy**.

2: Dimension- Impact of Denial

- ◆ Education, as a **tool for empowerment and social transformation**, must be accessible to all, irrespective of their religious affiliations.
- ◆ Denying certain groups access to quality education based on religious grounds not only perpetuates **social inequality** but also undermines the **foundational principles of democracy and secularism**.

3: Dimension- Significance of the Ruling

- ◆ The Allahabad High Court's ruling underscores the **importance of upholding secular principles in education**.

- ◆ By deeming the Act unconstitutional for its violation of secularism, the court reaffirmed the **state's obligation to provide education** that transcends religious boundaries and caters to the holistic development of all students.

Mains Practice Question

- Q. "The intersection of secularism and education in India highlights the imperative of ensuring that educational institutions uphold secular values and provide equal opportunities for all students". Comment

UPSC PYQ

- Q. Are tolerance, assimilation and pluralism the key elements in the making of an Indian form of secularism? Justify your answer. (UPSC 2022)
- Q. What are the challenges to our cultural practices in the name of secularism? (UPSC 2019)

3. INDIA RACING TO MINE BATTERY METALS UNDERSEA

Context: India is taking another step in its quest to find valuable minerals hidden in the depths of the ocean which could hold the key to a cleaner future. India applied to the **International Seabed Authority (ISBA), Jamaica**, for rights to explore **two vast tracts in the Indian Ocean seabed** that aren't part of its jurisdiction.

1: Dimension-The global race for mineral resources

- ◆ Countries including **China, Russia and India** are vying to reach the huge deposits of mineral resources - **cobalt, nickel, copper, manganese** - that lie thousands of metres below the surface of oceans. These are used to produce renewable energy such as solar and wind power, electric vehicles and battery technology needed to battle against climate change.
- ◆ The **UN-affiliated International Seabed Authority (ISA)** has issued 31 exploration licences so far, of which 30 are active.
- ◆ If the ISA approves India's new applications, its licence count will be equal to that of Russia and one less than China. India already has two deep-sea exploration licences in the Indian Ocean.
- ◆ **India's application for two regions:**
 - **AN Seamount:** One of these regions is a **cobalt-rich crust** long known as the **Afanasy Nikitin Seamount (AN Seamount)**.

- ▶ **Carlsberg Ridge:** One of India's applications seeks to explore **polymetallic sulphides - chimney-like mounds near hydrothermal vents containing copper, zinc, gold and silver** - in the **Carlsberg Ridge of the Central Indian Ocean**.

- ◆ India, China, Germany and South Korea already have exploration licences for polymetallic sulphides in the Indian Ocean ridge area.

2: Dimension-Rights for Open Ocean

- ◆ No countries can claim sovereignty over open oceans. **Around 60% of the world's seas are open ocean** and though believed to be rich in a variety of mineral wealth.
- ◆ **Currently no country** has commercially extracted resources from open oceans.
- ◆ Countries have exclusive rights up to **200 nautical miles**, and its underlying sea-bed from their borders.
- ◆ Some ocean-bound states may have a natural stretch of land, connecting their border and the edge of the deep ocean that extends beyond this 200, as part of their so-called **continental shelf**.
- ◆ UNCLOS-linked body, the **Commission on the Limits of the Continental Shelf** decides on the limits of a country's continental shelf.

3: Dimension-Environmental Concerns

- ◆ Deep seabed is the last frontier in the planet that remains largely unstudied and untouched by humanity and mining there could cause irreparable damage, no matter how pressing the need.
- ◆ Around two dozen countries - including the UK, Germany, Brazil and Canada - are also demanding either a halt or a temporary pause on deep-sea mining, given what they say is a lack of information about the marine ecosystems in those depths.

FACT BOX

Afanasy Nikitin Seamount (AN Seamount)

- **AN Seamount** is a structural feature (400 km-long and 150 km-wide) in the Central Indian Basin, located about 3,000 km away from India's coast.
- From an oceanic depth of about 4,800 m it rises to about 1,200 m and — as surveys from about two decades establish — rich in deposits of cobalt, nickel, manganese and copper.
- For any actual extraction to happen, countries — must apply first for an exploration licence to the **ISBA**, an autonomous international organisation established under the **United Nations Convention on the Law of the Sea (UNCLOS)**.

4. US, UK & AUSTRALIA TO BUILD SSN-AUKUS SUBMARINES

Context: The United States, the United Kingdom and Australia have entered a new agreement to build Australia's **SSN-AUKUS submarines** and termed it a significant milestone in the endeavour of defence cooperation.

Key-highlights of the trilateral partnership

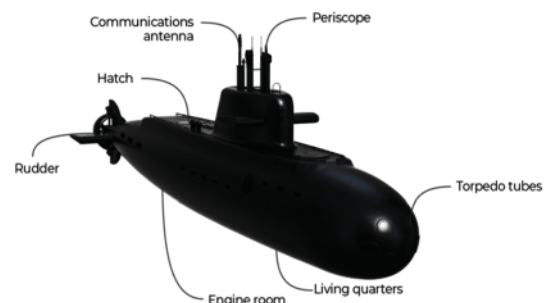
- ◆ Under the **new trilateral Security partnership**, Australia's ASC and UK-based BAE Systems will build the **SSN-AUKUS submarines** for the **Royal Australian Navy**.
- ◆ The SSN-AUKUS will be equipped for **intelligence, surveillance, undersea warfare and strike missions**.
- ◆ It will provide maximum interoperability among AUKUS partners.

1: Dimension-Why nuclear-powered submarines?

MILITARY

Types of submarines

Submarines can either be **diesel-electric or nuclear-powered**, both types can carry **nuclear warheads**. Here's how they differ.



Diesel powered

- Require more frequent resurfacing making them easier to detect
- Tend to be smaller
- Cheaper to run and maintain

SSK Conventionally-powered attack submarine
SSB Conventionally-powered ballistic missile submarines



Nuclear powered

- Can remain completely submerged for years, limiting detection
- Tend to be larger
- Require more expensive infrastructure and maintenance

SSN Nuclear-powered attack submarine
SSBN Nuclear-powered ballistic missile submarines



Source: The Military Balance 2021. International Institute for Strategic Studies | September 21, 2021

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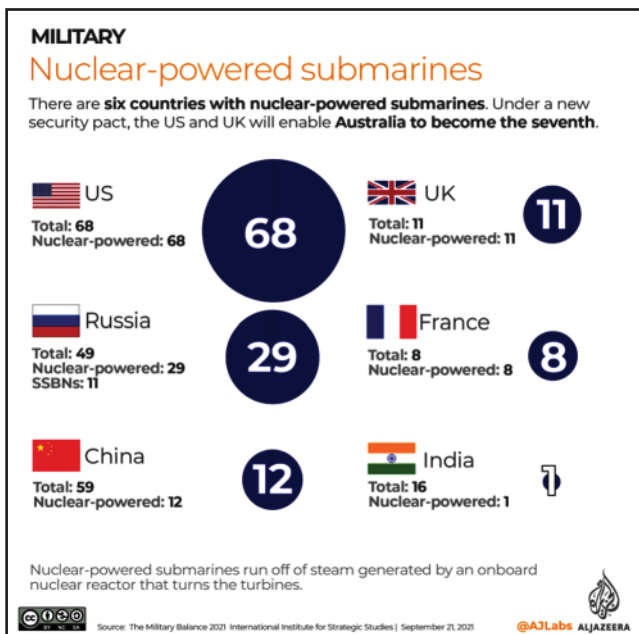
- ◆ Submarines can either be **diesel-electric or nuclear-powered** and either type can be used to launch nuclear warheads.
- ◆ **Diesel-electric submarines** involve diesel engines that power electric motors to propel the vessels through the water. But those engines require **fuel to operate**, which necessitates that the **submarines resurface regularly for refuelling**.
- ◆ **Nuclear-powered submarines** generate their own energy source — **nuclear propulsion technology** — and are not as constrained by the need to refuel

as diesel-electric subs. They generate steam using an onboard nuclear reactor which is used to turn the vessel's turbines.

- ◆ Nuclear-powered submarines can **remain hidden at sea without detection** — potentially for years — and are limited primarily by their supplies of food and water for crews.

2: Dimension-Why Australia want nuclear-powered submarines?

- ◆ Australia's submarines face **long transits between ports**, let alone to potential distant hot spots



- ◆ Acquisition of nuclear-powered submarines has been described as 'the single biggest leap' ever in **Australia's defence capabilities**.
- ◆ Furthermore, the agreement is seen as a **counterweight to China's growing military presence** in the Asia Pacific.
- ◆ Australia **does not have the expertise** to build its own nuclear submarines so it had to buy or acquire the ability to build its fleet from either the US or the UK.
- ◆ SSN-AUKUS will increase opportunities for industrial base collaboration, strengthen collective industrial base capacity, and generate economic growth in defense and national security sectors in all three countries.
- ◆ The pact will see Australia become the **seventh nation to operate nuclear-powered submarines**.

3: Dimension-Impacts of the deal:

- ◆ **China's Concern:** China has always been concerned with the objectives of AUKUS. Also, the Declaration marks a new decline in Australia-China relations. China is Australia's largest trading partner, with about US \$ 200 billion trading in two ways.

- ◆ **Impact on India:** The partnership is very beneficial to India. As India has been at the forefront of uniting the unity of the **Indo-Pacific countries**.

FACT BOX: AUKUS

- AUKUS is a **trilateral security partnership** between the **United Kingdom, the United States of America and Australia** agreed in 2021.
- This partnership is designed to create a stronger, more resilient trilateral submarine industrial base, supporting submarine production and maintenance in all three countries.

UPSC PYQ

- Q. The newly tri-nation partnership AUKUS is aimed at countering China's ambitions in the Indo-Pacific regions. Is it going to supersede the existing partnerships in the region? Discuss the strength and impact of AUKUS in the present scenario (UPSC 2021)

5. INDIA BACKS PHILIPPINES' NATIONAL SOVEREIGNTY

Context: Amid a flaring up of tensions between **Beijing and Manila** over the **Spratly Islands** in the **South China Sea**, India has taken its side and backed the **Philippines** in upholding its **national sovereignty** and seeks "staunch adherence" to a rules-based order.

1: Dimension- India-Philippines' growing relations

- ◆ **Strategic cooperation** between India and the Philippines, especially in defence and security, has grown significantly in recent years.
- ◆ India's ties with the Philippines have grown in areas such as **trade, investment, health, food security, education, science and technology, defence and maritime cooperation**.
- ◆ In 2022, Manila became the first foreign customer for the **BrahMos cruise missile** by inking a USD 375-million order for the weapon system developed by India and Russia.
- ◆ India and the Philippines are also part of the **Indo-Pacific maritime domain awareness initiative**.
- ◆ Both countries are "staunch advocates" of freedom of navigation and adherence to international law, including **UNCLOS** and the 2016 ruling of the **Permanent Court of Arbitration in The Hague**.
 - ▶ This ruling declared China's claims in South China as unlawful.

2: Dimension-India's interests in the Region

- India is "deeply invested" in the region because of its **Act East policy** and **Indo-Pacific vision** and strongly supports ASEAN's centrality and unity.
- Strategic interests, freedom of navigation, and oil and gas resources** are the three factors determining India's expanded involvement in the **South China Sea**.
- Geographically, Southeast Asia serves as a backyard for India and a **gateway to the Indian Ocean**.

FACT BOX

South China Sea

- The South China Sea, one of the world's busiest waterways, is subject to several overlapping territorial disputes involving **China, Vietnam, the Philippines, Taiwan, Malaysia and Brunei**.
- All countries use differing versions of history to back their assertions of sovereignty.
- Who claims what?**
- China claims more than 80 percent, while Vietnam claims sovereignty over the **Paracel Islands and the Spratly Islands**.
- The Philippines asserts ownership of the Spratly archipelago and the Scarborough Shoal, while Brunei and Malaysia have claimed sovereignty over southern parts of the sea and some of Spratly Islands.
- China claims by far the largest portion of territory - an area defined by the **"nine-dash line"**.
- China's "nine-dash line" is a geographical marker used to assert its claim. It stretches as far as 2,000km from the Chinese mainland, reaching waters close to Indonesia and Malaysia.

Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA)

- The Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA), an initiative with regional partners and allies to promote a free and open Pacific.
- It was introduced by the **Quad group**.

6. INDIA EMPLOYMENT REPORT 2024

Context: The **International Labour Organisation (ILO)** released its latest report on India and has said that India is poised to reap a demographic dividend but challenges related to youth unemployment persist.

Key-highlights of the Report

- Report Title:** India Employment Report 2024

- India's youth was 27% of the population in 2021 and this number is set to decline to 21% by 2036, and each year 7-8 million youth are added to the workforce.
- Vulnerable occupation:** Youth employment in India is by and larger of poorer quality than employment for adults, with employed youth being much more likely in vulnerable occupations or informal sectors.
- Youth wages and earnings** have increased with age but are lower than what they are for adults for all categories of employment.
- Poor condition of work:** There has been only a marginal gap between youth earnings from wage employment and self-employment, indicating poor conditions of work.
- Highest unemployment among graduates:** The highest youth unemployment rates are among those with a graduate degree and higher among women than men.
- Women not in employment, education or training** amounted to a proportion nearly five times larger than among their male counterparts (48.4% versus 9.8%) and accounted for around 95% of the total youth population not in employment, education or training in 2022.

1: Dimension-Disruptive Factors

- Fast-changing technological advancements:** There are increasing uncertainties in the labour market due to fast-changing technologies, including artificial intelligence (AI).

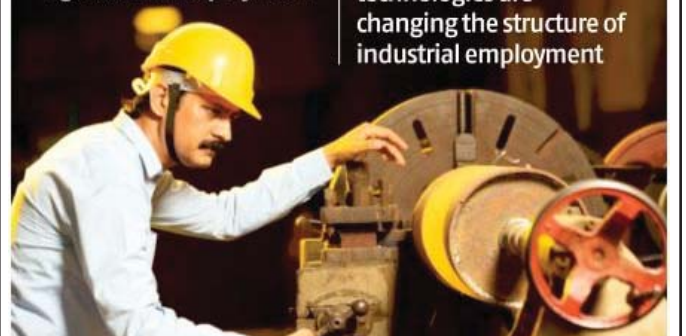
A GLIMPSE: INDIAN LABOUR MARKET

- Employment in India is predominantly self-employment and casual employment
- Transition to non-farm employment reversed due to the pandemic, with a rise in the share of agricultural employment

Women largely account for the increase in self-employment and unpaid family work

Employment generation in India has become more and more capital-intensive, with fewer workers employed between 2000 and 2019 than in the 1990s

Digitalisation and introduction of new technologies are changing the structure of industrial employment



- ◆ **Demographic dividend:** India remains poised to reap a demographic dividend for at least another decade due to the youth population remaining at 23 per cent of the total in 2036 from 27 per cent in 2021.
- ◆ **Temporary Jobs:** Digital platforms and the gig economy are creating many new jobs, but these jobs are largely temporary, informal, and non-standard work.
- ◆ **Algorithmic management:** On the gig and platform economy front, autonomy and flexibility are non-existent due to algorithmic management and control as the subjective and unfair nature of ratings used through the algorithmic management in these platforms also creates difficulties.

2: Required Measures

- ◆ **Labour-intensive manufacturing employment:** The report calls for primacy to be given to labour-intensive manufacturing employment to absorb the abundant unskilled labour, along with the emerging employment-generating modern manufacturing and services sectors, with a direct and greater focus on **micro, small and medium-sized enterprises** by providing a more supportive and decentralised approach.
- ◆ **Green investment:** It also highlights investment in the green (environment-friendly) and blue (based on ocean resources) economies, developing rural infrastructure.
- ◆ **Revival of employment in rural areas:** There is a need for establishing an integrated market to **revive employment in the farm and non-farm sectors in rural areas.**

7. INDIA TO REPLACE MINIMUM WAGE WITH 'LIVING WAGE'

Context: India is preparing to replace the minimum wage with living wage by 2025 and has sought technical assistance from the **International Labour Organization (ILO)** to create a framework for estimating and operationalising these.

1: Dimension- Issues in India's Minimum Wage Rate

- ◆ **Disparities among states:** In India, the **disparity in minimum wage rates** across states poses a challenge for foreign companies seeking to establish offices or facilities within the country.
 - ▶ Unlike implementing a **uniform national standard**, each state in India sets its minimum wage, contributing to complexities for businesses navigating the diverse regulatory landscape.
- ◆ **Ineffective implementation of Acts:** The minimum wage regulation fell under the jurisdiction of the **Minimum Wages Act of 1948**. Although India notified

the **Code on Wages Act in 2019**, trying to replace four labor regulations, including the **Payment of Wages Act of 1936, the Payment of Bonus Act of 1965, and the Equal Remuneration Act of 1976**, in addition to the **Minimum Wages Act of 1948**, the **Code on Wages Act** has not been implemented since notification.

- ◆ **Type of employment:** Of the nearly 500 million strong workforce, most of them are employed with the unorganised sector, this segment falls outside the purview of scrutiny. As a result of which, in many cases even the conditions of a minimum wage are not met.

2: Dimension- Significance of the Shift and Multidimensional Approach

- ◆ Integrating health, education, and living standards into the calculation of living wages strengthens **India's national poverty assessment framework** that employs **multidimensional indicators**.
- ◆ There is need for a comprehensive evaluation encompassing **economic, social, and demographic factors** to determine an **equitable living wage** standard tailored to the nation's development trajectory.
- ◆ With over **500 million workers in India's labor force**, the transition to living wages represents a monumental step towards **socioeconomic equality and sustainable growth**.

FACT BOX

About Living Wage

- According to ILO, a living wage level is deemed essential to ensure workers and their families can maintain a **decent standard of living**, considering the specific circumstances of each country.
- A living wage is calculated based on the work performed during regular working hours, adhering to the organization's principles for estimating such wages.

About Minimum Wage

- Minimum wage in simpler terms is the stipulated lower base of compensation that an employer is supposed to pay the employee.
- Here the primary unit is the amount accrued in an hour.
- An employer cannot make a payment below that mark.

Fair Wage

- Fair Wage comes after minimum wage, it lies between the minimum wage and the living wage.
- It surpasses the minimum threshold yet falls below what's required for a living standard.
- While the minimum wage sets the baseline, the upper boundary of a fair wage is determined by the industry's financial capability to compensate.

8. SLOWDOWN IN FOREIGN DIRECT INVESTMENT

Context: The Indian economy is grappling with a slowdown in **foreign direct investment (FDI)**. In 2022-23, FDI equity inflows dropped by 22% year-on-year to USD 46 billion, following a 1% contraction from the previous year.

1: Dimension-Slowdown in FDI flows to developing countries

- ◆ **Affected global investments:** While overall global FDI flows rose 3% to an estimated USD 1.4 trillion in 2023, economic uncertainty and higher interest rates did affect global investment, reflected in FDI flows to developing countries falling by 9%.
 - ▶ The decline in **India's net foreign direct investment (FDI) inflow** is in line with the slowdown in such investments to developing countries.
- ◆ **Reductions for India:** Gross FDI inflows to India also dipped but only slightly in the period April 2023-January 2024 [from USD 61.7 billion to USD 59.5 billion]. In net terms, the comparable figures were USD 25.5 bn. vs. USD 36.8 billion.

2: Dimension-Risks for global market

- ◆ **Significant risks:** These risks include geopolitical risks, high debt levels accumulated in many countries, and concerns about further global economic fracturing.
- ◆ **Positive factors:** However, a modest increase in global FDI flows is likely this year, due to a **decline in inflation and borrowing costs in major markets** which may stabilise financing conditions for international investment deals.

3: Dimension-Need of FDI in Indian Economy

- ◆ **Long-term growth:** FDI leads to the long term growth of the economy. MNCs bring about technology transfer to the domestic companies which lead to the organic growth or expansion takes place in the companies also in the Employment.
- ◆ **Per capita income increases** and consumption improves. Tax revenues increase and government spending rises.
- ◆ **GDP increases** and there is also a lagged effect due to which subsequent years GDP too increases.
- ◆ **Higher growth rate:** FDI puts the companies and hence the economy on higher growth mode and the right process of FDI is selection of the strategic sectors in the economy that generate highest RoI.
- ◆ **Forex reserves rises significantly:** Exports get a fillip and balance of payments show surplus which causes rupee to appreciate vis-à-vis Dollar.

- ◆ **Skill development:** In FDI there is technology transfer or the movement of technical knowhow to the domestic country due to which skill development takes place and together with higher capital this raises productivity and profitability.

FACT BOX

India's FDI equity inflows

- Around 65% of **India's FDI equity inflows** came in the **services, drugs and pharmaceuticals, construction (infrastructure activities) and non-conventional energy sectors.**
- The **Netherlands, Singapore, Japan, the USA, and Mauritius** account for around 70% of the total FDI equity inflows into India.

About FDI

- A foreign direct investment (FDI) is an investment made by a firm or individual in one country into business interests located in another country.
- **Routes through which India gets FDI**
- **Automatic route:** The non-resident or Indian company does not require prior nod of the RBI or government of India for FDI.
- **Government route:** The government's approval is mandatory. The company will have to file an application through Foreign Investment Facilitation Portal. The application is then forwarded to the respective ministry, which approves/rejects the application in consultation with the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce. DPIIT then issues the Standard Operating Procedure (SOP) for processing of applications under the existing FDI policy.

UPSC PYQ

- Q. Justify the need for FDI for the development of the Indian economy. Why is there a gap between MOUs signed and actual FDIs? Suggest remedial steps to be taken for increasing actual FDIs in India. (UPSC 2016)

9. INDIA'S CLIMATE GOALS: NET-ZERO AND BLACK CARBON REDUCTION

Context: India's commitment to achieve net-zero emissions by 2070, announced at the COP26 climate talks, highlights its ambitious targets for carbon neutrality and renewable energy adoption. India's emphasis on **black carbon reduction**, particularly through initiatives like the **PMUY scheme**, underscores its commitment to addressing regional health issues and achieving sustainable development goals while contributing to global climate mitigation efforts.

1: Dimension- India's Climate Commitments and Renewable Energy Targets

- ◆ At the **COP26 climate talks in Glasgow** in November 2021, India pledged to achieve **net-zero emissions by 2070**, positioning itself as a frontrunner in the race to carbon neutrality.
- ◆ According to the **Ministry of New and Renewable Energy**, India has installed a renewable energy capacity of over **180 GW by 2023** and is expected to meet its target of **500 GW by 2030**.

2: Dimension-Risks of Black Carbon

- ◆ **Global warming:** Black carbon is the dark, sooty material emitted alongside other pollutants when biomass and fossil fuels are not fully combusted.
- ◆ **Severe health risks:** There is a direct link between exposure to black carbon and a higher risk of heart disease, birth complications, and premature death.
- ◆ **Source:** Most black carbon emissions in India arise from burning biomass, such as cow dung or straw, in traditional cookstoves.
 - ▶ **Residential sector** contributes 47% of India's total black carbon emissions.
 - ▶ **Industries** contribute a further 22%, diesel vehicles 17%, open burning 12%, and other sources 2%.
- ◆ Decarbonisation efforts in the industry and transport sectors in the past decade have yielded reductions in black carbon emissions, but the residential sector remains a challenge.

3: Dimension-Impact of Pradhan Mantri Ujjwala Yojana (PMUY)

- ◆ The programme has been able to play a vital role in reducing black carbon emissions, as it offers a **cleaner alternative to traditional fuel consumption**. The programme has provided connections to over 10 crore households as of January 2024.
- ◆ However, in 2022-2023, 25% of all PMUY beneficiaries — 2.69 crore people — availed either zero LPG refill or only one LPG refill, according to RTI data, meaning they still relied entirely on traditional biomass for cooking.
- ◆ The average PMUY beneficiary household consumes only 3.5-4 LPG cylinders per year instead of the six or seven a regular non-PMUY household uses. This means up to half of all the energy needs of a PMUY beneficiary household are still met by traditional fuels.
- ◆ A shortage of LPG and higher usage of traditional fuels also affect women and children disproportionately. They are more prone to higher levels of indoor air

pollution, causing many health issues and leading to premature deaths.

4: Dimension- Challenges in Implementation

- ◆ **Rapid increase in LPG prices:** In October 2023, the government increased the LPG subsidy to Rs 300 from Rs 200. Most PMUY beneficiaries find the price too high, more so since cow dung, firewood, etc. are 'free' alternatives.
- ◆ **Low refill rate:** While it is the rightful duty of the government to make clean fuel affordable through subsidies, the problem of low refill rates persists.
- ◆ **Connectivity issue:** Another big hurdle to the PMUY's success is the lack of last-mile connectivity in the LPG distribution network, resulting in remote rural areas depending mostly on biomass.
- ◆ The key to enhancing the quality of life in these areas lies primarily in securing access to clean cooking fuels. While the future holds the promise of meeting energy needs in rural areas through renewable sources, the immediate benefits for rural communities are poised to come from using LPG. The local production of **coal-bed methane (CBM) gas** by composting biomass is also a solution. CBM is a much cleaner fuel with lower black-carbon emissions and investment. Panchayats can take the initiative to produce CBM gas locally at the village level, ensuring every rural household can access clean cooking fuel.

FACT BOX

About Pradhan Mantri Ujjwala Yojana (PMUY)

- **Launched in:** 2016.
- The scheme was launched to provide **free liquefied petroleum gas (LPG)** connections to households **below the poverty line**.
- The primary objective was to **make clean cooking fuel available to rural and poor households** and reduce their dependence on traditional cooking fuels.
- The PMUY has established infrastructure to go with LPG connections, including free gas stoves, deposits for LPG cylinders, and a distribution network.

10. SUSTAINABLE CONSTRUCTION

Context: India is witnessing an **unprecedented construction boom**, this growth brings economic opportunities and improved living standards but also poses significant **environmental challenges**. Therefore, **addressing energy inefficiency** in residential buildings is crucial, given India's rising energy and cooling demand due to **economic growth, urbanisation, heat islands, and climate change**.

1: Dimension-Unprecedented construction boom

- ◆ **Growth in building sector:** The building sector is a major energy consumer, it accounts for over 33% of India's electricity usage, contributing to environmental degradation and climate change. Over 3,00,000 housing units are getting erected annually.
- ◆ **Increasing cooling demand:** The **India Cooling Action Plan** forecasts an eight-fold increase in cooling demand between 2017 and 2037, emphasising the need for **thermal comfort** while reducing active cooling demand.
- ◆ **Challenges in construction sector:** Natural sand is fast becoming a scarce resource. Carbon dioxide emissions, especially from manufacturing cement or fired clay bricks, are increasing every year. The amount of **construction and demolition (C&D) waste** is on the rise—about 150 million tons are generated annually in India and the recycling rate is only about 1%.

2: Dimension-Initiatives to make construction sector energy efficient

- ◆ Initiatives like the **Eco-Niwas Samhita (ENS)** and the **Residential Energy Conservation Building Code** are steps in the right direction.
- ◆ **Eco-Niwas Samhita (ENS)** is India's building energy code for residential buildings. It was launched by the **Bureau of Energy Efficiency**. The ENS introduces the **Residential Envelope Transmittance Value (RETV)**, a metric measuring heat transfer through a building's envelope. Lower RETV values lead to cooler indoor environments and decreased energy usage.
- ◆ **Energy Conservation Building Code (ECBC)** sets minimum energy standards for new commercial buildings having a connected load of 100 kW or contract demand of 120 kVA or more.

3: Dimension-Challenges and Required Measures:

- ◆ **Issue (compromise in techniques):** Current construction trends favour fast-paced, energy-intensive techniques with active cooling strategies, leading to compromises in thermal comfort.
 - ▶ **Solution (awareness):** There needs to be more widespread knowledge about **climate-appropriate design and architecture**, with perceptions of high first costs as a barrier to the design and construction of climate-responsive buildings needing to change.
- ◆ **Issue (Sustainability concerns across materials):** Autoclaved Aerated Concrete (AAC) blocks, red bricks, fly ash, and monolithic concrete (Mivan) are most popular material. **Red bricks** exhibit moderate embodied energy, contributing to resource depletion, emissions, and waste. Monolithic concrete have an embodied energy 75 times greater than AAC. Monolithic concrete, despite its quick construction time, presents the highest embodied energy, significant environmental impact, and sustainability challenges.
 - ▶ **Solution (sustainable material):** AAC blocks consistently had the lowest RETV across all climatic conditions, indicating their potential as a thermally efficient material. Hence, AAC blocks offer a better balance between embodied energy and construction time than red bricks and monolithic concrete.
- ◆ **Issue (Untapped potential):** India has significant untapped potential for innovative building materials.
 - ▶ **Solution (re-imagining construction design and practices):** Building orientation, Window Wall Ratio (WWR), U-value (rate of heat transfer) of walls, roofs and window assemblies, glazing performance, active cooling systems, etc., can unlock the potential for a sustainable built environment.



SECTION

B

SPECIALS

☞ 'Effectiveness' of Carbon Credits

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'EFFECTIVENESS' OF CARBON CREDITS

Context: The world is facing a critical threat with climate shifts. Though governments are employing **carbon trading** as a strategy to decrease their emissions, their "effectiveness" is questionable..

1: Dimension-Global shift towards Carbon Trading

- ◆ The global, multibillion-dollar voluntary carbon trading industry has been embraced by governments, organisations and corporations including oil and gas companies, airlines, fast-food brands as a way of claiming to reduce their greenhouse gas footprint.
- ◆ It works by carbon offset credits being tradable "allowances" or certificates that allows the purchaser to compensate for 1 ton of carbon dioxide or the equivalent in greenhouse gases by investing in environmental projects that claim to reduce carbon emissions.

2: Dimension-Role of Carbon credits in combating Climate Change

The increasing pressure to act on nature loss led governments and companies worldwide to ramp up their decarbonisation commitments. Though carbon crediting offers a multitude of benefits, making it an effective tool in the fight against climate change, there persist some issues:

- ◆ **Greenwashing:** This does not lower the overall amount of greenhouse gases released by buyers. They are simply offset, which gives corporations a way to claim they are eco-friendly without reducing their overall emissions.
- ◆ **Lack of genuine efforts:** Carbon credits will entice businesses to engage in greenwashing by purchasing offsets and not making genuine efforts to reduce their GHG emissions.
- ◆ **Permanence:** The trees planted for additionality might be lost again and release the previously captured carbon back into the atmosphere.
- ◆ **Other ways for reduction:** The emissions reductions claimed by some carbon offset projects would have occurred anyway even without the offset project.
- ◆ **Multiple issues:** Over the years, offset projects have been dogged by allegations of land conflicts, human rights abuses, hampering conservation and furthering coal use and pollution.

Way forward

- ◆ Carbon credits provide a mechanism to quantify

and incentivize emission reductions at a time when the world is trying to mobilize all the forces to fight climate change. It represents a crucial step towards a more sustainable future, and it encourages the adoption of more methods to reduce GHG emissions. Additionally, considering the fact that almost all of the criticisms facing carbon credits are due to the lack of a well-established management mechanism, more standardized frameworks formed through multilateral cooperation will definitely help it to maximize its potential.

Case Study: Australia's carbon credit scheme

Australia's carbon credit scheme was undermined by new research, which found a world-leading reforestation project had been an underperforming "catastrophe". Australia's offsets program was "one of the world's largest" natural carbon offset projects. Australia's offsets program is the **world's fifth biggest nature-based offsets program**, with projects covering nearly 42m hectares, an area larger than Japan.

Claims made by the Study

- **No change in tree cover:** The most popular technique used to create offsets in Australia, known as "**human-induced regeneration**" and pledged to regenerate **scrubby outback forests**, had mostly not improved tree cover as promised between about 2015 and 2022.
 - ▶ Forest cover had either barely grown or gone backwards in nearly 80%.
- **No reduction in emission:** These projects were therefore not reducing emissions as promised, and polluting companies that bought offsets created through these projects were often not reducing their impact on the climate as they claimed.
- **Questionable credits:** Despite this, Australia had used these projects to bank millions of tonnes in **questionable carbon credits**, which are used to supposedly **offset polluting industries**.
- The researchers called on the Australian government to stop issuing carbon credits to regeneration projects in un-cleared areas "for the sake of the integrity of Australia's carbon market and the country's decarbonisation efforts".

UPSC Mains PYQ

- Q. Should the pursuit of carbon credit and clean development mechanisms set up under UNFCCC be maintained even though there has been a massive slide in the value of carbon credit? Discuss with respect to India's energy needs for economic growth. (UPSC 2014)



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C

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1. MOHINIYATTAM

Context: In a historic move, the Kerala Kalamandalam has decided to lift the ban on males studying 'Mohiniyattam'.

About Mohiniyattam

- ◆ Mohiniyattam is **one of the eight classical dances of India** that developed and remained popular in the state of Kerala.
- ◆ Mohiniyattam dance gets its name from the word **Mohini** – a mythical enchantress avatar of the **Hindu god Vishnu**, who helps good prevail over evil by developing her feminine powers.
- ◆ Mohiniyattam's roots, like all **classical Indian dances**, are in the **Natya Shastra** – the ancient **Hindu Sanskrit text** on performance arts.
- ◆ However, it follows the **Lasya style** described in **Natya Shastra** which is a dance that is delicate and feminine. The delicate body movements and subtle facial expressions are more feminine in nature and therefore are ideally suited for performance by women.
- ◆ **Costumes:** The costume includes plain white or off-white such as ivory or cream coloured sari embroidered with bright golden or gold laced coloured brocade (similar to a ceremonial **Kasavu saree**).
- ◆ **Music and instruments:** The vocal (music) of Mohiniyattam involves various rhythms. There are numerous compositions for a Mohiniyattam repertoire, most of whose lyrics are in Manipravalam, a mixture of Sanskrit, Tamil and Malayalam.
 - ▶ The musical instruments usually used in **Mohiniyattam are Mridangam or Madhalam (barrel drum), Idakka (hourglass drum), flute, Veena, and Kuzhitalam (cymbals)**.
 - ▶ The ragas (melody) are rendered in the sopana (steps) style, which is a slow melodic style with roots in the **Natya Shastra**.

India's recognised classical dances: Bharatanatyam, Kathak, Kuchipudi, Odissi, Kathakali, Sattriya, Manipuri, and Mohiniyattam.

2. GULAAL GOTA

Context: During the Holi festival, in some parts of Rajasthan's Jaipur, an old tradition involved playing out with colors through a unique medium called the "Gulaal Gota", dating back around 400 years.

What is a Gulaal Gota?

- ◆ A Gulaal Gota is a **small ball made of lac**, filled with dry gulaal. Weighing around 20 grams when filled with

gulaal, these balls are thrown at people on Holi, getting smashed to bits on impact.

- ◆ Making Gulaal Gotas involves first boiling the lac in water to make it flexible.
 - ▶ **Lac is a resinous substance** that is secreted by certain insects. It is also used to make bangles.
- ◆ After shaping the lac, colour is added to it. After the processing is done, artisans heat the lac. It is then blown into a spherical shape with the help of a blower called "phunkni".
- ◆ Then, gulaal is filled in the balls before they are sealed with lac.

3. LA NINA SET TO RETURN IN INDIA

Context: The **Asia-Pacific Economic Cooperation (APCC) Climate Center** has predicted that India is likely to experience above-normal precipitation during its peak monsoon season from July to September. This forecast change is attributed to the recent **ENSO** alert which predicts a smooth transition from **El Nino** to **La Nina** condition.

About

- ◆ The **El Nino** and **La Nina** are the two phases of the **El Nino Southern Oscillation (ENSO) phenomenon** that occurs in the **equatorial Pacific Ocean**.
- ◆ **El-Nino** is the periodic warming of waters in the central Pacific Ocean. The phenomenon has a direct impact on the weather patterns prevalent over the Indian peninsula.
- ◆ **La Nina** refers to the periodic cooling of ocean surface temperatures in the central and east-central equatorial Pacific.
 - ▶ Typically, La Nina events occur every 3 to 5 years or so, but on occasion can occur over successive years.
 - ▶ La Nina represents the cool phase of the **El Nino/Southern Oscillation (ENSO) cycle**.

Impact on Indian Monsoon

- ◆ The June-September monsoon, which is vital for India's USD 3 trillion economy, brings nearly 70% of the rain the country needs to water crops and replenish reservoirs and aquifers.
- ◆ Persistent El Nino conditions are likely to bring intense heat during the summer season this year. However, the prevailing El Nino conditions will likely get neutral after the summer season.
- ◆ Before a good monsoon, India will see a scorching summer season due to prevalent **El Nino conditions**.

- ◆ More heatwave days than normal are predicted over northeast peninsular India -- Telangana, Andhra Pradesh and north interior Karnataka -- and many parts of Maharashtra and Odisha.

4. HEAT WAVES

Context: With the State stepping into peak summer season, Kerala is staring at **heat wave**-like conditions at many places.

What is a heat wave?

- ◆ Heat wave is a condition of air temperature which becomes **fatal to human body** when exposed.
- ◆ Quantitatively, it is defined based on the **temperature thresholds over a region in terms of actual temperature or its departure from normal**.
- ◆ For declaring a heat wave, the temperature should be 4.5 °C above normal for that time in a region.
- ◆ The criteria for the coastal station maximum temperature should be greater than or equal to 37 °C.

5. BALTIMORE'S FRANCIS SCOTT KEY BRIDGE

Context: Baltimore's Francis Scott Key Bridge collapsed after a container ship smashed into a pylon.

About the Bridge

- ◆ The **Francis Scott Key Bridge** was one of three ways to cross the **Baltimore Harbor** and handled 31,000 cars per day or 11.3 million vehicles a year.
- ◆ The steel structure is four lanes wide and sits 185 feet (56 meters) above the river.
- ◆ It opened in 1977 and crosses the **Patapsco River**.
- ◆ The bridge leads to the **Port of Baltimore**, the deepest harbor in **Maryland's Chesapeake Bay**.
- ◆ **Reason behind the collapse:** The metal truss-style bridge has a suspended deck, a design that contributed to its collapse, engineers say. The ship appeared to hit a main concrete pier, which rests on soil underwater and is part of the foundation.

6. KAVERI RIVER

Context: Activists from Kodagu have urged the state government to put an end to the large-scale commercialization of land in the **Cauvery River catchment area**, noting that the rampant land use change has affected the water inflow to the river.

About Kaveri River

- ◆ Kaveri River is a sacred river of southern India.
- ◆ It rises on **Brahmagiri Hill** of the **Western Ghats** in southwestern Karnataka state, flows in a southeasterly direction for 475 miles (765 km) through the states of Karnataka and Tamil Nadu, and descends the Eastern Ghats in a series of great falls.
- ◆ Before emptying into the Bay of Bengal south of Cuddalore, Tamil Nadu, the river breaks into a large number of distributaries forming a wide delta called the **"garden of southern India."**
- ◆ Known to devout Hindus as **Daksina Ganga** ("Ganges of the South"), the Kaveri River is celebrated for its scenery and sanctity in Tamil literature, and its entire course is considered holy ground.

7. CHINA TO 'ASSIST' SRI LANKA IN BUILDING DEEP SEA PORT

Context: China (Sri Lanka's primary bilateral creditor) has pledged to develop Sri Lanka's strategic deep sea port and the capital's airport. China says it is willing to work with Sri Lanka to carry forward the spirit of the **Rubber-Rice Pact**.

Key-highlights

- ◆ China offered "assistance to develop" the capital's **Katunayake International Airport, Hambantota Port, and Colombo Port**.
 - ▶ The strategically significant Hambantota Port was handed to China in 2017 on a 99-year lease.
 - ▶ The **Hambantota Port**, also known as the Magampura Mahinda Rajapaksa Port, is a maritime inland port located in Hambantota, Sri Lanka.
 - ▶ It is located down the **southern coast of the island**.
 - ▶ Located ten nautical miles from the global shipping route linking the **Far East** with the **West**, **Hambantota Port** is Sri Lanka's most diversified deep-water, multi-purpose port.

FACT BOX: Rubber-Rice Pact

- India and the United States are both concerned that a **Chinese foothold at Hambantota**, on the island's southern coast, could boost its naval advantage in the **Indian Ocean**.
- Sri Lanka has insisted its ports will not be used for any military purposes, but New Delhi has objected to Chinese research vessels calling at Hambantota fearing that they could be used for espionage.

8. PM MODI CONFERRED BHUTAN'S HIGHEST CIVILIAN HONOUR

Context: The King of Bhutan conferred the **Order of the Druk Gyalpo** on Prime Minister Narendra Modi, who became the first foreign head of government to receive **Bhutan's highest civilian honour**.

About the Award

- ◆ The **Order of the Druk Gyalpo** holds immense significance within **Bhutan's honour system**, symbolising a lifetime of outstanding achievements and contributions to society.
- ◆ The Order of the Druk Gyalpo takes **precedence over all orders**, decorations and medals.
- ◆ Since its institution, the award has been conferred upon only four eminent personalities.
 - ▶ Queen Grandmother of Bhutan Ashi Kesang Choden Wangchuck in 2008
 - ▶ Je Thrizur Tenzin Dendup (68th Je Khenpo of Bhutan) in 2008
 - ▶ Je Khenpo Trulku Ngawang Jigme Choedra in 2018

9. BIMA SUGAM

Context: IRDAI (Insurance Regulatory and Development Authority of India) gave the go ahead to launch a new online marketplace for insurance. It's called 'Bima Sugam'.

About Bima Sugam

- ◆ Bima Sugam is going to be a **one-stop platform** where Indians can find all kinds of insurance policies offered by different companies.
- ◆ And if something catches their eye, they can swipe right and make a purchase.

10. BHASHANET PORTAL

Context: MeitY successfully unveiled BhasaNet portal.

What is Bhasanet Portal?

- ◆ The BhasaNet portal is designed to support the cause of Universal Acceptance by providing resources, tools, and information to help developers, businesses, and organizations make their applications and systems UA-compliant.
- ◆ It works to provide a truly multilingual internet, where

local language website name and local language email id, work everywhere seamlessly.

What is Universal Acceptance?

Universal Acceptance (UA) is a concept that aims to ensure that all domain names and email addresses, regardless of language or script, can be used by all internet-enabled applications, devices, and systems. The goal of UA is to create a more inclusive digital world where individuals can fully participate without facing linguistic barriers.

11. INDIA LOOKING TO AFRICA FOR CRITICAL MINERALS

Context: India is looking to Africa for minerals such as **copper, cobalt and other critical minerals**, while also engaging with **Australia for lithium blocks**.

What are Critical Minerals?

- ◆ Critical minerals are elements that are the building blocks of essential modern-day technologies, and are at risk of supply chain disruptions.
- ◆ These minerals are now used everywhere from making mobile phones, computers to batteries, electric vehicles and green technologies like **solar panels and wind turbines**.
- ◆ Based on their individual needs and strategic considerations, different countries create their own lists.
- ◆ Critical mineral in Africa:
 - ▶ Africa is home to **30 percent** of the **world's known critical minerals**.
 - ▶ Africa holds substantial reserves of **bauxite, chromium, cobalt, copper, gold, iron, lithium, manganese, platinum, and uranium** to name just a few.

FACT BOX: 30 Critical Minerals

- The Centre has identified '**30 critical minerals**', which are essential for the country's economic development and national security:
 - ▶ **Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.**
 - ▶ **Ten minerals on the list are 100 per cent import-dependent.** These are lithium cobalt, nickel, vanadium, niobium, germanium, rhenium, beryllium, tantalum, and strontium.

12. MEME COINS

Context: Meme coins, a unique category of cryptocurrencies, have gained significant popularity in the digital currency space.

What are meme coins?

- ◆ Also known as '**memetic tokens**' or '**community coins**', meme coins are digital currencies created as a form of satire or humorous tribute to the internet culture.
- ◆ They often feature quirky names, logos, and branding that reference popular memes, jokes, or internet phenomena.
- ◆ Unlike traditional cryptocurrencies such as **Bitcoin** or **Ethereum**, meme coins are characterised by their lighthearted and often comedic nature, designed to go viral and be shared widely.

13. T+0 SETTLEMENT SYSTEM

Context: India's stock market is set to usher in the **T+0 settlement system**, making it among the handful of countries to implement the **shorter trade settlement cycle**.

What is T+0 system?

- ◆ In the **T+0 system (T refers to the day of the trade and 0 is the day of settlement)**, trades done in shares will be settled on the same day.
- ◆ This means shares will be transferred to the buyer's account and the funds will be deposited in the seller's account on the same day of the trade.
- ◆ **Impact:** A shorter settlement cycle on full implementation is aimed at making the system more dynamic. Since funds will be available on the same day of selling, it is expected to improve liquidity, allowing traders to use cash better.
- ◆ **Evolution:** Currently, India follows the **T+1 cycle**, which means trades are settled by the next day.
 - ▶ After following a **T+5 settlement cycle**, India moved to T+3 in 2002 and further reduced it to **T+2** in 2003.
 - ▶ In 2021, Sebi introduced the **T+1 system** before making it the norm in 2023. The regulator has also set its sights on instant trade settlement.

14. CO-NATAL STARS

Context: Scientists have found a twin star pair which gobbles planets.

What are twin stars?

- ◆ Twin stars are formed within the same interstellar cloud of gas and dust.
- ◆ Also called as co-natal stars as they have same chemical makeup, and roughly equal mass and age.
- ◆ They are not binary system as they are not gravitationally bound to each other.

15. DIGITAL MARKETS ACT (DMA)

Context: The European Union is investigating **Apple, Google, and Meta** for potential violations of the new **Digital Markets Act**, which aims to curb the power of big tech companies and create a more level playing field for smaller businesses.

About Digital Markets Act (DMA)

- ◆ The DMA is a groundbreaking **European law** aiming to prevent large online platforms that connect consumers with **content, goods, and services** from abusing their market power.
- ◆ The DMA aims to ensure contestable and fair markets in the digital sector.
- ◆ It regulates gatekeepers, which are large digital platforms that provide an important gateway between business users and consumers, whose position can grant them the power to create a bottleneck in the digital economy.
- ◆ The European Commission believes that keeping the big internet companies in check can lead to **more competition and choice, greater innovation, better quality, and lower prices**.

16. CHINA UNVEILS Z-20 HELICOPTER

Context: China has introduced a new heavyweight in its aerial arsenal, the **Z-20 attack helicopter**, surpassing the capabilities of its predecessors, the **Z-10 and Z-19**, with a robust 10-tonne capacity.

About

- ◆ The strategic addition of the **Z-20**, which is now being referred to as the **Z-21** for its attack configuration, is viewed by military analysts as a crucial element in potential conflicts involving **Taiwan or India**.
- ◆ **Objective:** to conduct close air support and **airborne anti-armor missions**.
- ◆ **Z-20 attack helicopter** shares the characteristics of three aircraft: **the American AH-64, the Russian Mi-**

28 attack helicopters, and the Z-20 medium utility helicopter.

- ◆ **Need of Z-20:** The PLA currently employs both the **Z-19 light attack/reconnaissance and the Z-10 medium attack helicopters** in the attack helicopter role, but both lack the necessary firepower for them to fulfill the role.
- ◆ The **Z-19 and Z-10** are comparable to the **OH-58 Kiowa** and the **AH-1Z helicopters**, which are considered reconnaissance and light attack helicopters, respectively.

17. INDIA DEPLOYS 11 SUBMARINES

Context: Marking a significant milestone for the Navy in three decades, India simultaneously deployed **11 conventional submarines** for operations.

Conventional Submarines in India

- ◆ Currently, India operates 16 conventional submarines, including five **Kalvari-class (French Scorpene)**, four **HDWs Shishumar-class (German Type-209)** and seven **Sindhugosh-class (Russian Kilo) submarines**. An additional **Scorpene class (Kalvari-class submarine)** is still to be commissioned.
- ◆ **Operational Availability:**
 - ▶ **Scorpene class:** The Scorpene submarines are brand new, hence, their availability ratio is much higher.
 - ▶ **HDWs (German):** The German HDWs are the most reliable and high on performance. These submarines will last another 10-15 years.
 - ▶ **Kilo-class (Russian):** The Kilos are very good but their availability ratio is down. Also, they have undergone upgrades. Most of them were commissioned in the 1980s and one of them has already been decommissioned.

18. PUSHPAK 'VIMAN' LANDS SUCCESSFULLY

Context: The Indian Space Research Organisation (ISRO) has reached a significant milestone in **reusable launch vehicle technology** with the successful landing experiment of the **RLV LEX-02**. The experiment marks a crucial step forward in the **development of reusable launch vehicles (RLVs)**.

What is Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX-02)?

- ◆ Building upon the success of the **RLV-LEX-01** mission last year, the **RLV-LEX-02 mission** demonstrated the **autonomous landing capability** of the reusable launch vehicle from challenging initial conditions after release from a helicopter.
- ◆ Named **Pushpak**, the winged vehicle was lifted by an **Indian Air Force Chinook helicopter** and released from an altitude of 4.5 km.
- ◆ It autonomously approached the runway with cross-range corrections and landed precisely, coming to a halt using its **brake parachute, landing gear brakes, and nose wheel steering system**.
- ◆ The Pushpak launch vehicle is India's bold attempt to make access to space most affordable.

19. COMMITTEE FOR PRESERVATION OF GREAT INDIAN BUSTARD

Context: The Supreme Court has recently appointed an expert committee to look into the preservation of the **Great Indian Bustard** which is "**non-negotiable**" and "need for sustainable development in the context of meeting the international commitments of the country towards promoting **renewable sources of energy**."

About Great Indian Bustard

- ◆ The **Great Indian Bustard (*Ardeotis nigricaps*)**, is a bustard native to the Indian subcontinent. Bustards are large terrestrial birds found in dry grasslands and steppe regions. It is also known as the Indian Bustard; it is **among the heaviest of flying birds in existence**.
- ◆ It is the **State bird of Rajasthan** and is considered India's most critically endangered bird.
- ◆ It is considered the **flagship grassland species, representing the health of the grassland ecology**.
- ◆ **Latest survey** shows the number of GIB reached alarmingly to 150 including 25 GIBs in captive government's breeding centre.
- ◆ **Protection Status:**
 - ▶ International Union for Conservation of Nature Red List: **Critically Endangered**
 - ▶ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): **Appendix I**
 - ▶ Convention on Migratory Species (CMS): **Appendix I**
 - ▶ Wildlife (Protection) Act, 1972: **Schedule 1**
- ◆ **Factors led to these birds to the verge of extinction:** Low birth rate, poaching, predation, ecological factors, frequent collisions with overhead power transmission lines and habitat destruction are some of the causes that have pushed these birds to the verge of extinction.

20. NEW SPECIES OF DEEP-SEA ISOPOD

Context: Researchers have named a new species of **deep-sea isopod** discovered off the Kollam coast after the **Indian Space Research Organisation (ISRO)**.

About

- ◆ The tiny fish-parasitic crustacean, belonging to the **genus Brucethoa**, was recovered from the base of the gill cavity of the **Spinyjaw greeneye**, a marine fish.
- ◆ The new species has been named **Brucethoa isro** in honour of the Indian space agency's successful space missions, including the recent successful lunar mission titled **Chandrayaan-3**.
- ◆ **Brucethoa isro** adds to the biodiversity of marine life in the **Kollam coastal region**.

FACT BOX

Isopods are an order of **invertebrates** (animals without backbones) that belong to the greater crustacean group of animals, which includes **crabs and shrimp**.

21. TWO NEW SPECIES IDENTIFIED IN KAZIRANGA NATIONAL PARK

Context: Researchers unveiled two previously unknown species (**Binturong** and **Small-clawed otter**) within the dense forests of **Kaziranga National Park** and **Tiger Reserve**.

About

- ◆ **Binturong (*Arctictis binturong*):**
 - The binturong, also known as the **bearcat**, is a **mammal indigenous** to South and Southeast Asia.
 - This elusive creature, known for its nocturnal behaviour and preference for arboreal habitats, is rarely encountered.
 - It is particularly scarce within its range, with its distribution in India limited to the Northeast.
 - Classified as a vulnerable species by the **IUCN** due to dwindling numbers, the binturong faces significant threats to its survival.
- ◆ **Small-clawed otter (*Aonyx cinereus*):**
 - The small-clawed otter, recognised as the **smallest otter species** globally, boasts a widespread distribution that stretches from India across South and Southeast Asia to southern China.
 - This unique otter species is adapted to a variety of aquatic habitats, including rivers, streams, lakes, and wetlands, where they forage for **fish, crustaceans, and other aquatic prey**.
 - The species is included in **Schedule I** of the

Wildlife Protection Act of 1972 and is classified as **vulnerable** on the **IUCN Red List**.

FACT BOX: Kaziranga National Park

- **Location:** Spread over **Golaghat and Nagaon** districts of Assam **Kaziranga National Park** lies at the edge of **eastern Himalayas**.
- **Origin:** The park owes its existence to the conservation efforts of **Mary Curzon** and her husband **Lord Curzon, then Viceroy of India**.
- It became a **reserve forest in 1904** primarily to protect the declining population of Rhinos.
- **Assam National Park Act** was passed by the Assam Government in 1968, declaring Kaziranga a **designated national park** with an area of 430 sq km.
- Central Government recognized it as a **national park** in 1974.
- **Kaziranga National Park** got the status of a **tiger reserve** in 2006
- Kaziranga National Park is a **UNESCO World Heritage Site**.
- The Kaziranga National Park in Assam is home to the threatened one-horned Rhino.
- **Other important species:** **Wild Asiatic Water Buffalo and Eastern Swamp Deer, leopards, Royal Bengal Tigers**, two of the largest snakes in the world (the **Reticulated Python and Rock Python**), **King Cobra** (the longest venomous snake in the world)

22. CLOUDED LEOPARD (*NEOFELIS NEBULOSA*)

Context: The species is being in news due to ongoing effort to count it in spite of its **elusive nature**.

About

- ◆ The clouded leopard (*Neofelis nebulosa*) is a wild cat that lives in the cloud forests of Southeast Asia, from the foothills of the Himalayas through **Northeast India** and **Bhutan** to mainland **Southeast Asia** into South China.
- ◆ They are named for their **cloud-like spots**, and are one of the **oldest cat species**.
- ◆ Clouded leopards are **stocky, larger than small cats, and smaller than large cats**.
- ◆ They have large paws with specialized footpads for **gripping branches**, and specialized anklebones that allow them to climb in different positions.
- ◆ They can open their mouths to a 100-degree angle, and are one of only two cat species that can climb down trees headfirst.
- ◆ **IUCN Status:** Vulnerable



PRELIMS 2024

MOCK TEST SERIES

TOTAL → **20 FULL MOCK TESTS**

TEST NO. & DATE		SUBJECT	TEST NO. & DATE		SUBJECT
TEST: 01	07 APRIL, 2024	PAPER 1 (GS)	TEST: 11	28 April, 2024	PAPER 1 (GS)
TEST: 02	07 APRIL, 2024	PAPER 2 (CSAT)	TEST: 12	28 April, 2024	PAPER 2 (CSAT)
TEST: 03	14 APRIL, 2024	PAPER 1 (GS)	TEST: 13	01 MAY, 2024	PAPER 1 (GS)
TEST: 04	14 APRIL, 2024	PAPER 2 (CSAT)	TEST: 14	01 MAY, 2024	PAPER 2 (CSAT)
TEST: 05	18 APRIL, 2024	PAPER 1 (GS)	TEST: 15	05 MAY, 2024	PAPER 1 (GS)
TEST: 06	18 APRIL, 2024	PAPER 2 (CSAT)	TEST: 16	05 MAY, 2024	PAPER 2 (CSAT)
TEST: 07	21 APRIL, 2024	PAPER 1 (GS)	TEST: 17	08 MAY, 2024	PAPER 1 (GS)
TEST: 08	21 APRIL, 2024	PAPER 2 (CSAT)	TEST: 18	08 MAY, 2024	PAPER 2 (CSAT)
TEST: 09	25 APRIL, 2024	PAPER 1 (GS)	TEST: 19	12 MAY, 2024	PAPER 1 (GS)
TEST: 10	25 APRIL, 2024	PAPER 2 (CSAT)	TEST: 20	12 MAY, 2024	PAPER 2 (CSAT)

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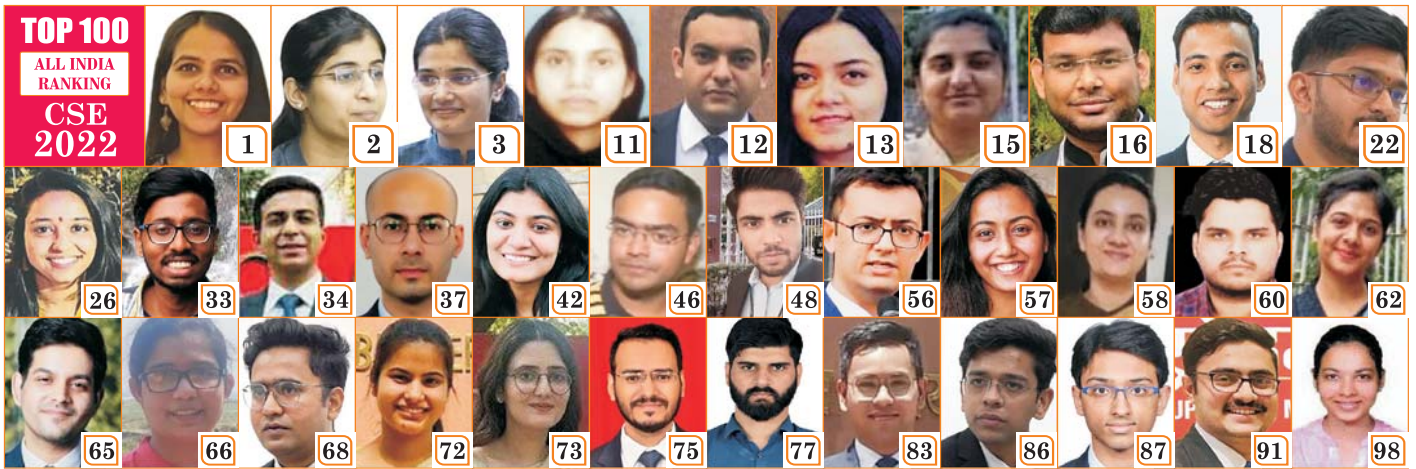
SECTION D

TERMS OF THE WEEK

S.NO.	TERM	ABOUT
1	Basic Structure Doctrine	<ul style="list-style-type: none"> ◆ The Basic Structure Doctrine is a judicial innovation that emerged to protect the core principles of the Constitution from arbitrary amendments. ◆ The Constitution of India defines its 'basic structure' in terms of federalism, secularism, fundamental rights and democracy.
2	Conventional submarines	<ul style="list-style-type: none"> ◆ Conventional submarines are propelled by electric motors powered by batteries which are charged by diesel generators on board.
3	Coal bed methane (CBM)	<ul style="list-style-type: none"> ◆ Coal bed methane (CBM) is an unconventional form of natural gas found in coal deposits or coal seams. It is a primary clean energy source of natural gas.
4	Carbon offsets	<ul style="list-style-type: none"> ◆ Carbon offsets are used by the government and polluting companies as an alternative to cutting carbon dioxide emissions. ◆ Instead of reducing their own pollution, they can choose to buy offsets that are meant to represent a reduction in emissions elsewhere. ◆ Each carbon credit represents one tonne of carbon dioxide that has either been stopped from going in the atmosphere, or sucked out of it.
5	Cryptocurrency	<ul style="list-style-type: none"> ◆ Cryptocurrency is decentralized digital money that is based on blockchain technology and secured by cryptography.
6	Debt restructuring	<ul style="list-style-type: none"> ◆ Debt restructuring is a process used by companies, individuals, and countries to change the terms on loans to make them easier to pay back.
7	Demographic Dividend	<ul style="list-style-type: none"> ◆ Demographic dividend refers to the growth in an economy that is the result of a change in the age structure of a country's population
8	Greenwashing	<ul style="list-style-type: none"> ◆ Greenwashing is the act of making false or misleading statements about the environmental benefits of a product or practice.
9	Heat islands	<ul style="list-style-type: none"> ◆ Heat islands are urbanized areas that experience higher temperatures than outlying areas. Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies.
10	IUCN Red List	<ul style="list-style-type: none"> ◆ The International Union for Conservation of Nature Red List of Threatened Species, also known as the IUCN Red List or Red Data Book, founded in 1964, is an inventory of the global conservation status and extinction risk of biological species.
11	Indo-Pacific countries	<ul style="list-style-type: none"> ◆ The Indo-Pacific comprises 40 countries and economies: Australia, Bangladesh, Bhutan, Brunei, Cambodia, Democratic People's Republic of Korea (DPRK), India, Indonesia, Japan, Laos, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, the Pacific Island Countries (14), Pakistan, People's Republic of China (PRC), the Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Taiwan, Thailand, Timor Leste, and Vietnam.
12	Lobbying	<ul style="list-style-type: none"> ◆ Lobbying is a political activity where individuals or groups attempt to influence the decisions of government officials.

<p>13</p>	<p>Nuclear-powered submarine</p>	<ul style="list-style-type: none"> ◆ A nuclear-powered submarine is powered by a nuclear reactor. ◆ But it is not a nuclear weapon. Nuclear-powered submarines can be divided into three broad categories: ◆ the nuclear-powered fast-attack submarines or SSNs ◆ the nuclear-powered ballistic submarines or SSBNs ◆ the nuclear-powered cruise missile submarines or SSGNs
<p>14</p>	<p>Total fertility rate</p>	<ul style="list-style-type: none"> ◆ Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year.
<p>15</p>	<p>Re-usable landing vehicle</p>	<ul style="list-style-type: none"> ◆ The idea of a re-usable landing vehicle was mooted to regain super expensive rocket boosters that are used for launching spacecraft. ◆ It could be later used to refuel and reuse in space flights.
<p>16</p>	<p>Peninsula</p>	<ul style="list-style-type: none"> ◆ A Peninsula is any landmass which is surrounded by water on three sides and land on one side. India is called as Peninsula because it is surrounded by the Indian Ocean on the south, the Arabian Sea on the west and the Bay of Bengal on the east.
<p>17</p>	<p>Seamount</p>	<ul style="list-style-type: none"> ◆ A seamount is an underwater mountain with steep sides rising from the seafloor. Most seamounts are remnants of extinct volcanoes, while others are actively erupting and growing. Typically, they are cone shaped, but often have other prominent features such as craters and linear ridges.
<p>18</p>	<p>Secularism</p>	<ul style="list-style-type: none"> ◆ Secularism is a belief system that rejects religion, or the belief that religion should not be part of the affairs of the state or part of public education
<p>19</p>	<p>Vulnerable (VU)</p>	<ul style="list-style-type: none"> ◆ Vulnerable (VU), a category containing those species that possess a very high risk of extinction as a result of rapid population declines of 30 to more than 50 percent over the previous 10 years (or three generations), a current population size of fewer than 1,000 individuals, or other factors





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