

# UPSC ESSENTIALS

February 2025 Issue





## LETTER TO ASPIRANTS

Dear Aspirants,

One of our subscribers recently asked, “How much should I study for the UPSC?” It’s a valid concern given the vast syllabus. The UPSC CSE tests not only your knowledge but also your strategy and perseverance. While “the sky’s the limit” sounds inspiring, the syllabus itself is a blessing—it tells you what to focus on and what to skip. So, the real question isn’t *how much to study*, but *how and what to study*. At The Indian Express, we curate content to help you approach your preparation strategically. This edition, like the previous ones, offers insights to guide your UPSC journey.

For this month’s issue, we focus on three essential aspects of the Budget: mastering the basics, identifying key takeaways from the Finance Minister’s speech, and analyzing the broader implications. Don’t miss this month’s Cover Story, where we break down the Budget’s four key engines—questions you should absolutely be prepared to answer.

This month’s Express Edge covers key topics: Is river linking the solution to water scarcity? What’s the significance of the Mahakumbh and public bathing across civilizations? How does the Sahel Crisis impact India? Get expert analysis on these and other must read themes for your exams.

Our UPSC Special section is packed with value, featuring a Prelims-focused Quiz, Current Affairs Pointers, and deep dives into relevant themes. In *Issue at a Glance*, we discuss ‘DeepSeek,’ explore Constitutional Values in Ethics, and provide a model essay on *Dreams That Should Not Let India Sleep*. Plus, gain exclusive insights from a former Indian High Commissioner to Pakistan in our *Expert’s Talk*—a unique glimpse into the life of an Indian diplomat.

I know many of you are already in ‘prelims mode.’ We’ve received your requests for a special, tailored study plan, and I’m excited to help make that happen! I’d love to hear more about your specific needs—feel free to write to me at [manas.srivastava@indianexpress.com](mailto:manas.srivastava@indianexpress.com) with your questions or requirements.

We look forward to your messages. Keep reading *The Indian Express*.

**THINK SMART  
WORK HARD  
CONQUER YOUR GOAL!**

Enjoy reading,  
**Manas Srivastava**

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## COVER STORY

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# The 4 engines driving the Union Budget 2025

Written by **Roshni Yadav**

## INTRODUCTION

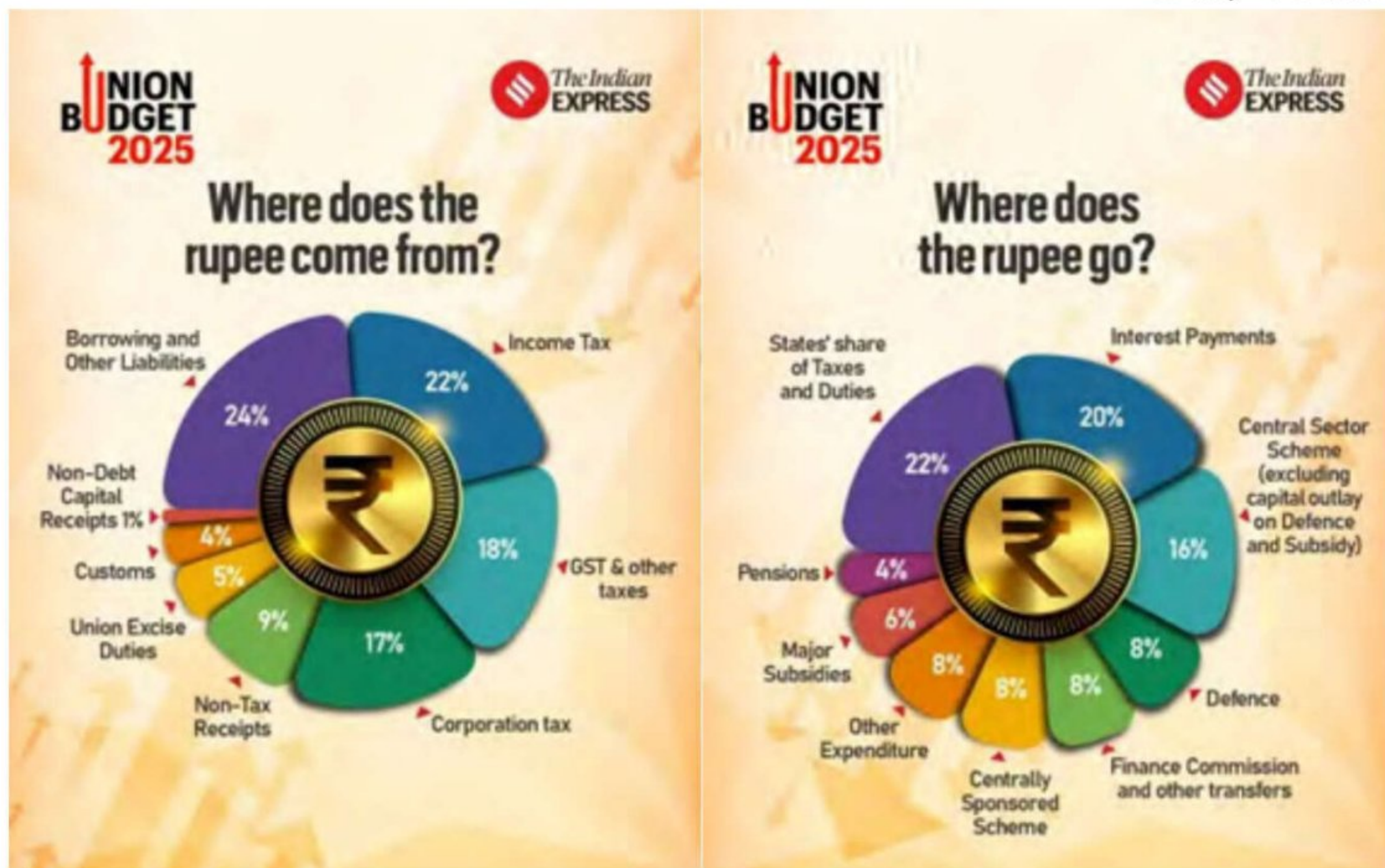
Union Finance Minister Nirmala Sitharaman presented the Union Budget 2025-26 on February 1, 2025. In her speech, she highlighted **four engines** of development for the 2025-26 fiscal year : **agriculture, micro, small, and medium enterprises (MSMEs), investments, and exports**. *“The fuel for this journey is provided by reforms, the guiding principle is inclusivity, and the destination is Viksit Bharat,”* stated the finance minister. Recognizing the key drivers of growth in this context is essential.

The Union Budget is a crucial component of the UPSC syllabus. Understanding its facts, figures, and analysis is significantly important for every stage of the UPSC Civil Services Examination (CSE). Therefore, it is essential to understand the Union Budget from a broader perspective.

## What does the Union Budget say on agriculture, and how do experts analyse it?

Agriculture, which supports more than 60 percent of India's population, is a major part of the country's rural economy. Finance Minister Nirmala Sitharaman while presenting the Union Budget said that agriculture was one of the four





engines driving India's development journey and announced several new initiatives for the sector. Some of the key initiatives are:

**1. Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY):** PMDDKY will be implemented in collaboration with states across 100 districts in its first phase. The scheme aims to increase agricultural productivity, adopt crop diversification and sustainable agriculture practices, improve post-harvest storage after harvest at the panchayat and block levels, improve irrigation facilities, and provide short-term and long-term credit.

**2. National Mission on High Yielding Seeds:** A National Mission on High Yielding Seeds will be launched, aimed at (1) strengthening the research ecosystem, (2) targeted development and propagation of seeds with high yield, pest resistance, and climate resilience, and (3) commercial availability of more than 100 seed varieties released since July 2024.





**3. Pulse Mission:** The government has announced an allocation of Rs 1,000 crore for a six-year initiative called the “Pulse Mission,” aimed at boosting pulse production to achieve self-sufficiency. This initiative will focus on three types of pulses: tur (arhar), urad (mash), and masoor.

**4. Makhana Board for Bihar:** A Makhana Board will be set up in Bihar to boost the cultivation and marketing of fox nuts. The people engaged in Makhana cultivation will be organised in FPOs. Bihar accounts for approximately 90 per cent of India’s makhana production.

**5. Rural Prosperity and Resilience’ program:** A holistic, multi-sectoral ‘Rural Prosperity and Resilience’ program will be launched in collaboration with states. This initiative aims to tackle underemployment in agriculture by promoting skill development, investment, technology adoption, and revitalisation of the rural economy.

### What is the Union Budget?

The Union Budget (called the Annual Financial Statement under Article 112 of the Constitution of India) provides an account of the government’s financial health. It shows details about a government’s finances by providing the estimated receipts and expenditures of the Government of India for the current financial year, along with revised estimates for the last financial year and actuals for the last to last financial year.

**6. New urea plant to come up in Assam:** Finance Minister announced the setting up of a new urea plant with an annual production capacity of 12.7 lakh tonnes (lt) at Namrup in Assam.

**7. Grameen Credit Score:** Finance Minister Nirmala Sitharaman also announced Grameen Credit Score, a framework to be developed by the public sector banks for the credit needs of the members of Self Help Groups (SHGs) and people in rural areas.

**8. Mission for Cotton Productivity:** For the benefit of cotton growing farmers a 5-year ‘Mission for Cotton Productivity’ is announced.

**9. Enhancing loan limits for farmers:** The finance minister also announced increasing the loan limit under the Modified Interest Subvention Scheme (MISS) from Rs 3 lakh to Rs 5 lakh.

Analyzing the announced initiatives for the agriculture sector in Union Budget 2025, **Ashok Gulati and Raya Das write-**

“The big question from the agriculture segment of the **Union Budget** for FY26 is whether it can bring in climate resilience, and augment the productivity and incomes of farmers and farm labourers. There are several initiatives announced for agriculture that are likely to help the farming community.

The special focus on 100 districts to augment agri-productivity, promote sustainable farming practices and crop diversification, extending credit access through Kisan Credit Cards from Rs 3 lakh to Rs 5 lakh, starting a Pulses Mission to attain atma nirbharta in tur, moong and urad, etc., are all steps in the right direction. So is the setting up of a Makhana Board in Bihar. How far they will go in achieving their objectives remains to be seen.

While the Union Budget 2025-26 makes some progress in addressing agricultural challenges, the overall approach



remains incremental rather than transformational. A paradigm shift is needed — one that moves away from subsidy-heavy interventions towards investment-driven growth, greater private sector participation, and technology-led efficiency improvements. The path to making Indian agriculture more resilient and globally competitive requires bold reforms in subsidy rationalisation, infrastructure development, and market linkages. Only then can India achieve the goal of Vikshit Bharat and position itself as an agricultural powerhouse by 2047.”

## Budget Basics

- It is mandated in the Constitution of India that the budget should distinguish between revenue and non-revenue expenditures. Thus, the union budget combines the revenue and capital budgets.
- 1. **Revenue Budget:** The Revenue Budget comprises the revenue receipts of the Government (Tax revenues and Non-Tax revenues) and the revenue expenditure.
- 2. **Capital Budget:** Capital receipts and capital expenditures together constitute the Capital Budget.

**Fiscal Deficit:** The Union budget also provides an estimate of the **fiscal deficit**. The **Union Budget**’s “Budget at a Glance” document explains what fiscal deficit is. It states: “Fiscal Deficit is the difference between the Revenue Receipts plus Non-debt Capital Receipts (NDCR) and the total expenditure”. In other words, fiscal deficit is “reflective of the total borrowing requirements of the Government”.

- **Important Budget related Documents:** Besides the Union Finance Minister’s Budget Speech, various Budget documents are presented to the Parliament.

A. Documents mandated under the constitution of India:

1. Annual Financial Statement (AFS) – Under Art. 112
2. Demands for Grants (DG) — Under Art. 113
3. Finance Bill— Under Art. 110

B. Documents presented as per the provisions of the Fiscal Responsibility and Budget Management Act, 2003:

1. Macro-Economic Framework Statement
2. Medium-Term Fiscal Policy cum Fiscal Policy Strategy Statement

- **Demands for Grants:** Article 113 of the Constitution mandates that the estimates of expenditure from the Consolidated Fund of India included in the Annual Financial Statement and required to be voted by the Lok Sabha, be submitted in the form of Demands for Grants.



- **Appropriation Bills:** Article 114 of the constitution deals with the 'Appropriation Bills'. It says, "As soon as may be after the grants under Article 113 have been made by the House of the People, there shall be introduced a bill to provide for the appropriation out of the Consolidated Fund of India of all money required to meet..". Under Article 114(3) of the Constitution, no amount can be withdrawn from the Consolidated Fund without the enactment of such a law by Parliament.
- **Finance Bill:** At the time of presentation of the Annual Financial Statement before the Parliament, a Finance Bill is also presented in fulfillment of the requirement of Article 110 (1) (a) of the Constitution, detailing the imposition, abolition, remission, alteration or regulation of taxes proposed in the Budget. A Finance Bill is a Money Bill as defined in Article 110 of the Constitution.

## What are the major announcements for India's MSME sector in the Union Budget, and what do experts say about it?

Giving new definitions for micro, small, and medium enterprises (MSMEs) and announcing a slew of initiatives to help such businesses, Finance Minister Nirmala Sitharaman, in her budget speech, termed them the second power engine for development. It encompasses manufacturing and services with a focus on MSMEs numbering 5.7 crore. Several key initiatives announced to address the challenges faced by the manufacturing sector, particularly for MSMEs, are:

**1. Definition of MSMEs widened:** In her budget speech, the finance minister said the investment and turnover limits for classification of all MSMEs will be increased 2.5 and two times, respectively.

This means the investment limit to be classified as a microenterprise goes up to Rs 2.5 crore. For small enterprises, this limit goes up to Rs 25 crore, and for medium ones, it becomes Rs 125 crore. Similarly, the turnover limit for these classifications goes up to Rs 10 crore for microenterprises, Rs 100 crore for small ones, and Rs 500 crore for medium enterprises.

### NEW INVESTMENT AND TURNOVER LIMITS

The following are the current and enhanced limits for MSME classification (in ₹ crore)

CATEGORY	INVESTMENT		TURNOVER	
	Current	Revised	Current	Revised
Micro Enterprises	1	2.5	5	10
Small Enterprises	10	25	50	100
Medium Enterprises	50	125	250	500

Source: Budget documents



**2. Credit Guarantee Limit Increased:** The Union Finance Minister also announced the enhancement of the credit guarantee cover from Rs 5 crore to Rs 10 crore for micro and small enterprises and from Rs 10 crore to Rs 20 crore for startups. As part of the initiatives for MSMEs, she announced that a National Institute of Food Technology, Entrepreneurship, and Management will be established in Bihar.

**3. Customised credit cards:** Customised credit cards with a limit of Rs 5 lakh were announced in the budget for microenterprises registered on the Udyam portal. In the first year, 10 lakh of these cards will be issued.

### High-level committee for regulatory reforms

The Union Finance Minister also emphasised the need for a light touch regulatory framework based on principles and trust, which could unleash productivity and employment. The government plans to set up a high-level committee for regulatory reforms, which will review all non-financial sector regulations. Notably, the Economic Survey 2024-25 has said that deregulation is more critical for MSME growth than large enterprises.

#### 4. National Manufacturing

**Mission:** The Union Finance Minister said in her budget speech that the central government will set up a National Manufacturing Mission for small, medium, and large industries with a focus on clean tech manufacturing. The mission's mandate will include five focus areas: ease and cost of doing business, upskilling for in-demand jobs, MSMEs, availability of technology, and quality products.

#### 5. Scheme for First-time

**Entrepreneurs:** A new scheme will be launched for 5 lakh women, Scheduled Castes, and Scheduled Tribes first-time entrepreneurs. This will provide term loans up to Rs 2 crore during the next 5 years.

The Union Finance Minister's announcements for MSMEs has overall been welcomed by the sector.





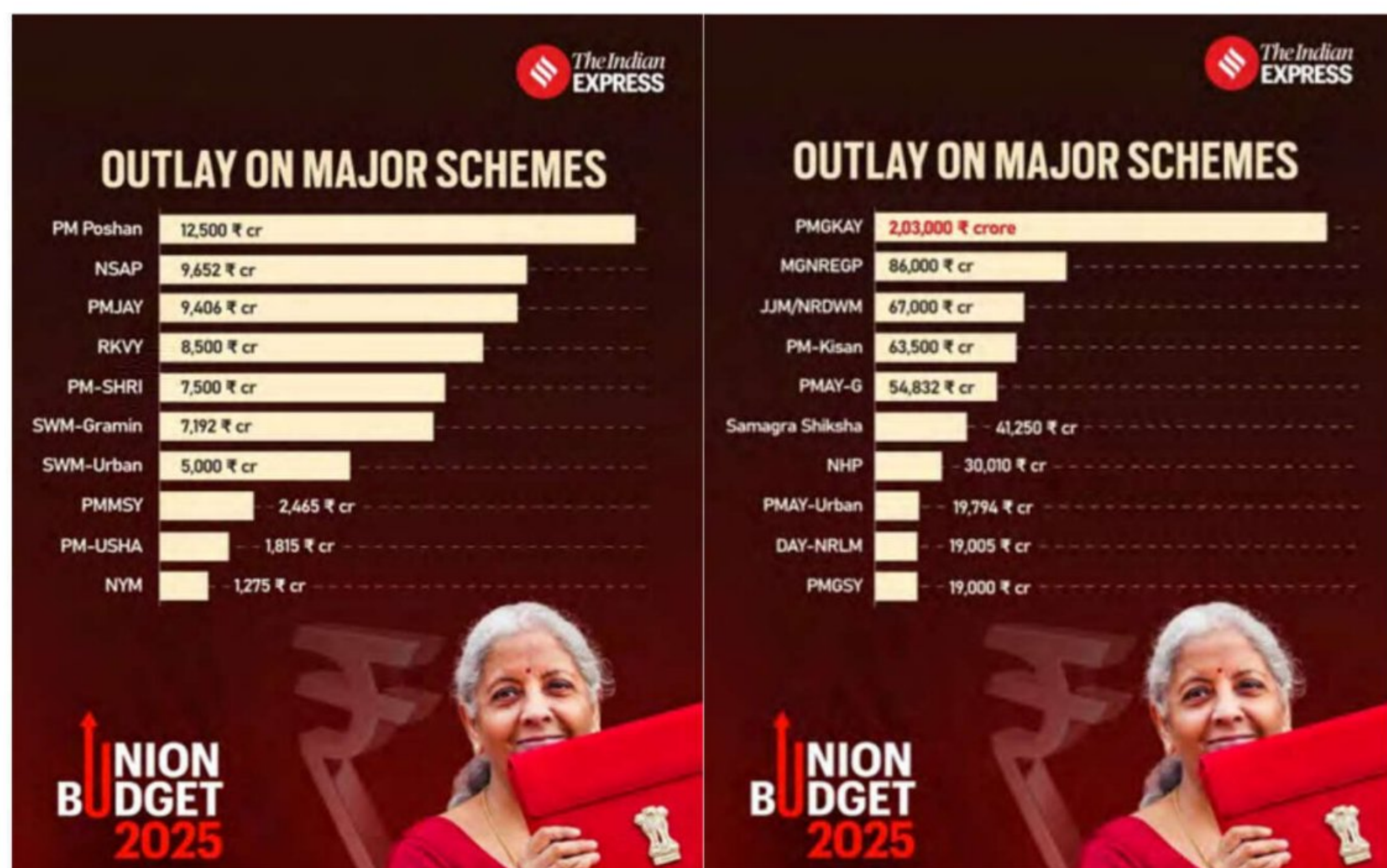
The Economic Survey has rightly pointed out the need to promote labour-intensive sectors with skill upgradation so that their productivity, and thus, their incomes, improve. The organised manufacturing sector so far has gone in for more capital-intensive choices rather than labour-intensive ones. Deregulating MSMEs is one way to move forward as they create a bulk of employment in the country, after agriculture.- Ashok Gulati and Raya Das

The initiatives to address the funding and logistical challenges of the MSME sector aim to provide good momentum to an important part of our economy; however, its execution is something we need to wait and see.

## How does the Union Budget address investment-related challenges to stimulate economic growth?

The Union Budget 2025 identifies investment as the third engine of India's growth. It focuses on investing in people, the economy, and innovation. The following initiatives have been announced in the budget:

- 1. Urban Challenge Fund:** The government will establish a ₹1 lakh crore Urban Challenge Fund to support initiatives like 'Cities as Growth Hubs,' 'Creative Redevelopment,' and 'Water & Sanitation.' The fund will cover up to 25% of viable project costs, requiring at least 50% funding from bonds, bank loans, or PPPs. ₹10,000 crore is allocated for 2025-26.
- 2. Public-Private Partnership in Infrastructure:** Each infrastructure-related ministry will come up with a 3-year pipeline of projects that can be implemented in PPP mode. States will also be encouraged to do so and can seek support from the IIPDF (India Infrastructure Project Development Fund) scheme to prepare PPP proposals.
- 3. FDI in Insurance Hiked:** The Union Finance Minister announced a significant hike in foreign direct investment (FDI) in the insurance sector—from 74% to 100%—paving the way for the entry of global insurance giants, substantial foreign investments, and tough competition in the Indian market. Foreign investments will also provide much-needed capital to the Indian insurance sector, enabling insurers to offer better products and services.





**4. SWAMIH Fund 2:** It will be established as a blended finance facility with contributions from the government, banks, and private investors. The existing Special Window for Affordable, Mid-Income Housing (SWAMIH) scheme aims to help middle-class families who pay EMIs on loans taken for apartments and rent on their current dwellings.

### Do you Know?

Investment Friendliness Index of States will be launched this year for competitive cooperative federalism.

**5. Nuclear Energy Mission:** A Nuclear Energy Mission for research & development of Small Modular Reactors (SMR) with an outlay of Rs. 20,000 crore will be set up. At least 5 indigenously developed SMRs will be operationalised by 2033.

**6. Deep Tech Fund of Funds:** Investing in innovation, the budget announced a 'Deep Tech Fund of Funds' for next-generation startups and ten thousand PM research fellowships for technological research in IITs and IISc in the next 5 years.

**7. Maritime Development Fund:** This fund will be set up with a corpus of Rs 25,000 cr. It will support the long-term financing of the maritime industry. Aims at distributing support and promoting competition. Up to 49% GoI support, rest by ports, private sector.

**8. Historic Tax Cut:** The finance minister has raised the limit of income tax rebate from Rs 7 lakh to Rs 12 lakh, which essentially means that if an individual has an income of up to Rs 12 lakh, she will have zero tax liability.

The announcement of nil tax for those with a taxable income of up to ₹12 lakh has brought cheer to all who fall in that category. However, it has also raised certain questions, such as: ***Does zero tax liability up to ₹12 lakh mean that those earning ₹15 lakh will have to pay tax on only ₹3 lakh?***

Let's understand it:

**Sandeep Singh writes-**

"No, the rebate is only applicable for those earning up to Rs 12 lakh. If your taxable income is even a rupee more than Rs 12 lakh, you will have to pay taxes as per the slab rates under the new tax regime. Earlier, those earning up to Rs 12 lakh paid a tax of Rs 80,000 under the new tax regime.

This means that if your taxable income is, say, Rs 12.1 lakh, your tax liability would be Rs 61,500. This is because, if your income is above Rs 12 lakh you will have to pay a tax of 5% on income between Rs 4 lakh to 8 lakh; 10% on income between Rs 8 lakh to 12 lakh and 15% between Rs 12 lakh to 16 lakh.

So an individual earning Rs 15 lakh will end up paying a tax of Rs 1,05,000."

**Udit Mishra writes-** "Many observers have pointed out that companies were unwilling to invest in fresh capacities until they could be sure there was enough demand in the economy for their products.

Saturday's Budget announcement of a massive income tax break is an acceptance by the government that more than anything else, the private sector investments require robust consumer demand. Almost everything else — corporate income tax and interest rates and the condition of roads — is secondary.

The hope now is that consumers will spend the additional money in hand — around Rs 1 lakh crore that the government is foregoing as revenues — and that this will provide corporates with the essential reason to invest in new capacities, create jobs, and further spur economic growth.



However, there is a crucial element still lacking in the Budget: a comprehensive strategy for economic growth without which tax cuts will not be enough.”

**Nilesh Shah writes--** “The budget has invested in the future by allocating Rs 10,000 crore for a start-up Fund of Fund scheme; Rs 25,000 crore for shipbuilding through a Maritime Development Fund; and Rs 20,000 crore for small modular nuclear reactors. All these investments are futuristic and could have a multiplier effect on the economy.

Markets are driven by flows, sentiments, and fundamentals. This budget will maintain positive domestic investor sentiment, encourage domestic flows to the capital market, and improve corporate profits over time.”

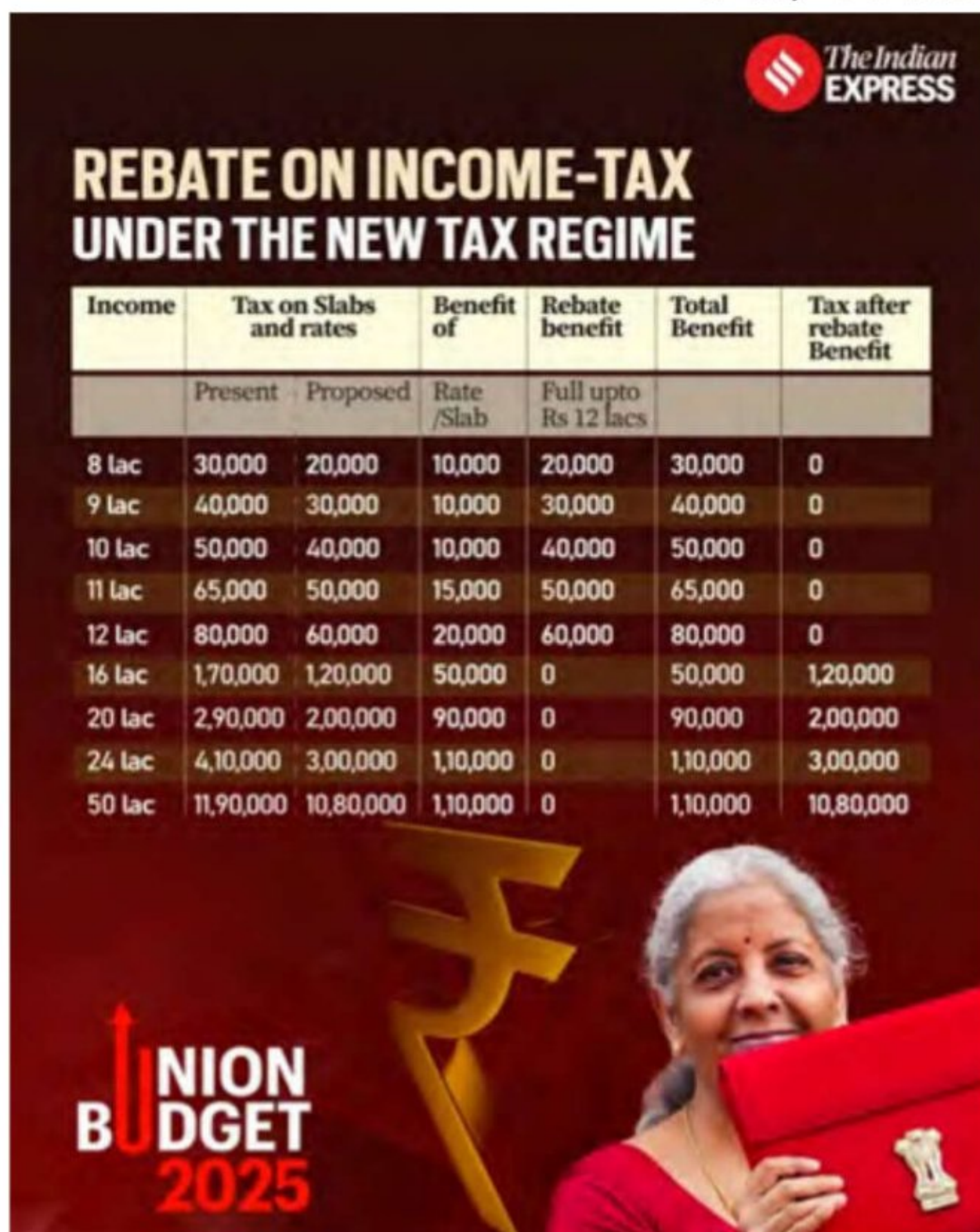
### How does the Union Budget align with India’s goal of becoming a global export hub?

Finance Minister Nirmala Sitharaman

identified exports as a key engine for development over the coming year. To this end, she announced five initiatives:

- 1. Export Promotion Mission:** This mission will be driven jointly by the Ministries of Commerce, MSME, and Finance. It aims to facilitate easy access to export credit, cross-border factoring support, and support to MSMEs to tackle non-tariff measures in overseas markets.
- 2. BharatTradeNet:** A digital public infrastructure, ‘BharatTradeNet’ (BTN) for international trade, will be set up as a unified platform for trade documentation and financing solutions. The BTN will complement the existing Unified Logistics Interface Platform, which allows industry players to access logistics-related datasets from various government systems.
- 3. Global Supply Chain Integration:** Support domestic manufacturing to integrate India’s economy into global supply chains, focusing on Industry 4.0 and youth talent.
- 4. National Framework for Global Capability Centres:** As guidance to states for promoting Global Capability Centres (GCCs) in emerging tier 2 cities. GCCs offer support to MNCs. The proposed policy aims at enhancing the availability of talent and infrastructure, building bylaw reforms, and mechanisms for industry collaboration.
- 5. Warehousing facility for air cargo:** To facilitate the upgradation of infrastructure and warehousing for air cargo, including high-value perishable horticulture produce.

In the context of global uncertainty, the export-related initiatives of government hold great importance, as they not only determine economic gains but also shape our international relations.





## CONCLUSION

### Express View on Budget 2025: Betting big on the middle class

<https://telegram.me/+KSUmQ-87JBE2NTE1> Mags@Papers

*The unprecedented income tax relief in Union Finance Minister Nirmala Sitharaman's seventh successive budget is a political as well as an economic bet on regaining middle-class confidence and spurring flagging consumption growth. Sitharaman has done this while staying the course on fiscal consolidation. Acknowledging the honest taxpayer and giving her relief is good politics meeting good economics.*

*The second notable feature of the budget is the continuing emphasis on fiscal prudence. The finance minister has said that her government's endeavour would be to restrain the annual deficit so as to ensure that the Centre's outstanding debt-GDP ratio "remains on a declining path".*

*The Indian economy today needs less fiscal stimulus and more monetary and reform stimulus. Creditably, there are no new fiscally imprudent scheme announcements in the latest budget. There is unfinished business, though. Prime Minister Narendra Modi has framed the budget as a "force multiplier" that will spur savings, investment, consumption and growth. To that effect, ensuring a higher disposable income in the hands of the taxpayer and staying away from fiscal adventurism are key but important challenges remain: Lack of investment and job creation, with knock-on effects on income and spending.*

*The budget hasn't quite addressed why firms aren't investing and what is holding them back. It has pinned hopes on the income tax cut leaving more disposable income in the hands of tax-paying households, which will revive sputtering consumption demand. Whether households choose to either spend or simply save the tax bonanza — like corporates have done — will be known only in the months that follow.*

*The economy needs continuing high levels of public investment to support growth. It is unfortunate that the fiscal deficit target for this year is being met by cutting capex to the tune of Rs 92,682 crore over the budget estimate. Growth is never a low-hanging fruit. Reforms that release public resources and unleash the animal spirits of entrepreneurs are key to putting the economy on a sustainable high-growth path in the current not-so-friendly global economic environment. For now, empowering the taxpayer, being mindful of fiscal prudence, allowing 100 per cent FDI in the insurance sector, emphasis on deregulation, and digital transformation are significant steps forward on what is a long road ahead.*

## Post Read Questions

### Prelims

#### (1) Consider the following statements:

1. Revenue expenditure does not result in the creation of assets for the Government of India.
2. Capital expenditure reduces the government's liability or increases the government's assets.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**(2) Along with the Budget, the Finance Minister also places other documents before the Parliament which include 'The Macro Economic Framework Statement'. The aforesaid document is presented because this is mandated by (UPSC CSE 2020)**

- (a) Long-standing parliamentary convention
- (b) Article 112 and Article 110(1) of the Constitution of India
- (c) Article 113 of the Constitution of India
- (d) Provisions of the Fiscal Responsibility and Budget Management Act, 2003



**(3) With reference to the Union Government, consider the following statements: (UPSC CSE 2015)**

1. The Department of Revenue is responsible for the preparation of the Union Budget that is presented to the Parliament.
2. No amount can be withdrawn from the Consolidated Fund of India without the authorization from the Parliament of India.
3. All the disbursements made from Public Account also need the authorization from the Parliament of India.

Which of the statements given above is/are correct?

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

**(4) There has been a persistent deficit budget year after year. Which action/actions of the following can be taken by the Government to**

**reduce the deficit? (UPSC CSE 2016)**

1. Reducing revenue expenditure
2. Introducing new welfare schemes
3. Rationalizing subsidies
4. Reducing import duty

Select the correct answer using the code given below:

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

### **Mains**

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

**(2) What were the reasons for the introduction of Fiscal Responsibility and Budget Management (FRBM) Act, 2003? Discuss critically its salient features and their effectiveness. (UPSC CSE 2013)**

### **Prelims Answer Key**

**1. (c) 2. (d) 3. (c) 4. (c)**

(Sources from indianexpress.com: [PM Dhan-Dhaanya](#), [New urea plant to come up in Assam](#), [Ashok Gulati, Raya Das on Budget 2025](#), [National Manufacturing Mission MSME soon](#), [Definition of MSMEs widened](#), [credit guarantee limit increased](#), [FDI in insurance hiked to 100%](#), [paving way for entry of foreign giants](#), [Union Budget 2025 Explained Highlights](#), [Union Budget 2025 : Key highlights](#), [Critics don't get it — free trade is good for India](#))



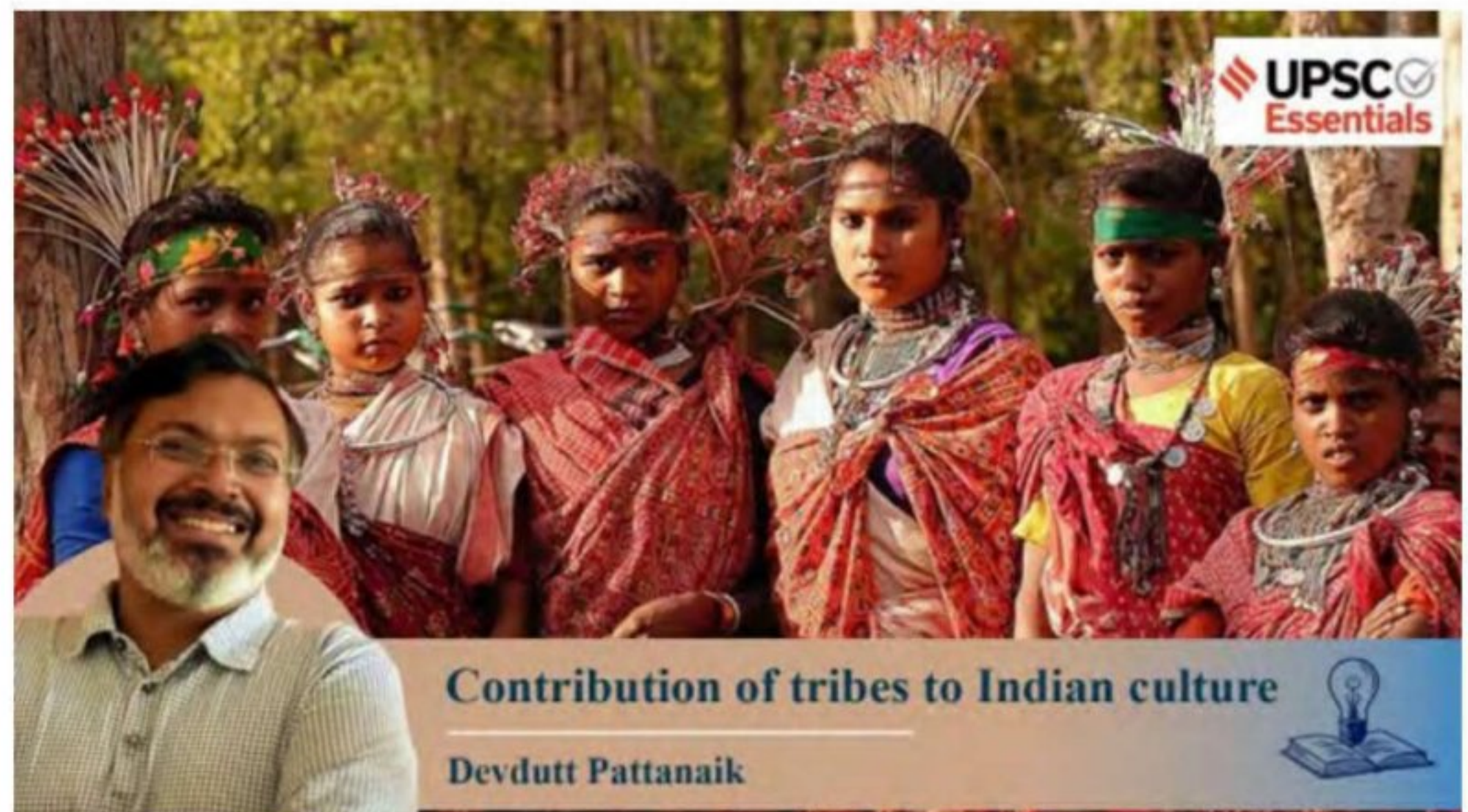
**History & Culture**

# Contribution of tribes to Indian culture

From the ancient wall paintings of the Bhimbetka caves to their unique customs, mythology and craftsmanship, India's tribes have left an indelible mark on the country's rich culture.

Written by **Devdutt Pattanaik**

Tribal communities have always been fiercely independent. They have resisted being part of villages, kingdoms, and empires, and therefore, have often been accused of being 'savage' and 'primitive'. They have lived in the forest, foraging and hunting for food, practicing sustenance agriculture and herding, and occasionally trading forest produce in markets.



**Contribution of tribes to Indian culture**

Devdutt Pattanaik

*The Baiga tribe keeps the son-in-law in the bride's house till the bride price is paid.*

*(Photo: Wikimedia Commons)*

They often came in conflict

with kings who sought to establish new agricultural lands or build trade routes through forests. The Bhils defeated the Mughal army, and tribal leaders like Birsa Munda were the early revolutionaries to resist British rule. Tribes have traditionally refused to pay taxes but preferred trading with communities, and occasionally offering military services to kings.

The words used for tribes range from *adivasi* (earliest inhabitants) to *vanavasi* (forest dwellers) to *atavika* (forest folk) to *girijan* (mountain folk). Other words used for specific tribes are *Nishadha* and *Kirata*. In the Mahabharata, we encounter Ekalavya, a Nishadha, and Shiva fighting Arjuna by taking the form of a Kirata. It is believed that 'vanaras' of the Ramayana and 'asuras' of the Mahabharata were forest and hill people who shunned cultivated land.

The epics are full of stories where sages and kings marry Yaksha and Rakshasa women. Krishna's wife, Jambavati, was the daughter of a 'bear'. These are clearly metaphors for people who lived in forests and did not subscribe to the Aryan way of life, based on yagna rituals. In the Bhagavata Purana, we are told when the greedy king Vena was killed, two beings emerged from his dead body: the Nishada who chose to live in the forest and Prithu who chose to cultivate the earth responsibly.



## Genes and cultures of India's tribes

Around 10% of India's population belongs to nearly 700 tribal communities, who live in small communities in the hills of Aravalli, Sahyadri, Nilgiri, Himachal, Uttarakhand, Purvanchal, forests of the Tarai, and in the plateaus of Central India. Tribes like the Banjaras are nomads. Bhils and Gonds live around the Vindhya. Kinnaurs live on the hills of Himachal. There are many tribes in Northeast India like Khasi and Garo.

Incidentally, the word Naga does not mean a tribe – it is a local word used in lowland markets for hill tribes who wore few clothes and bored their ears. Many nomadic tribes have turned to agriculture. Nearly 10% of these tribes are considered Particularly Vulnerable Tribal Groups (PVTG), who are very remote, whose culture is threatened.

Genetically, they have the oldest genes of the Early 'Out of Africa' genepool. Those in the South only have the Harappan Gene, those in the North have additionally the Aryan gene, those in Central India have the Austro-Asian (from Southeast Asia) and those in the Northeast have the Tibeto-Burmese gene. The tribes on Andaman Island have no such mixtures from later immigrants.

## History and mythology

The wall paintings of the Bhimbetka caves of India and the Paleographs (Stone art) on the Western coast of India reveal that tribes had left their mark on India over 12,000 years ago. 4500-year-old Harappan seals show men and women with bison horns, similar to the ones worn by the Maria tribe of Central India. There are many words traceable to Munda tribes in the 3500-year-old Rig Veda, indicating early encounters.

Scholars have noted that tribes have their own mythology with their own star myths, indicating they lived very separate lives from mainstream Indians. For example, while Hindus see the Krittika constellation as made up of a group of celestial ladies, the Banjaras see it as a cluster of jewels, the Koku as minced meat, the Warli as drummers and lamps in a wedding procession, the Nicobarese as ancestors, and Gond as stones thrown at a flock of birds.

There are many temples in India that reveal a relationship formed between independent tribal people and kings who established temples to control agricultural land. The Jagannath temple of Odisha is closely linked with local tribes, who were guardians of the original Nila Madhav statue. The Chenchu tribe's daughter marries Narasimha of Andhra Pradesh. Murugan of **Tamil Nadu** has the tribal girl Valli as one of his brides.

## Unique customs of marriage, and craftsmanship

Isolation has allowed tribal communities to preserve their local beliefs and practices. This is most evident in their marriage practice. The women of the Bonda tribe of Odisha marry younger men who take care of them when they are old. The Toda of the Nilgiris and Kinnaur of Himachal let one woman marry many men to prevent the division of property. The Bhils of Central India expect the groom to pay a bride price.

The Baigas keep the son-in-law in the bride's house till the bride price is paid. Garo tribes of Meghalaya abduct grooms. If he runs away, he is permitted to marry someone else. Gonds encourage women and men to elope. The Murias permit boys and girls to live in the 'ghotul' (youth dormitory) before they choose their life partners.

The tribes of Central India were the original makers of iron tools. Tribes of Rajasthan are famous for their jewelry which is usually made of silver, and copper. The nomadic Banjaras were once famous for transporting goods. The Warli tribes of Maharashtra and Gonds of Central India have become famous for their unique paintings. The Dangs of Gujarat are famous for their bamboo weaves. Naga tribes are famous for their tattoos.



In fact, all tribes use tattoos to indicate their clan identity and various rites of passage. North Eastern tribes are famous for weaving unique textiles using cotton, wool and silk. All tribes play a key role in forest conservation and the protection of wild flora and fauna.

### **Tribal identity in transition?**

Increasingly, they are being educated in schools where they are being taught Hindi and English which is not their native language. So they are slowly distanced from their traditional culture and become more mainstream, choosing life in cities, in industries, in army and government. Many convert to Christianity or Islam, faiths that are strictly monotheist and do not permit the worship of tribal gods.

Some argue that Sanatana Dharma accommodates tribal people. Others disagree, as many tribes have their own gods, rituals and practices. Their diet includes various types of meat, fish, insects, and animals that many caste Hindu shun. Many in Jharkhand and Chattisgarh argue that Sarnaism, based on the veneration of forest groves and sacred ponds, should be seen as a separate religion to ensure their survival. If tribes give up their ritual, marriage, and food practices, it will mark the end of their culture.

### **Post Read Questions**

1. **How do India's tribes enrich the country's culture through their unique art, mythology, craftsmanship, and way of life?**
2. **How do genetic studies reveal the diverse origins of Indian tribal communities, and what does this suggest about their historical migrations and interactions?**
3. **What do characters like Ekalavya, a Nishadha, and the Kirata form of Shiva in the Mahabharata symbolise about tribal communities?**
4. **What challenges do Particularly Vulnerable Tribal Groups (PVTGs) face, and how can these threats to their culture and way of life be addressed?**

*(Devdutt Pattanaik is a renowned mythologist who writes on art, culture and heritage.)*



# Why Vivekananda's teachings resonate with youth

What does Swami Vivekananda mean when he says the young would be closer to heaven through football than reading the Gita? Let's revisit his vision of the interconnectedness of body, mind, and soul.

Written by **Dileep P Chandran**

The young would be closer to heaven through football than reading the Gita, as the true understanding of the Gita could only be achieved through physical strength and vitality. These words of Swami Vivekananda hold profound significance, as they highlight the importance of physical well-being as a foundation for spiritual and intellectual growth.



The government of India declared Swami Vivekananda's birthday as National Youth Day in 1984. On his 162nd birth anniversary, let's revisit his teachings, which emphasised the equal importance of spiritual growth and physical strength.

## Early life

Narendra Nath Datta, better known as Swami Vivekananda, was born on January 12, 1863. His short life-span of thirty-nine years (1863-1902) symbolised youthful energy and the reawakening of a valorous nation. For instance, his historic clarion call to "arise, awake, and stop not till the goal is reached" inspired Indian leaders to awaken colonial India from its long slumber.

Vivekananda was introduced to the great mystic saint of Bengal – Ramakrishna Paramahansa – in 1881 by Keshab Chandra Sen, the founder of Brahmo Samaj of India where Vivekananda stayed. After Ramakrishna's death, Vivekananda devoted his life to the regeneration of Hindu society. He sought to reconcile the dualistic philosophy he inherited from his master with his belief in *Advaita* philosophy.

## Practical Vedanta

Vivekananda believed that dualism thrived globally because it was easy to convey to the uneducated masses, but cautioned that a dualistic religion with multiple sects within it would weaken its position against other civilisations. He famously remarked, "If you are a dualist, you are a fool to try to help God. If you are a monist, you know that you are God..."



In *Advaita* philosophy, every individual is part of the infinite universal soul; therefore harming others is equivalent to harming oneself. However, Vivekananda's Vedanta harmonised seemingly incompatible philosophies, including dualism and monism.

He believed in the supreme authority of *Vedas* and the immutable status of *Upanishads*. For him, Vedic religion was both universal and tolerant. Yet, he was of the view that the truths of Vedanta have little appeal for people suffering from hunger and poverty. This realisation led him to introduce his version of practical Vedanta.

The essence of practical Vedanta was to integrate devotion to God with compassion for fellow beings. Vivekananda traced the roots of poverty in India to the neglect of material civilization and excessive focus on mental power and renunciation. He prioritised the alleviation of poverty over preaching of religious texts. He found it futile, insulting, and meaningless to preach scriptures without providing food to people suffering from poverty. Inspired by his master's words that religion is not for empty stomachs, he emphasised the significance of social service.

## World Parliament of Religions

Vivekananda's address at the World Parliament of Religions in Chicago on September 11, 1893 marked a turning point in the universal assertion of Hindu identity. In this historic speech, he addressed some of the key concerns of 19th century India, such as national awakening, Hindu identity, and religious tolerance. He presented a liberal and humane Hinduism as the path towards progress and unity.

In fact, religious tolerance was the predominant theme of Vivekananda's speeches. He referred to Hinduism as the "mother of religions", and asserted its legacy of tolerance and universal acceptance. He also highlighted Hinduism's historic role in offering refuge to persecuted sects from around the world and affirmed that this sense of tolerance is intrinsic to the "blood of the nation".

He also highlighted the interdependence of Hinduism and Buddhism, saying, "Hinduism cannot live without Buddhism, nor Buddhism without Hinduism. Then realise what the separation has shown to us, that the Buddhists cannot stand without the brain and philosophy of the Brahmins, nor the Brahmin without the heart of the Buddhist."

## Unity of all existence

Vivekananda outrightly rejected fanaticism, sectarianism, and bigotry that led to violence. But he acknowledged that religious differences would persist as long as people are ignorant of others' faith. He argued that ridiculing another's God was tantamount to ridiculing one's own religion. For him, this sense of oneness stemmed from the ideals of Vedanta and monism, which affirm the unity of all existence.

In his Chicago speech, he also criticised Christian missionaries for prioritising the construction of churches over addressing the plight of the starving. He stated, "I do not believe in God or religion which cannot wipe the widow's tears or bring a piece of bread to the orphan's mouth." Vivekananda preferred to feed the hungry before preaching about God.

In the concluding session of the Parliament of Religions, he expressed regret for those who envisioned the exclusive survival of their religion, saying that true religion embraces unity in diversity. In sum, Vivekananda reiterated that tolerance is the core of Hinduism. However, some critics have argued that his ideal of tolerance was "tenuous" and "fragile".



His eloquence impressed audiences in America. He spent the next three years in the West preaching and lecturing. He returned to India in 1897. Thereafter, he was hailed as a champion of the spiritual regeneration of India and went on to establish Ramakrishna Mission (1897), which primarily worked through social service and preaching.

## **“Patriotic saint of modern India”**

In *The Discovery of India*, Jawaharlal Nehru wrote that Vivekananda “came as a tonic to the depressed and demoralized Hindu mind.” In fact, Vivekananda’s concept of spiritual nationalism influenced leaders of India’s national movement, including Bal Gangadhar Tilak, Subhas Chandra Bose, and Mahatma Gandhi.

By the 19th century, Hindu mysticism and spirituality played a dominant role in inculcating a sense of national spirit among the masses. Leaders from Dayananda Saraswati to Gandhi drew upon this legacy while Vivekananda emerged as one of its earliest and vocal exponents.

Although Vivekananda’s mission primarily addressed India’s cultural humiliation rather than political subjugation, he believed that the lack of self-governance was a key factor in the enslavement of Indians. Yet, his vision extended beyond self-governance as he imagined a spiritual oneness of the entire world.

## **Vivekananda’s idea of nationalism**

Moreover, Vivekananda’s idea of nationalism is characterised by a ‘centre’. He argued that every nation has a centre and its survival depends on preserving this core. He found religion as the centre of India. He believed that India’s spiritual independence was vital to counter the dominance of the West’s materialism and urged to begin a wave of spirituality to rejuvenate the nation. He also perceived India as the centre of the world’s spirituality and capable of conquering the world through its spiritual strength.

Vivekananda saw Vedantic spiritualism as the solution to India’s subjugation and the means to saving humanity from the destructive effects of Western materialism. He asserted that because of its spiritual foundation, Indian civilization survived the test of time, unlike the Greek, Roman, and Egyptian civilizations.

He also believed that any efforts for political independence or religious reform that ignored spirituality and religion would be futile because they form the ‘life-blood of nation’. As the forerunner of Indian nationalism, Vivekananda criticised modern material civilization and asserted the cultural roots of nationalism in India.

## **On body, sports, and masculinity**

During colonial rule, the British created a binary of the “manly colonial masters” versus “effeminate Indian subjects”, which persuaded Indian nationalists to regenerate an indigenous notion of masculinity. It is argued that Vivekananda, as the advocate of sports and physical strength, was one of the earliest exponents of this notion, believing that physical strength was essential towards national emancipation. Therefore, he argued that the first step toward national regeneration was strengthening the body, which would enable the youth to contribute to the work of national revival.

Vivekananda believed that the young would be closer to heaven through football than reading the Gita, emphasising that true understanding of the Gita could only be achieved through physical strength and vitality. He emphasised that to regenerate the nation, it’s important to overcome physical weakness and embrace masculine qualities like courage, strength, and resilience. He justified the use of physical force in self-defense, stressing the importance of fighting against oppression. While he cherished the virtue of forgiveness, he cautioned that it should not stem from passivity or weakness.



Vivekananda popularised a version of “ascetic nationalist masculinity”, which combined physical strength with spiritual discipline. He extensively wrote on colonial sports, gymnastics, and the importance of physical culture. He believed that religion alone was insufficient to regenerate Indian civilization from the clutches of slavery. For him, physical vigour – symbolised by biceps and the Gita – was the way to overcome challenges posed by British rule in India. He urged his disciples to be ready to engage in deep meditation and rise from it to go to the field.

## **Post Read Questions**

1. **What does Swami Vivekananda mean when he says the young would be closer to heaven through football than reading the Gita?**
2. **Why did Jawaharlal Nehru describe Vivekananda as a “tonic to the depressed and demoralized Hindu mind” in *Discovery of India*?**
3. **How did Swami Vivekananda’s concept of spiritual nationalism influence leaders of India’s national movement?**
4. **What role did Hindu mysticism and spirituality play in fostering a sense of national spirit in 19th-century India?**
5. **What made Swami Vivekananda one of the earliest and most vocal exponents of spiritual nationalism?**

*(Dileep P Chandran is an Assistant Professor at the department of Political Science in University of Calicut, Kerala.)*



# Maha Kumbh and public bathing across civilisations

The Maha Kumbh has fascinated public figures and writers from different lands and religions. How does the practice of public bathing at the Maha Kumbh compare to similar traditions in other civilisations?

Written by **Mohammad Asim Siddiqui**



*An aerial view of the devotees taking a dip at Triveni Sangam during the ongoing Maha Kumbh 2025, in Prayagraj. (ANI Photo)*

With millions of devotees taking a dip into the holy waters of Sangam in Prayagraj during **the Maha Kumbh, or the Poorna Kumbh**, the 45-day event held every 12 years, is the biggest festival celebrating a public bath. History, myths, legends and faith come together at the Maha Kumbh to develop a community feeling among the believers.

How has the Maha Kumbh fascinated public figures and writers? How does the practice of communal bathing at the Maha Kumbh compare to similar traditions in other civilizations?

## **The Maha Kumbh, a fair and religious festival**

The Maha Kumbh has fascinated not only the devotees but also public figures and writers coming from different lands and religions. In his travelogue *Following the Equator: A Journey Around the World* (1897), American novelist Mark Twain expressed his praise and sense of amazement at the faith of the pilgrims.



“These pilgrims had come from all over India; some of them had been months on the way, plodding patiently along in the heat and dust, worn, poor, hungry, but supported and sustained by an unwavering faith and belief; they were supremely happy and content, now; their full and sufficient reward was at hand; they were going to be cleansed from every vestige of sin... by these holy waters which make utterly pure whatsoever thing they touch...

“It is wonderful, the power of faith like that, that can make multitudes upon multitudes of the old and weak and the young and frail enter without hesitation or complaint upon such incredible journeys and endure the resultant miseries without repining. It is done in love, or it is done in fear; I do not know... No matter what the impulse is, the act born of it is beyond imagination marvelous to our kind of people, the cold whites.” In his vivid account of the Kumbh, Twain also called it a “fair as well as a religious festival”.

## Communal bathing in Mohenjo-Daro and Roman civilisation

Though the Maha Kumbh is unparalleled in terms of number of devotees attending the event, the practice of public baths has existed across civilisations, serving as a means to connect people and provide opportunities for socialisation. Even in prehistoric times, the Great Bath at Mohenjo-Daro, dating back to the 3rd millennium BCE, was a distinctive aspect of the Indus Valley Civilisation. It is believed to have been used for ritual bathing, despite the civilisation’s advanced infrastructure, which included bathrooms in individual houses and an excellent sewage system.

Whether they be oceans, rivers, lakes, ponds or modern amenities like spas and swimming pools, sites of public bathing have played a central role in many societies and cultures throughout history. For instance, in Roman civilisation around 3000 BC, bathing was a public event and an occasion to socialise and connect with others in a leisurely manner. Looking at archaeological, epigraphic and literary sources, American historian Garret G. Fagan, in his book *Bathing in Public in the Roman World* (1999), wrote that a Roman bathing ritual combined “what in modern terms would be considered a visit to a gymnasium, bathroom, and massage parlour”.

Remains of many buildings, inscriptions detailing their construction, and literary works offer a glimpse into the long and elaborate affair of Roman public baths. It involved stages of undressing, application of oil on the body, exercise to work up sweat, cleaning the body with a strigil (a curved scraper), and choosing a heated room from amongst the many with varying degrees of warmth.

Similar to visiting a mall today, in the class-conscious Roman society, which however valued communal life, there were both large and small bathing complexes. Large bathing complexes were known as *thermae* and smaller bathing areas were called *balneae*, with slaves readily available to scrape the body of rich bathers and do the chores. A Roman bath was also believed to offer health benefits; Asclepiades of Bithynia, a Greek physician living in Rome, advised bathing for health reasons. However, lack of cleanliness and hygiene, and filth from the use of strigil also posed health risks.

## Hammam in the Muslim lands

The *hammam*, a public bath practiced in Turkey, Tunisia, Iran and many other Muslim countries, bears a clear influence of Roman baths, though mediated by Islamic notions of modesty and segregation of sexes. A *hammam*, like Roman baths, involves sweating, washing, massaging and socialising, but it differs in that baths are typically taken in individual rooms.

Often existing as an exotica in the Orientalist imagination, the famed Turkish bath disappointed Twain. In *The Innocents Abroad* (1869), he described the site of the bath as “a latticed chicken coop” which had nothing of “that voluptuousness one reads of so much.” For Twain, “it was more suggestive of the county hospital than anything



else.” On the contrary, the *hammam* has provided many ordinary Arab women a valuable hour to break free from the stranglehold of patriarchal control and foster female bonding.

In *A Mountainous Journey: An Autobiography* (1990, translated into English by Olive Kenny), Palestinian poet Fadwa Tuqan recounts her childhood visits to the public bath with her mother as an emotionally liberating affair. She describes the *hammam* in her town Nablus as a congenial social center for women, featuring many doors, vaults, a large pool of water and the passage for hot air. Reflecting on the atmosphere, Tuqan writes, “... I was delighted with the spontaneity of these women, who lived in a much freer and more down-to-earth atmosphere than that of the bourgeoisie, which was characterised by falsehood and hypocrisy.”

## Public baths in other cultures

Using water for therapeutic purposes, people in ancient Egypt bathed in the Nile River – their life-giver and a centre of spiritual life. Egyptians also used calderas – large, bowl-shaped volcanic depressions – for communal baths. Similarly, the Russian *banya* – a traditional public bathhouse – was used to cleanse as well as gain spiritual experience.

In Korea, *jjimjilbang* – gender-specific bathhouses originating from natural hot springs – have been frequented by families for relaxation. Meanwhile, Finnish saunas, still popular in Finland, have been marked for their health benefits and public nature, offering people spaces for meetings, celebrations, and social gatherings.

In the case of Japan, public baths date back to the 6th century and flourished during the Edo and Meiji periods (17th to 19th centuries), becoming important centres of social life. Japanese *sentos* (artificially heated baths) and *onsen* (hot springs getting their heat from the natural volcanic activity) have also had a religious, spiritual, therapeutic, and social significance providing an occasion for people to meet, interact, and build a community feeling.

Mixed-gender *konyoku onsen* were also common in Japan until the 19th century. However, with western norms of privacy and Christian stance on nudity becoming normative, and personal and private bathrooms commonplace, there has been a significant reduction in the number of *sentos* in Japan. This shift necessitates a discussion about the community spirit that public baths engendered.

## Post Read Questions

1. What role do history, myths, and legends play in shaping the significance of the Maha Kumbh?
2. How have writers and public figures documented their experiences of the Maha Kumbh?
3. What are some examples of communal bathing practices in ancient civilisations?
4. Why has communal bathing been a recurring practice across different cultures and societies?
5. What social or spiritual purposes does communal bathing serve in different traditions, including the Maha Kumbh?

(Mohammad Asim Siddiqui is a Professor in the Department of English at Aligarh Muslim University.)



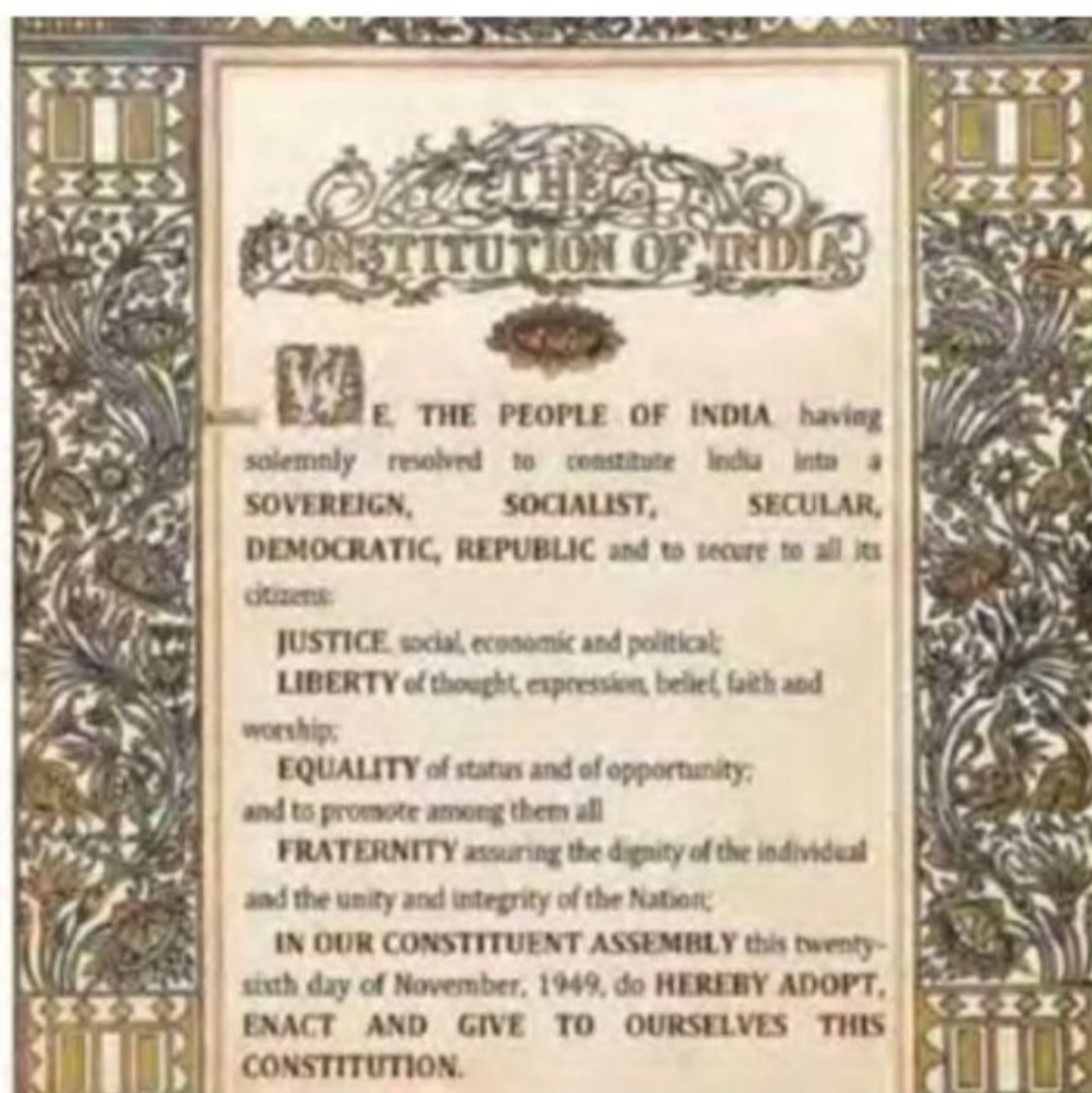
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# How the Preamble clarifies guiding principles behind the Constitution

Given the detailed nature of the Constitution of India, the Preamble serves a vital role in capturing its essence. Let's revisit its core values as the country recently celebrated its 76th Republic Day.

Written by **Amir Ali**



**UPSC**  
Essentials

*The preamble of the Constitution serves as a statement clarifying the guiding principles and purpose behind the Constitution of India.  
(Photo: Wikimedia Commons)*

As India celebrated its **76th Republic Day** under the theme “*Swarnim Bharat: Virasat aur Vikas*” (Golden India: Legacy and Progress), the day also marked a historic moment to reflect on the core values of the Indian Constitution, which came into effect on January 26, 1950.

On this day, let's reflect on the core values enshrined in the Preamble — Sovereign, Socialist, Secular, Democratic, and Republic — which constitute the foundation of India's democratic framework, promoting justice, liberty, equality, and fraternity among all its citizens.

## The Preamble's invocation of “We, the people of India”

The preamble begins with the famous and stirring words, “We, the people of India”. This invocation of the people



is significant as it stands in sharp contrast to the often unchecked and emotional invocation of “the people” by contemporary populist movements around the world. The people invoked in the Preamble are presented with a sense of sobriety, as a constitutionally mediated entity, which prevents any possibility of such populist invocation of the people from easily descending into tyranny.

Once this constitutionally mediated invocation has been made, the Preamble introduces the key concepts upon which the people of India have decided to mould the republic: Sovereign, Socialist, Secular, Democratic and Republic. Let's explore the deeper meaning and significance of each of these terms.

**Sovereign:** The term “sovereign” is one of the most central concepts in political science and constitutionalism. It refers to three aspects: first, sovereignty connotes a supremacy of power that the state claims and tolerates no power above it; second, there is no possibility or threat of insubordination below the state that could threaten its integrity; and third, this sovereignty is crystallised in the form of popular representation in Parliament, which represents the will of the people through universal adult franchise.

**Socialist:** The term “socialist” was not present in the original version of the Preamble. It was introduced into the Preamble in 1976 through the 42nd constitutional amendment along with the term “secular”. There has been some controversy around the term socialist being part of the Preamble. Dr. B.R. Ambedkar was himself against the inclusion of the term as he felt that its presence would unfairly constrain future governments.

Socialist was also challenged as recently as last year when the Supreme Court, hearing a petition on the matter, ruled in November 2024 that the term socialist should remain as it has acquired a distinct meaning. Many critics have noted how, since the 1990s, India has embarked upon liberalisation policies of free markets, perceived as the opposite of socialism.

**Secular:** This is again one of the terms whose inclusion has been questioned at various times, but whose presence in the Preamble has given it a distinctive meaning. The word secular, unlike the way it is understood in the West, does not imply a lack or negation of religion. Instead, it simply means that in the interests of maintaining religious harmony among India's numerous religions and belief systems, the state shall maintain a secular stance. This is an eminently sensible position in a society where religion does play a significant and central role in people's lives.

**Democratic:** The term democratic has received a significant Indian inflection due to its presence in the Preamble and the way democracy has taken root in India. Soon after independence, elections in 1951 were held on the principle of universal adult franchise. Sceptics of Indian democracy pointed out that high levels of poverty and illiteracy would pose major stumbling blocks to the continuation of democracy, as it has generally thrived in societies with some degree of material affluence.

However, many decades after independence, the success of Indian democracy has been acknowledged worldwide, with its vigour and vitality striking a contrasting note to staid Western liberal democracies.

**Republic:** The term republic in the Preamble holds significance in the historical development of Indian independence from colonial British rule. With independence in August 1947, India attained autonomous dominion status in the British Empire. Dominion status had been a long-standing demand of the national movement, and this also gave rise to the demand for *Poorna Swaraj* (full independence), first made in 1921 and proclaimed in 1930.

It was only with the declaration of India as a republic on January 26, 1950 that we moved beyond the initial autonomy that dominion status gave us. The term republic in the Preamble of the Constitution connotes that the head of the state has to be an elected figure and not a hereditary monarch, which continues to be the case to this day in the United Kingdom.



It may be noted that the concept of constitutional patriotism, initially invoked by German social theorist Jurgen Habermas in the 1990s in an especially European context, has acquired a unique and very spirited dimension in India. And the unique fervor of constitutional patriotism it has inspired among the citizenry is deeply influenced by the exceptional status held by the Preamble to the Indian Constitution.

Moreover, there are some landmark judgements that help us understand how the Preamble clarifies the guiding principles and purpose behind the Constitution of India.

### **The Preamble through landmark judgments**

The landmark **Keshavananda Bharati case (1973)** ruled that the Preamble is a part of the Constitution as it helps in the interpretation of the actual body of the Constitution. The Keshavananda Bharati judgement is particularly significant as it gave rise to the “basic structure” doctrine of the Constitution and included the Preamble in it.

This 13-bench judgement also seemed to mark a departure from an earlier judgement in the Berubari Union Case (1960) that did not view the Preamble as part of the Constitution, although the Preamble was acknowledged as the ‘key’ to understanding the mind of the makers of the Constitution.

To sum up, modern Constitutions are remarkable documents that act as a political contract that defines the terms on which the people of a country will be governed with justice and legitimacy. The Indian Constitution is the longest-written Constitution in the world. Given the detailed nature of the Constitution, the Preamble serves a vital role in capturing the essence of the Constitution.

### **Post Read Questions**

1. **Is the Preamble a part of the Constitution? Can the Preamble be amended?**
2. **How does the Preamble reflect the vision of the Constituent Assembly?**
3. **What is the role of the Preamble in constitutional interpretation?**
4. **Discuss each adjective attached to the word ‘Republic’ in the Preamble. Are they defensible in the present circumstances?**

*(Amir Ali is an Assistant Professor at the Centre for Political Studies, Jawaharlal Nehru University, New Delhi)*



## International Relations

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# The Sahel crisis and implications for India

Despite being rich in natural resources, the Sahel region of Africa remains mired in extreme poverty, political instability and warfare. What are the broader implications of military coups for regional and global stability, and more specifically, for India?

Written by **Jamal M. Moosa**

The Sahel region of Africa possesses vast energy and mineral resources, but the majority of its population remains enmeshed in extreme poverty, famine, political instability and warfare. In the last two years, there have been military coups in Niger, Guinea, Mali, Burkina Faso, and Chad.

But why has the abundance of energy and mineral resources in the Sahel failed to translate into economic and social development and political stability? What are the broader implications of military coups for regional and global stability, and more specifically, for India? Before exploring such questions, let's first have an understanding of the Sahel region.



*In recent years, there have been military coups in Mali (2020 and 2021), Niger (2023), Burkina Faso (2022), Guinea (2021), and Chad (2021). (AP Photo/File)*

## What is the Sahel region of Africa

The Sahel is a region in western and north-central Africa that extends eastward from Senegal to Sudan, forming a transitional zone between the arid Sahara Desert to the north and humid Savannas to the south. As per the United Nations Integrated Strategy for the Sahel (UNISS), the region has ten countries, i.e. Senegal, Gambia, Mauritania, Guinea, Mali,





Burkina Faso, Niger, Chad, Cameroon and Nigeria.

With its abundance of energy and mineral resources, including uranium, gold, and oil, the Sahel is one of the world's most endowed regions. For instance, Mali is Africa's third-largest gold producer, and Burkina Faso is the fourth-largest and fastest-growing producer of gold in the African Continent, and Niger is the world's leading source of uranium.

## **Mali**

In addition to being Africa's third-largest gold producer, Mali is rich in natural resources. It has about 800 tons of gold deposits, 2 million tons of iron ore, 5,000 tons of uranium, 20 million tons of manganese, 4 million tons of lithium, and 10 million tons of limestone. Despite this, Mali ranked 188th out of 193 countries on the Human Development Index (HDI) in the 2023-2024 Human Development Report.

## **Niger**

Niger accounts for about 5 per cent of global uranium output, making the African nation one of the world's biggest producers of a crucial raw material in the generation of nuclear power. Niger began operating its first commercial uranium mine in 1971 and presently has two significant mines, producing Africa's highest-grade uranium ores. Apart from uranium, the country also possesses vital resources, including coal, gold, gypsum, and oil. However, despite its vast natural resource reserves, Niger, like Mali, ranked 189th on the HDI.

## **Burkina Faso**

Burkina Faso is the fourth-largest and the fastest-growing producer of gold in Africa, forming the backbone of its trading economy. In addition to gold, the country possesses other natural resources like zinc, lead, copper, iron, manganese, cassiterite (a tin ore), and phosphate. Despite its resource wealth, Burkina Faso ranked 185th on the HDI.

A number of factors contribute to the plight of people in the Sahel region including weak state institutions, military coups, and external exploitation of its resources.

## **Factors behind coups in the Sahel**

The inability of civilian governments to effectively control large swaths of territory, popular frustration with the deteriorating security situation, and the lack of economic and social progress are some of the major factors that contributed to military takeovers in the region.

In recent years, there have been military coups in Mali (2020 and 2021), Niger (2023), Burkina Faso (2022), Guinea (2021), and Chad (2021).

Military leaders usually capitalise on the widespread popular disenchantment with the elected governments to seize power. But they rarely have long-term visions for governance and democratisation.

While military leaders claim that their interventions were driven by a sincere desire to bring stability, improve living standards, and end corruption, their true motivations are more likely linked to the pursuit of power and privilege. Moreover, the rivalry among global powers in this unstable area has been the primary reason behind the political instability.



## Struggle for socio-economic development

Developmental struggle is another factor contributing to the challenges of the Sahel. On the HDI, the countries of the region are in the bottom ten. In response to the crisis in Mali, the United Nations Security Council passed Resolution 2056, which led to the creation of UNISS in 2013. The strategy focuses on six critical areas: cross-border cooperation, prevention and sustaining peace, economic revitalisation and inclusive growth, climate action, renewable energy, and women and youth empowerment.

The six objectives of UNISS were intended to contribute to achieving both the United Nations Sustainable Development Goals (SDGs) and **the African Union's Agenda 2063**. However, the recent spate of military coups—including in Mali, Burkina Faso, and Niger—has revealed the failure of the policies of both the United States and the European Union in addressing the region's root causes of instability.

On January 28, 2024, the military leaders of Niger, Burkina Faso, and Mali withdrew from the Economic Community of West African States (ECOWAS). They established the Alliance of Sahel States (AES) as a confederation. In September 2024, the three military junta leaders unveiled the idea of having a common passport to facilitate and harmonise travel identity for their people. In response, the ECOWAS recently lifted the economic sanctions it had imposed after the coups, acknowledging that these measures had been ineffective in reversing the political changes.

## External factors

International reactions to the coups in the Sahel draw attention to regional and international competition among major powers. For instance, the Sahara-Sahel region has emerged as a new geopolitical hotspot, driven by a mix of weak states, interfering global powers, and transnational non-state actors. For much of modern history, the region has been France-centric, with French forces frequently intervening to control and influence regional security.

The people of the Sahel continue to suffer and live in abject poverty and deprivation because their leaders, along with their former colonial power, continued to exploit them. For instance, Niger was providing France with the majority of its uranium at a fraction of its market value. According to some reports, France paid only 0.80 euros per kg, while the market price at the time of the coup was 153.77 euros.

However, France's aggressive intervention in 2013, encountered substantial resistance from local non-state actors and widespread resentment. This provided other external powers like Russia with an opportunity to challenge France's dominance. Russia's foothold in Libya, where it swiftly consolidated power through private military groups like Wagner Group contractors, enabled it to position itself as an alternative security provider and expand its presence into Mali and Burkina Faso – countries that had grown disillusioned with France's military presence.

The failure of French foreign policy in the region has resulted in a power rivalry between France and Russia. The NATO intervention in Libya led to a surge in trans-Saharan terrorism and crime, created new security challenges, and turned the Sahel into a geopolitical flashpoint. This failure of NATO provided Russia with an opportunity to fill the void. Recently, Russia has revamped and reactivated its military presence in Africa, primarily through the use of Wagner Group's assets and troops.

## The Sahel's turmoil and India's role

Reliance on security-focused international dependence has failed to address the root causes of violence, poverty, and instability in the Sahel, condemning the region to long-term turmoil. In particular, the failure of the French efforts, which were largely focused on countering jihadism through militarisation and retaining its status as the dominant external player in Africa, has been detrimental.



As a result, the Russian Wagner Group was able to increase its presence in the Sahel, capitalising on local dissatisfaction with the West. These conditions are likely to persist as long as the major external powers believe that the Sahel is an ungoverned space in need of foreign intervention and control.

The international community's role should focus on strengthening state institutions rather than prioritising self-serving resource extraction and security/military objectives. It should also support Sahelian governments in a way that avoids creating perpetual external dependence, which only facilitates the continued exploitation of the region's natural resources.

There are significant ramifications for India. As the global order teeters on the brink of upheaval and conflicts, the Sahel serves as a prime example of a geopolitical hotspot that could escalate tensions, potentially leading to a larger east-west conflict. The resulting upheaval would have a negative impact on India's socio-political ambitions of becoming a global powerhouse and enhancing its economy. Moreover, India depends on critical resources such as oil, gas, and uranium from the Sahel and its surroundings. Therefore, India needs to engage meaningfully in efforts to stabilise the region.

## Post Read Questions

1. **Despite its resource wealth, why does Africa's Sahel region continue to face issues like warfare, famine, and extreme poverty?**
2. **What factors contribute to the persistent instability in resource-rich countries of Africa's Sahel region? What role do external powers play in the ongoing challenges faced by the Sahel region?**
3. **How have recent military coups in Niger, Guinea, Mali, Burkina Faso, and Chad impacted the socio-economic conditions of the region?**
4. **The Sahel region is vital for India in terms of critical resources like oil, gas, and uranium. Comment.**
5. **How can India contribute to sustainable solutions in the Sahel to strengthen its global leadership aspirations?**

*(Jamal M. Moosa is the chairperson of the Centre for African Studies, SIS, JNU.)*



**Environment**

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# River interlinking, a solution to water scarcity and drive development?

How does the river interlinking seek to address the uneven distribution of water resources and improve irrigation, water supply, flood control, and foster development?

Written by **Abhinav Rai**

India is home to 17% of the world's population but has access to only 4% of the world's freshwater resources, and these water resources are unevenly distributed across the country. In this context, the river interlinking project is an ambitious initiative designed to tackle the challenges posed by topography, climate, natural disasters, and the unequal distribution of water resources.



*A view of the Betwa river. (File)*

But when and how did the idea of interlinking rivers first emerge, and how do the river interlinking projects aim to improve irrigation, flood control, and water supply?

## River interlinking in India: An overview

River interlinking is a large-scale water management strategy involving human-induced water redistribution from surplus water areas to areas experiencing shortages. The strategy involves connecting two or more basins through a network of canals, reservoirs, pipelines, etc. These inter-basin water transfer (IBWT) projects aim to enhance irrigation potential and flood control and improve water supply in drought-prone areas.

The idea of interlinking rivers goes back to 1858 when Captain Arthur Cotton, a British Army engineer, first proposed linking rivers through canals, mainly for inland navigation. Dr K.L. Rao proposed the 'Ganga-Cauvery Link Canal' post-independence in 1972. In 1977, Captain Dinshaw J. Dastur proposed a "National Garland Canal" scheme.

The inter-basin water transfer will change the river morphology and also have an impact on the physical and chemical composition of the sediment load.

However, the government considered both proposals to be not feasible for techno-economic reasons. In 1980, the Ministry of Irrigation (Now the Ministry of Water Resources) framed the National Perspective Plan (NPP) for inter-basin water transfer. The plan identified 30 link projects divided into two components: 14 Himalayan and 16 Peninsular link projects.



Subsequently, in 1982, The National Water Development Agency (NWDA) was set up to study and implement river interlinking projects. In 2002, in response to a Public Interest Litigation or PIL, the Supreme Court ordered the government to complete all river links within 12 years, bringing the issue to the forefront of political and legislative discussions.

## **Ken-Betwa Link Project**

On December 25, 2024, Prime Minister **Narendra Modi** laid the foundation stone of the Ken-Betwa Link Project (KBLP) in Madhya Pradesh's Khajuraho. The project aims to provide irrigation to Bundelkhand, one of India's most drought-affected regions. In this project, surplus water from the Ken River in Madhya Pradesh will be transferred to the Betwa River in Uttar Pradesh. Both of these rivers are right-bank tributaries of the Yamuna River.

The Union Cabinet had approved Rs 44,605 crore for this project. The KBLP has two phases. The Daudhan Dam complex, Ken-Betwa Link Canal (length 221 km), and its subsidiary units will be built in the first phase. Phase II will have three components: the Lower Orr Dam construction, the Bina Complex Project, and the Kotha Barrage.

The project will irrigate 10.62 lakh hectares (8.11 lakh ha in MP and 2.51 lakh ha in UP) of land annually and supply drinking water to about 62 lakh people. This project will generate 103 MW of hydropower and 27 MW of solar energy. The project passes through Panna Tiger Reserve. There are concerns about the submergence of a part of this critical tiger habitat. KBLP is the first project under the National Perspective Plan that is currently being implemented.

## **Significance of river interlinking for India**

The river interlinking is seen as addressing the problem of water distress in agriculture, regional imbalances in water availability, and alleviating the impact of flood and drought. Indian agriculture is heavily dependent on monsoonal rainfall, which can sometimes be uncertain and spatially unevenly distributed. The uncertainty in rainfall characterised by prolonged dry spells and fluctuations in seasonal and annual rainfall are major concerns for farmers and the government.

The scheme aims to transfer about 200 billion Cubic Meters (BCM) of water annually from water-rich to drought-prone regions. It will irrigate 34 million hectares of agricultural land and generate 34,000 MW of substantial hydropower. It will ensure continuous and reliable water supply for irrigation, which can hugely increase the country's agricultural productivity and foodgrain production.

Additionally, interlinking projects will lead to equitable access to water resources for drinking and industrial uses by reducing regional imbalances in current water availability. They will also help mitigate floods' impacts by storing excess water in reservoirs. Simultaneously, this stored water can be used to provide relief during droughts. Equitable and reliable water supply will also support industries and help in employment generation.

## **Environmental and social concerns**

The NWDA has conducted studies that suggest the water redistribution scheme is technically feasible. However, the feasibility of a river interlinking plan is a complex issue and depends upon various technical, environmental, economic and social factors. The inter-basin water transfer will change the river morphology and also have an impact on the physical and chemical composition of the sediment load. Subsequently, it will also affect the water quality and ecosystem of the region.

Moreover, the large-scale diversion of river water can disrupt the river's natural ecosystem and affect the habitat of the



various species. Water transfer may also disturb the inter-relationship between rivers and climatic attributes such as temperature, precipitation and Humidity. Canals and reservoirs can alter the migratory routes of fish and other species, which, as a result, will decline, eventually leading to biodiversity loss.

The construction of canals and reservoirs will cause significant social disruptions mainly due to the mass displacement of populations. Their rehabilitation and resettlement will be major challenges. Water is a state subject, and some conflicts exist among states regarding water-sharing-related issues. So, cooperation from the concerned states will also be needed.

Moreover, these projects are excessively expensive and may even surpass their initial cost estimates. Their implementation will burden the country's economy. Also, such large-scale projects often suffer from time and cost overruns, diminishing their economic viability. Apart from economic viability, such large projects also raise social and environmental concerns.

Therefore, the economic feasibility of these large-scale projects needs to be assessed against more cost-effective, sustainable, and environment-friendly alternatives such as rainwater harvesting, local water conservation, and efficient irrigation. It may be more suitable to explore such localised solutions alongside these large-scale projects to identify the best fit for the specific region, with climate resilience planning.

## **Post Read Questions**

- 1. What is the river interlinking project, and what challenges does it aim to address? When did the idea of interlinking rivers first emerge, and who proposed it?**
- 2. How do river interlinking projects aim to improve irrigation and water supply in drought-prone areas, and contribute to flood control?**
- 3. How will inter-basin water transfer affect river morphology and the physical and chemical composition of sediment load?**
- 4. What are the technical, environmental, economic, and social factors that affect the feasibility of the river interlinking project?**
- 5. Can localised solutions like rainwater harvesting and efficient irrigation complement large-scale water projects?**

*(Abhinav Rai is a Doctoral candidate at the Department of Geography, Delhi School of Economics, University of Delhi.)*



**Economy**

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# Why is GDP considered a key measure of economic growth?

With the Economic Survey 2024-25 projecting a growth rate of 6.3-6.8 percent for the next financial year, it's important to examine GDP, the fundamental measure of economic growth.

Written by **Meera Malhan, Aruna Rao**

India's economy is expected to grow between 6.3% and 6.8% in the financial year 2025-26, as per the **Economic Survey 2024-25** presented in Parliament by Finance Minister **Nirmala Sitharaman**. The report highlights that domestic growth levers will play a more significant role in driving economic growth than external ones in the coming years.

A key measure of economic growth is the Gross Domestic Product (GDP). Let's understand what is GDP, and why is it widely used as an economic metric?



Union Finance Minister Nirmala Sitharaman presents the Economic Survey 2024-25 in the Lok Sabha during the Budget session of Parliament, in New Delhi, Friday, January 31, 2025. (Sansad TV via PTI Photo)

## GDP: A key measure of economic growth

Gross Domestic Product (GDP) is an important macroeconomic indicator that measures the economic growth of a country. It is also an easy parameter for comparing the growth of a country with that of other countries in the world. The disadvantage of this measure is that it is an average numerical indicator that does not capture inequalities, unemployment, the rural-urban divide, or income percentiles. Despite these drawbacks, GDP remains a frequently used metric because of the way it is measured.

GDP is the sum of the market value of all the final goods and services produced within the geographical boundaries of a country each year. If a country produces "n" commodities each year with quantities represented by  $q_1$  to  $q_n$  and their corresponding market prices denoted as  $p_1$  to  $p_n$ , then GDP is calculated by multiplying the price per unit with the total quantity produced and summing it across all goods and services. This is indicated in a mathematical format below:

$$\text{GDP} = (q_1 \times p_1) + (q_2 \times p_2) + (q_3 \times p_3) + \dots + (q_n \times p_n)$$



## Advantages and disadvantages of using market values

However, while using market values provides a standardised and convenient method for economic measurement, it also has advantages and disadvantages.

### Advantages

The market value of goods and services refers to the prices at which they are sold to the final consumer (inclusive of all taxes). Using market value offers certain advantages:

- a) Aggregation of goods and services:** Prices provide a common unit for adding up the value of different goods and services, which are otherwise measured in different physical units. This enables GDP to be represented as a single value
- b) Economic importance:** Market prices reflect differences in the relative economic importance of different goods and services.

### Disadvantages

- a) Exclusion of non-marketed goods and services:** Some goods and services like homemaking, child rearing, and clean air are not sold in the formal market. Therefore, actions taken to improve these aspects, such as to reduce pollution, are not reflected in GDP. If suitable adjustments could be made to include these contributions, the value of GDP would increase and would be more representative.
- b) Partial inclusion of non-marketed goods and services:** Some non-marketed goods and services are partially incorporated in official GDP calculations. Some of these are:
  - **Legal activities:** Transactions hidden from government records mainly to evade taxes or regulatory compliance.
  - **Illegal activities:** Activities such as drug trafficking, gambling, and prostitution. In a country like India, where the shadow economy is large, not accounting for this in GDP calculations would lead to a gross underestimation of economic output.
- c) Government-provided services:** One very important component that doesn't pass through the market is the value of services provided by the government like defense, infrastructure, public health, and education. So, no market values are available for the government's contribution to GDP. This could also lead to an underestimation of the GDP. The solution lies in valuing these services at their cost of provision – referred to as “factor cost”.

A similar principle applies to the distinction between final and intermediate goods in GDP measurement.

## Final and intermediate goods

GDP accounts for the value of only newly produced goods – goods produced during the year for which GDP is being calculated, normally taken as the financial year. For example, the price obtained from the resale of a house is excluded from GDP, as the house was not constructed in the year of estimation. However, the value of the services provided by the real estate agent involved in the sale of the house is included in GDP, as it is new income generated during the year of estimation.



GDP ignores all transactions in which money or goods change hands without the production of new goods or services. Therefore, the sale of bonds and stocks is not counted because they are exchanges of paper assets rather than real physical assets. Similarly, profits from the sale of stocks and bonds are excluded from GDP for the same reason.

Only final goods and services are included in GDP. Intermediate goods — those goods which are used as inputs in the production of other goods — are excluded to avoid double counting. Sometimes, the distinction between final and intermediate goods can be subtle. For instance, a tool purchased by a carpenter is considered an intermediate good, as it is used to produce other final goods. However, if the tool continues to be useful for further production in future years, it is considered a capital good – a special type of final good – due to its continued usefulness.

Another example is electricity: when consumed by a household, it is considered a final good, but when consumed by a factory during the production process, it is treated as an intermediate good. Similarly, inventory investment — goods produced during the year of estimation but not sold in that year — is also treated as a final good in GDP calculations.

Thus, while reliance on market values ensures a practical and consistent approach to measuring economic activity, the distinction between final and intermediate goods helps maintain accuracy in calculations.

## Post Read Questions

1. **Why is GDP considered a fundamental measure of a country's economic growth?**
2. **How does GDP maintain accuracy in economic measurement?**
3. **What role does the distinction between final and intermediate goods play in GDP calculations?**
4. **What is the main advantage of using market values for economic measurement?**
5. **In what ways can the disadvantages of using market values be addressed or mitigated in economic analysis?**

*(Meera Malhan and Aruna Rao are Professors in economics at Delhi University. In the second part of the article, the authors will analyse methods of measuring GDP.)*



# UPSC SPECIALS

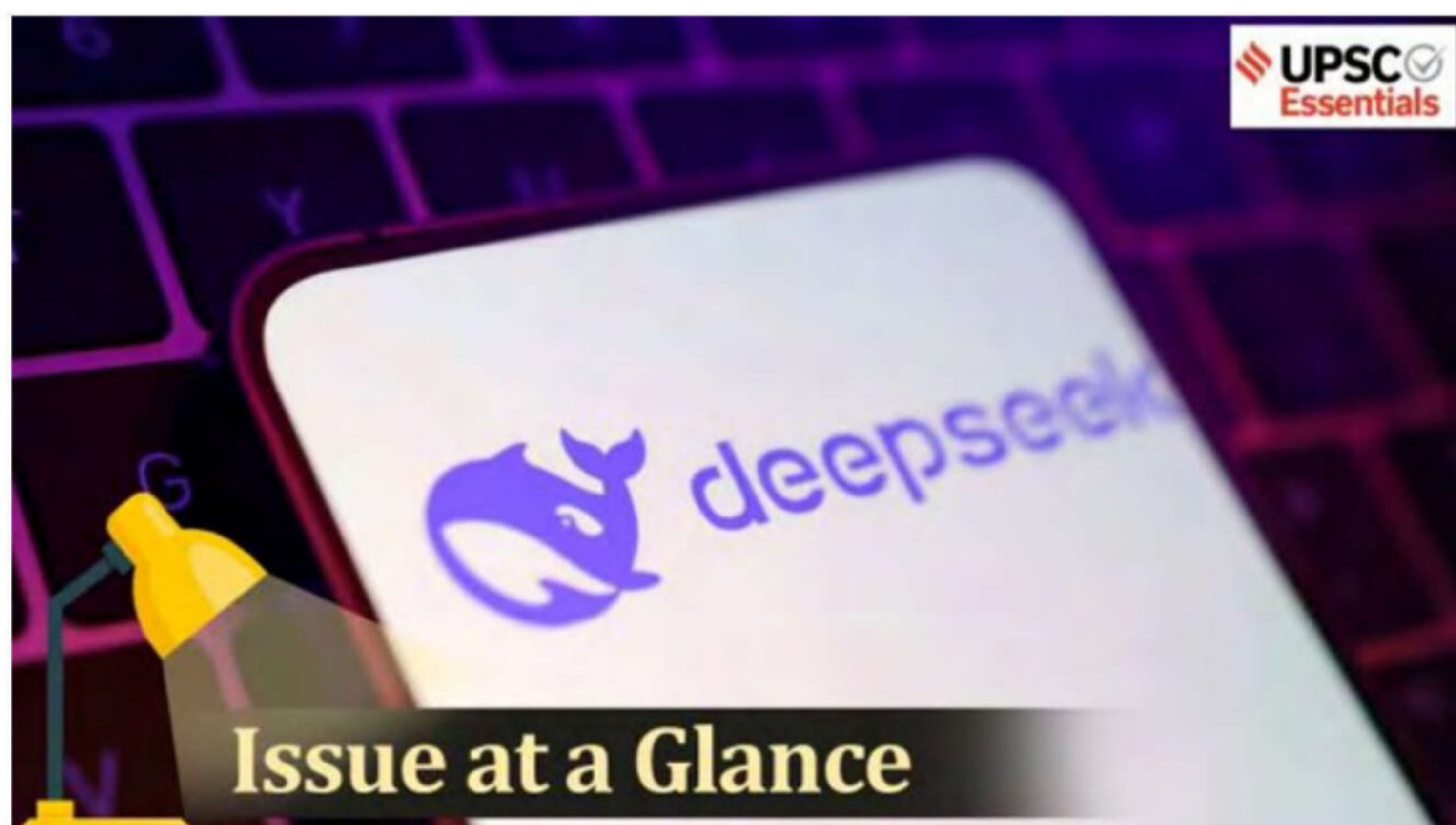
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## Issue at a Glance

# DeepSeek breakthrough

Recently, Chinese AI lab DeepSeek's two new AI models hit the headlines and have been referred to as a 'Sputnik moment' in the history of AI. Here's everything you need to know about these developments, including their features and the lessons they hold for India.

Written by **Roshni Yadav**



Deepseek logo is seen in this illustration taken January 27, 2025. (REUTERS/Dado Ruvic/Illustration)

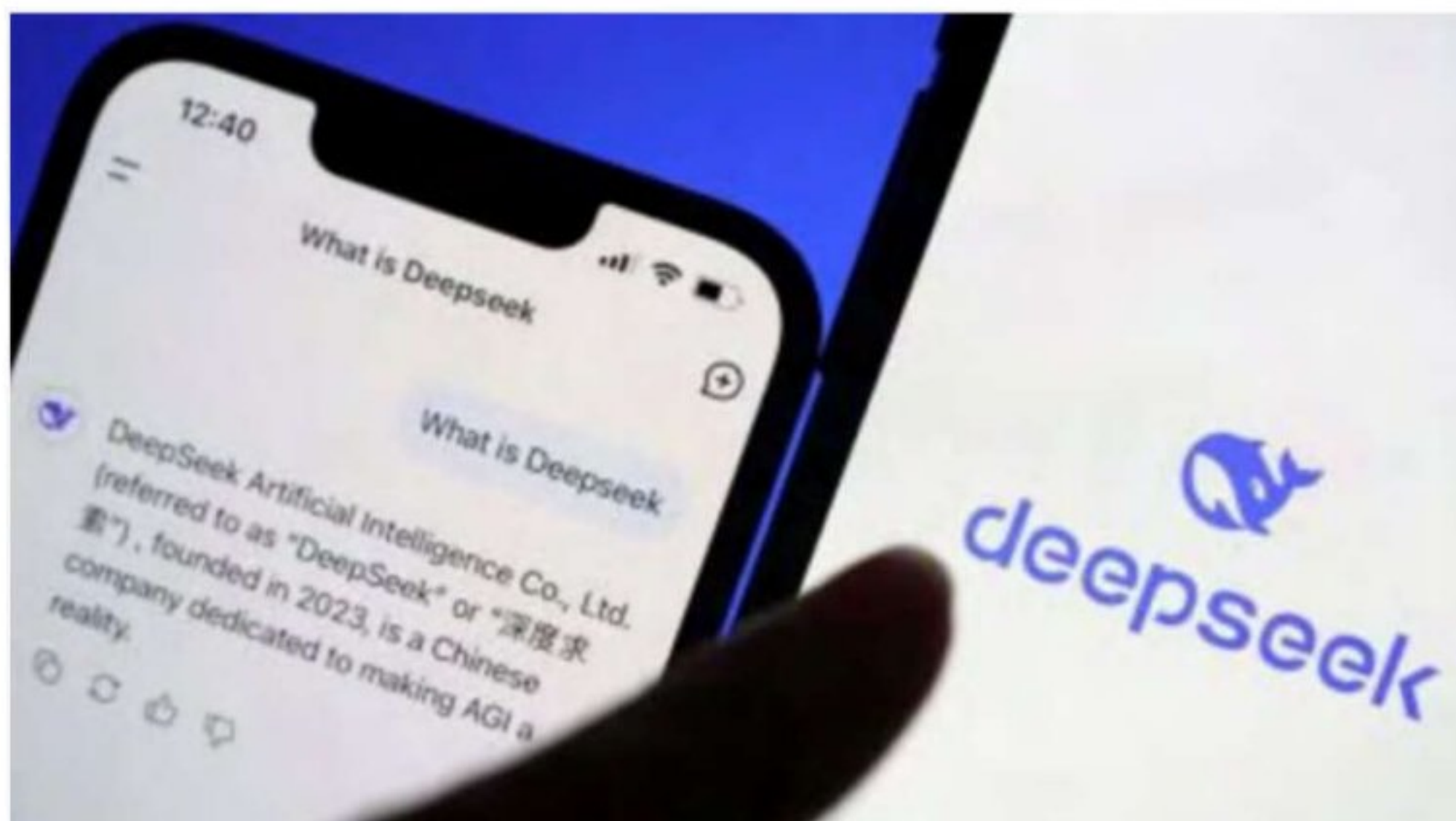
## What is the issue?

In the past few days, the world has turned upside down. Tech stocks have lost \$1 trillion, and the United States is no longer the sole leader of artificial intelligence (AI), as it once claimed. This shift in dynamics is all because of the meteoric rise of Chinese AI startup **DeepSeek**. In recent weeks, DeepSeek has captured global attention and shaken up Silicon Valley and Washington, D.C., with the introduction of its AI models—DeepSeek-V3 and DeepSeek-R1, a reasoning model. In what some are calling a “**Sputnik moment**,” **DeepSeek** appears to have surpassed companies like OpenAI, **Google**, and Meta in the high-stakes AI race.



## Why is this issue relevant?

The DeepSeek breakthrough is relevant for the UPSC CSE exam because artificial intelligence and emerging technologies are integral topics in General Studies Paper III. Furthermore, UPSC has previously asked questions on AI, thus knowing about the major developments in this domain is crucial. UPSC aspirants will also find this topic useful for essays and current affairs, as well as for their personality tests.



*DeepSeek breakthrough is a direct challenge to the idea that AI progress depends on enormous computational power, vast datasets, and billions in funding (Reuters illustration)*

## What will you learn from this article?

1. **What is DeepSeek?**
2. **How is DeepSeek different from other AI players?**
3. **What are the lessons for India from the DeepSeek breakthrough?**
4. **How are countries regulating AI?**

## Question 1: What is DeepSeek?

**DeepSeek is a Chinese AI company** located in Hangzhou, founded by entrepreneur Liang Wenfeng, who also serves as the CEO of the quantitative hedge fund High Flyer. Wenfeng began working on AI in 2019 with his company, High Flyer AI, which focuses on research in this field.

Recently, DeepSeek launched its AI models—DeepSeek-V3 and DeepSeek-R1, a reasoning model. These models quickly gained popularity, surpassing ChatGPT to become the most downloaded app on the App Store. DeepSeek-V3 and DeepSeek-R1 compete with OpenAI's advanced models, o1 and o3, as the Chinese lab achieved this feat only with a fraction of their investments.

Here are a few other open-source AI models developed by DeepSeek:

- ♦ **DeepSeek Coder:** An open-source AI model designed for coding-related tasks.
- ♦ **DeepSeek LLM:** An AI model with a 67 billion parameter count to rival other large language models (LLMs).
- ♦ **DeepSeek-V2:** A low-cost AI model that boasts of strong performance.
- ♦ **DeepSeek-Coder-V2:** An AI model with 236 billion parameters designed for complex coding challenges.
- ♦ **DeepSeek-V3:** A 671 billion parameter AI model that can handle a range of tasks such as coding, translating, and writing essays and emails.
- ♦ **DeepSeek-R1:** An AI model designed for reasoning tasks, with capabilities that challenge OpenAI's marquee o1 model.



♦ DeepSeek-R1-Distill: An AI model that has been fine-tuned based on synthetic data generated by DeepSeek R1.

*In this context, a question naturally arises: What makes DeepSeek AI models unique, and how do they stand apart from other AI players? Let's understand what sets DeepSeek apart in the evolving world of artificial intelligence!*

## Question 2: How is DeepSeek different from other AI players?

DeepSeek appears to have surpassed major players like OpenAI, Google, and Meta in the competitive landscape of AI development. The lab's newly released open-source reasoning model, DeepSeek R1, is reported to outperform leading AI models, such as OpenAI's o1, on key math and reasoning benchmarks. Broadly, two factors make DeepSeek the talk of the town .i.e. its state-of-the-art technology and affordable cost.

### State-of-the-art technology

**1. Open-sourced nature:** DeepSeek models are open-source, unlike the closed models from OpenAI and Google. This means that other companies, especially small developers, can build on top of DeepSeek's model and improve it without paying license fees. The potential is huge—rather than developing their own models, companies can modify and deploy DeepSeek's models at a fraction of the cost. This could drive mass AI adoption at scale.

**Bijin Jose writes**— What sets DeepSeek models apart is their performance and open-sourced nature with open weights, which essentially allows anyone to build on top of them. The DeepSeek-V3 has been trained on a meagre \$5 million, which is a fraction of the hundreds of millions pumped in by OpenAI, Meta, Google, etc., into their frontier models.

***“DeepSeek’s strategy of using open-source models can have a huge impact on the AI community at large, opening up the AI market and providing access to AI tools for a broad set of users, especially smaller businesses.” – Anuj Bhatia, The Indian Express***

**2. MoE and MLA:** DeepSeek-V3 stands out due to its architecture, known as Mixture-of-Experts (MoE). In MoE models, multiple specialized models collaborate to answer questions rather than relying on a single large model to handle everything. Additionally, the model employs a new technique called Multi-Head Latent Attention (MLA), which enhances efficiency and reduces the costs of training and deployment. This enables DeepSeek-V3 to compete with some of the most advanced models available today.

**3. Reinforcement Learning:** DeepSeek's success can be attributed to a concept known as reinforcement learning. This approach allows AI models to learn through trial and error, improving themselves through algorithms. It is quite similar to how humans learn from their experiences. Essentially, DeepSeek's models learn by interacting with their environment and receiving feedback based on their actions. As a result, these AI models become better at reasoning and are capable of solving complex problems. Additionally, DeepSeek has excelled in distilling the capabilities of its large models into smaller, more efficient ones.

**4. Test-Time Compute:** The DeepSeek-R1 model is another offering from DeepSeek, featuring a unique capability known as test-time compute, which allows it to 'think' while generating responses. R1 utilizes the same Mixture-of-Experts (MoE) architecture and often matches or surpasses OpenAI's top model in areas such as mathematics, coding, and general knowledge. Unlike OpenAI's O1 model, which takes time to process prompts and generate optimal responses, R1 demonstrates its reasoning process in real time, revealing its chain of thought as it produces output.

Hence, one can see that DeepSeek has essentially delivered a state-of-the-art model that is competitive. Moreover, the company has invited others to replicate their work by making it open-source.



More cheap and affordable

*“OpenAI is highly overvalued. I think we saw their business model sort of blow up over the last few days with DeepSeek basically giving away for free what they [OpenAI] wanted to charge money for,”* Gary Marcus, a professor at New York University (NYU), said in an interview with CNBC on Tuesday, January 28.



Deepseek app is seen in this illustration taken on Tuesday. (Photo: Reuters)

DeepSeek’s AI models have been hailed as a research breakthrough as they demonstrate that it is possible to develop competitive, frontier AI models using less cash and fewer GPUs – as opposed to the billions of dollars spent by OpenAI, Meta, **Google**, **Microsoft**, and others to do the same.

It is generally believed that **training AI models requires significant investments**. However, **DeepSeek** has minimised the enormous costs associated with infrastructure and hardware. By utilising NVIDIA H800, which is considered an older generation of GPUs in the United States, DeepSeek has dramatically reduced the expenses related to building its AI models. In contrast, major American AI companies have opted for the more advanced NVIDIA H100 GPUs. DeepSeek, however, chose the less powerful version—NVIDIA H800, which is reported to have lower chip-to-chip bandwidth.

### Do you know ?

In 2022, **US regulators put in place rules that prevented NVIDIA** from selling two advanced chips, the A100 and H100, citing national security concerns. These chips are essential for developing technologies like ChatGPT. Following the rules, NVIDIA designed a chip called the A800 that reduced some capabilities of the A100 to make the A800 legal for export to China. DeepSeek engineers reportedly relied on low-level code optimisations to enhance memory usage.

Additionally, the DeepSeek-R1 model is reported to be 90-95% more affordable than OpenAI’s model O1. Another important aspect of building AI models is training, which requires significant resources. According to the research paper, the Chinese AI company has only trained the essential parts of its model using a technique called Auxiliary-Loss-Free Load Balancing.

DeepSeek has undoubtedly shaken the world of AI, challenging the long-standing dominance of the US, which has led the AI race with major players like OpenAI and Google. Now, China’s DeepSeek is changing the landscape. But *where does India stand in this race for AI dominance? More importantly, what can India learn from the DeepSeek breakthrough to shape its own AI future?*



### Question 3: What are the lessons for India from the DeepSeek breakthrough?

*“DeepSeek’s AI models have not only given Western AI giants a run for their money but also sparked fears that the US may struggle to maintain its AI primacy in the face of a brewing tech cold war with China.” - Karan Mahadik, The Indian Express*

**DeepSeek’s technological achievement** has stunned the world, from Silicon Valley to the global AI stage. However, China’s growing dominance in AI raises critical questions about India’s position, especially given the lack of an AI lab or startup that rivals the capabilities of OpenAI or DeepSeek. In this context, India can draw key lessons from the DeepSeek breakthrough:

**1. AI is everyone’s game:** DeepSeek’s breakthrough in the AI field demonstrates that if foundational AI models can be trained cost-effectively, it lowers the barriers for nations eager to develop their own models. By reducing the fixed costs associated with building these models, resource-constrained countries can better compete, despite challenges such as limited GPU availability and insufficient funding for both foundational models and the required data. This means that AI is an accessible domain for everyone. Regardless of which country leads in this area, any nation can reap the benefits of the AI race.

**Sarjan Shah writes-** As the Chinese breakthrough shows, necessity is indeed the mother of invention. By proving that progress does not depend on massive resources, this development offers hope that AI can be a tool for everyone — not just the few with billions to spend. It’s a reminder that in the end, intelligence — whether artificial or human — is about thinking differently.

**2. Wealth Builds, But Wisdom Innovates:** While AI companies typically require billions in investments to train their models, DeepSeek’s innovation showcases the effective use of limited resources. This proves that groundbreaking advancements are not solely dependent on funding but also on vision and adaptability. It also reinforces how necessity can drive innovation in unexpected ways. Thus, promoting research and development is key to resourceful innovation.

*“DeepSeek is a reminder that money buys many things, but it is not everything; certainly not love or the capacity for innovation. If the US is seen as pouring billions of dollars into building more computing power and better AI models, DeepSeek has shown it is possible to do more with less.” - C. Raja Mohan*

**C. Raja Mohan writes-** That should give hope for India and other middle powers like France. The gap between the US and China is much less than that between the two of them and the rest. While the middle powers can’t keep pace with the US and China, they could do enough to stay in the AI game.

**3. AI Diplomacy-Navigating Partnerships for Progress:** The Chinese breakthrough in AI represent not only a technological breakthrough but also a significant geopolitical development. In this context, India should be open to collaboration with other countries to leverage the benefits of advancements in AI.

**C. Raja Mohan writes-** The Biden Administration was open to partnership with India, but concerns about leakage of technology from India to Russia had put a dampener on the kind of access the US is willing to offer India on AI chips. For Delhi, the time is now to decide on how much weight it is willing to give Russia in advancing its interests with the US on the AI game.



## What is Stargate?

Stargate is a \$500 billion initiative aimed at creating an AI infrastructure in the US over the next four years. This is an ambitious project that aims to propel the US into global leadership in AI advancements. Stargate would include construction of massive data centers and campuses across the US.

Another important lesson from the DeepSeek breakthrough is that the Chinese company achieved this milestone despite sanctions that limited their access to advanced chips and cutting-edge hardware. So, here's a question—*what is the different country's approach to regulating AI?*

### Question 4: How are countries regulating AI?

With the advancement of AI technology, governments and policymakers around the world are increasingly focused on artificial intelligence. Nations appear to be in a relentless competition to outpace each other, believing that those who fall behind will ultimately be the losers. However, many concerned voices among them have valid reasons for their worries.

Geoffrey Hinton, a pioneer in the field of AI, has highlighted the potential for AI to surpass human intellectual abilities. He has said that AI “will be comparable to the industrial revolution,” but he has also warned that “we also have to worry about a number of possible bad consequences, particularly the threat of these things getting out of control.” Thus, it is essential to remember how disruptive new technologies can be for societies and economies.

**The concerns regarding advancements in AI** can be categorized into three main areas: **privacy, system bias, and violations of intellectual property rights**. Interestingly, policy responses to these issues vary across different jurisdictions.

The European Union has taken a notably stricter approach by proposing regulations that classify AI based on specific use case scenarios, assessing them according to their level of invasiveness and risk. In contrast, the UK adopts a decidedly ‘light-touch’ approach, aiming to encourage innovation rather than hinder it in this emerging field.

The United States’ approach is positioned somewhere in between these two extremes, with indications of potential further deregulation. China has also introduced its own measures to regulate AI.

India has emphasized the need to address the challenges posed by the weaponization of social media, advocating for steps to ensure that AI promotes safety and trust, even as the technology presents significant opportunities.

On the global stage, 29 countries and the European Union, including the United States, the United Kingdom, and China, have agreed to the Bletchley Declaration. This marks the first global agreement aimed at addressing the risks associated with advanced artificial intelligence (AI). The declaration lays out plans for greater transparency from AI developers regarding safety practices and more scientific collaboration on understanding AI’s risks.



## Paris AI summit

Amid growing concerns over how to develop regulatory oversight of artificial intelligence, without stifling the AI ecosystem, global leaders are set to gather in Paris on February 10 for a two-day AI Action Summit. This builds on a AI Safety Summit held in Britain in Bletchley Park in 2023 and a smaller meeting in Seoul in 2024. Notably, the **Paris summit** is an initiative of French President Emmanuel Macron. It focuses on the broader agenda of global AI governance, innovation, and on ways of serving the larger public interest. Prime Minister **Narendra Modi** is set to co-chair the Paris Summit and has accepted the invitation to travel to France.

The regulation of AI is continuously evolving in response to advancements in the field. Each country's approach to AI regulation is something we should closely watch, especially as the AI landscape becomes more fascinating than ever. *By the way, have you heard about Kimi K1.5?*



Prime Minister Narendra Modi is set to co-chair the Paris AI Summit and has accepted the invitation to travel to France. PM Modi with French President Emmanuel Macron. (File photo)

## Post Read Questions

### Prelims

(1) With the present state of development, Artificial Intelligence can effectively do which of the following? (UPSC CSE 2020)

1. Bring down electricity consumption in industrial units
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text-to-Speech Conversion
5. Wireless transmission of electrical energy



Select the correct answer using the code given below:

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

**(2) Consider the following statements with regard to the Bletchley Park Declaration:**

1. The declaration was signed by 29 countries and the European Union.
2. Frontier AI is defined as highly capable foundation generative AI models that could possess dangerous capabilities that can pose severe risks to public safety.
3. The United States, China, Japan, the United Kingdom, France, and India are not signatories to the declaration.

How many of the statements given above is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

### **Mains**

**What are the main socio-economic implications arising out of the development of IT industries in major cities of India? (UPSC CSE 2021)**

#### **Prelims Answer Key**

**1. (b) 2. (b)**

(Sources from indianexpress.com - Deepseek: [How open-source AI is disrupting big tech's monopoly](#) , [How DeepSeek's origins explain its AI model overtaking US rivals](#), [DeepSeek's rise could make OpenAI the WeWork of AI](#), [Liang Wenfeng, Is this China's ChatGPT moment and a wake-up call for the US?](#), [What's on the agenda of the Paris AI summit](#), [DeepSeek's Sputnik moment](#), [In DeepSeek breakthrough, lessons for India](#))



**ESSAYS SIMPLIFIED**

# ‘Dreams which should not let India sleep’ — A past year question that tests IAS aspirants’ patriotism

What should you include in your essay to demonstrate to the UPSC that you are both aware of the challenges facing the country and optimistic about achieving its goals? In ‘UPSC Essays Simplified’, let’s explore a model essay on a past year’s popular topic that remains highly relevant even today.

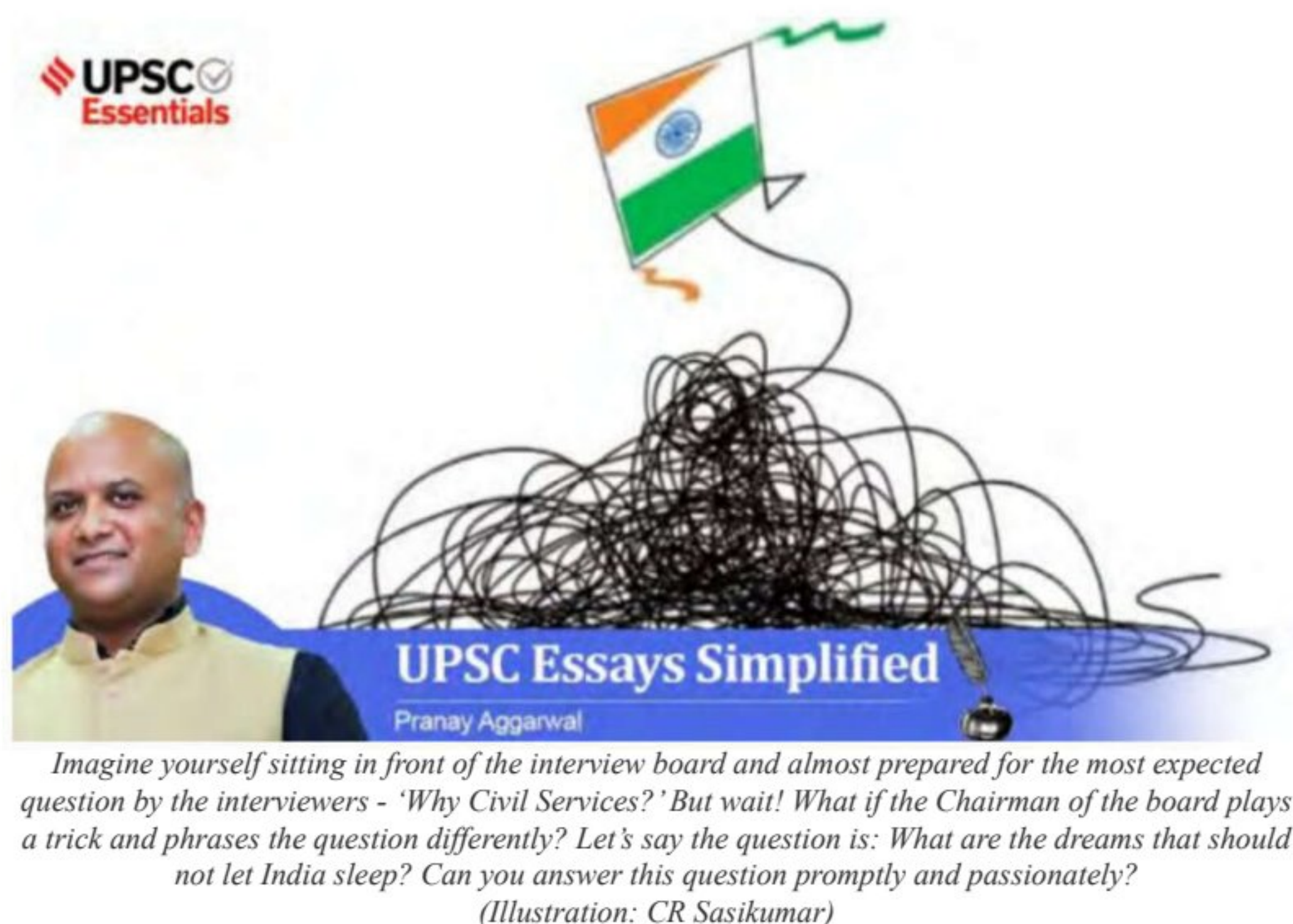
As India proudly celebrates its 76th Republic Day, have you ever reflected on the dreams envisioned by the framers of our Constitution? Their aspirations for the nation’s future—our present—remain as relevant today as they were decades ago. What may seem like a question posed to a school-going child continues to hold significance for citizens of all ages, particularly for aspiring civil servants.

Now, imagine yourself sitting before the interview board, fully prepared to tackle the most

anticipated question: “Why Civil Services?” But wait—what if the Chairman decides to challenge you by rephrasing the question? Consider this scenario: **“What are the dreams that should not let India sleep?”**

Could you respond to this question promptly, passionately, and with conviction? This thought-provoking query is designed to assess a candidate’s sense of purpose, their commitment to public service, and their understanding of the ground realities India faces today. Furthermore, this theme poses an even greater challenge when framed as a topic for a written exam or essay. It compels one to explore the enduring dreams and unfulfilled promises that still demand action and resolution in our nation.

When the UPSC asked this question ten years ago, in 2014, an aspirant might have thought, “What should I write to show the examiner that I understand the problems facing the country while remaining optimistic about achieving the goals?” This article will provide you with the answer.





***Dreams which should not let India sleep!* — Pranay Aggarwal**

As a child, I came across Gandhi's talisman in school textbooks. What has stayed with me is its poignant gist – Bapu's ambition was "to wipe every tear from every eye". Delivering his iconic 'tryst with destiny' speech at the birth of independent India, then Prime Minister Nehru too laid down a vision for modern India – as a prosperous, democratic and progressive nation. Ambedkar, in his last speech in the Constituent Assembly, envisioned a society where liberty, equality and fraternity are the governing principles of social life. Several other statesmen similarly outlined their visions for the shape our post-colonial nation should take. Well, times have changed. And so has India – substantially. It is about time we renew our national vision in keeping with the present realities. In all humility, what follows is a **common man's uncommon charter for our nation** in the 21st century.

**To become a developed country with high standards of living** within our lifetime is the first and foremost of these dreams. While aiming to become one of the world's largest economies with high per capita income, we also must be cognizant of the need to completely eradicate poverty in all its forms and reduce structured inequalities along the way. Consistently high rates of economic growth accompanied with jobs creation, equitable access to resources, and targeted welfare programs can help bridge this gap. We must prioritize inclusive growth with ample opportunities for social mobility; so that development benefits all, especially the marginalized.

The dream of ensuring access to quality education for every child, regardless of family background, remains an abiding inspiration. **Let there be no 'Chhotu' serving in a roadside dhaba** in my India of the future. Likewise, affordable healthcare services also must be available to all, especially the underprivileged and the elderly. **Let no pregnant woman die unattended during childbirth because the nearest hospital was too far.** As we seek to realize these dreams, we will also become a more compassionate society.

Maintaining **ecological balance** and preserving our rich biodiversity is another dream that should keep us awake. With the looming threats of climate change and extreme weather events already a reality; this is a non-negotiable. We will have to take bold steps to address ecological issues and protect the rights of nature-based communities (like tribals). Raising ecological consciousness, promoting green technologies, and ensuring responsible industrialization will ensure that we leave behind a healthy and livable environment for future generations.

Another vision is **to create a society where women are equal participants in every aspect** – social, economic, and political. Empowering women is not only important for social justice, but is also necessary for national growth. Ensuring women's safety, promoting girls' education, providing equal opportunities in the workforce, and addressing gender inequalities both inside and outside homes are essential to unlock the full potential of the nation.

I envision a **united and harmonious India**, free from communal, caste, and ethnic divides. Social harmony is imperative for a peaceful and prosperous society. Emphasizing tolerance and respect for diversity, which are in any case a part of our civilizational being, must also remain at the core of our national vision in the 21st century.

I dream of **India as a global leader** – an important, assertive, and responsible nation shaping international geopolitics and as the fulcrum of the world economy. Our chances of realizing this dream are intrinsically linked to our abilities to augment our defense capabilities and project our soft power. Strengthening our military forces, defense modernization and ensuring internal security are essential to protect our sovereignty and maintain peace so necessary to achieve our other dreams. Of course; being a democracy of a billion plus people with a rich cultural heritage, a fast growing and large economy, and the world's second largest military force; nuclear capable India is uniquely poised to shape global discourse. We need to play to our strengths, and work on our vulnerabilities.

Finally, **let us dream of a people proud of their cultural heritage.** Freed from the shackles of colonial mentality, Indian culture should be cherished and promoted globally. Our traditions, knowledge systems, literature, arts, and



spirituality should be unapologetically celebrated, alongside focus on modern innovations. Countries, quite like people, like those who like themselves. Cultural pride balanced with a progressive outlook will enable India to be a custodian of cultural heritage and a leader in the modern world.

### **What next? “Arise, Awake and Stop Not till the Goal is reached!”**

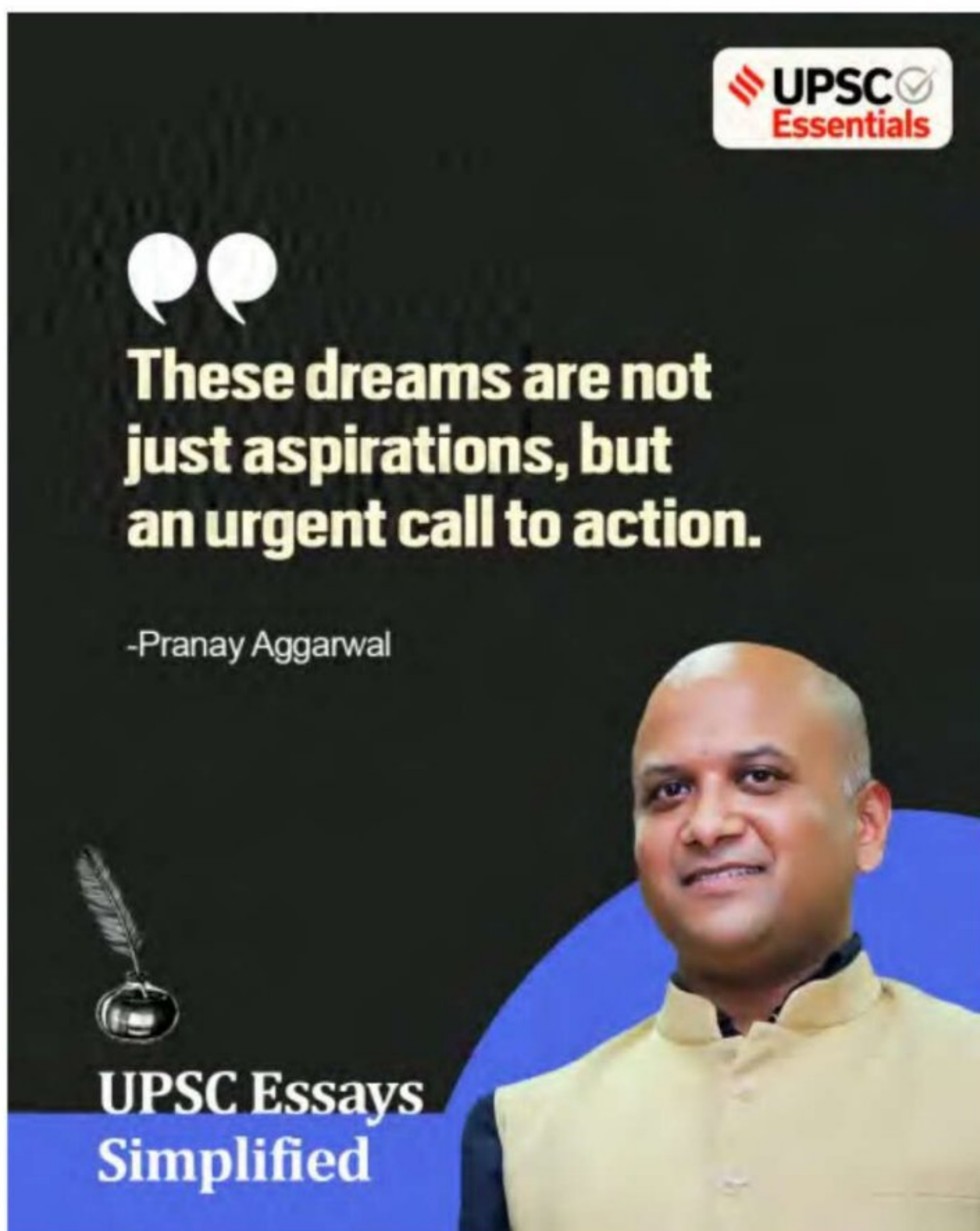
While these dreams may appear ambitious, they are not fantastical. A strong foundation to realize these dreams has already been laid by the founding fathers and subsequent generations of nation-builders; in the form of strong democratic traditions and a living and adaptive Constitution. We are duty-bound to carry the torch of dreams, add our own dreams to it, and pass it to our children. To this end, I have tried to articulate and add ordinary **people’s dreams** to the national discourse. But, admittedly, it’s a small start.

We will have to **forge a wide social and political consensus** on our national vision for the future. Once that is done, we have to translate those dreams into an **operational blueprint** with an effective implementation strategy involving all stakeholders; including the state, industry, and civil society. Finally, these **dreams will begin to take shape** when they move outside the corridors of power and become a people’s movement.

Also, some of these dreams may seem in conflict. For instance, with rapid urbanization and growth, we will encounter growing environmental concerns. We need to strike the right balance between the two; i.e. preserve the environment while ensuring growth; by adopting a sustainable development model. Such debates and conflicts are healthy, and can and should be resolved through deliberation. So, **to achieve our dreams; we shall have to prioritize, ensure cohesion, and resolve any conflicts between them.**

To achieve these dreams, we also **must make critical progress in science and technology**. From space exploration to healthcare innovations; we must prioritize scientific research, spend more on R&D, focus on new technologies, and target economic and social development through digital transformation. Harnessing the power of AI, blockchain, biotechnology, and robotics can aid significantly in achieving our dreams.

Also, for India to achieve its dreams, **good governance is imperative**. Transparent, accountable, and efficient government institutions must become a reality, sooner than later. Fighting corruption, enhancing administrative capabilities, timely implementation of policies, and empowering local governance mechanisms will enable us to reach our full potential.



**UPSC Essays Simplified**

**These dreams are not just aspirations, but an urgent call to action.**

-Pranay Aggarwal

**UPSC Essentials**



The youth hold the key to our country's future. Their energy and ideas must be harnessed to bring about positive change. **Empowering youth** through quality education, skill development, employment, and leadership opportunities will ensure that they play an active role in shaping India's future. An active role for our dynamic and proactive youth needs to be ensured, as the aspirations of today's youth will define the India of tomorrow.

In conclusion, **these dreams are not just aspirations, but an urgent call to action.** These dreams, I sincerely hope, will define India's future. We simply cannot afford to be complacent. We owe it to our forefathers as well as posterity to realize this national vision. Let these dreams be the driving force that stirs our collective conscience. I pledge to commit myself to the realization of these dreams; and wish that you do so too.

**About our Expert:** **Pranay Aggarwal** is an educator and mentor for aspirants preparing for UPSC Civil Services exam. With more than 10 years of experience guiding civil service aspirants, he is acknowledged as an expert on civil service exam preparation, especially on subjects like Social Issues and Sociology. He is the India representative on the Research Committee on Education, Religion and Political Sociology for UNESCO's International Sociological Association and a committee member of Indian Sociological Society and its committee on social movements. He is also the Convenor of Indian Civil Services Association, a think tank of senior bureaucrats.



## UPSC Ethics Simplified

<https://telegram.me/+KSUmQ-87JBE2NTE1> Mags®Papers

# What should Civil Services aspirants know about constitutional values in contemporary times?

An auto driver rushed Saif Ali Khan to safety without payment, showcasing humanity. Would this kindness extend to others? 'It depends on internalizing constitutional values,' explains our ethics expert.

Written by **Nanditesh Nilay**

The Indian Civil Service stands as a cornerstone of our democracy, deeply rooted in the constitutional values that ensure the protection of the common citizen while paving a clear path for policies designed to uplift the nation. Constitution Day is not merely a commemoration; it is a profound reminder of our shared duty to uphold the ideals of freedom, equality, fraternity, and justice. It is a call to remember that the Constitution exists *for the people*, guaranteeing them safety, dignity, and a fair chance in a thriving, inclusive democracy like India.



*True justice does not reside in the vestiges of colonial legacies but in the relentless pursuit of civil rights and the moral compass outlined by our Constitution. For civil servants, this is not just an aspiration—it is a mandate.*

As we celebrate 75 years of the Indian Constitution, we witness an evolution in the very essence of justice. The image of the Goddess of Justice no longer requires a sword to enforce authority or a blindfold to signify impartiality. As former Chief Justice of India, Shri Dhananjay Yashwant *Chandrachud*, remarked, the law must not remain blind. Instead, it must gaze openly and equally upon all citizens, ensuring justice is administered with clarity, empathy, and fairness.

## Why must a civil servant embody these values, not just in actions but in ethical spirit?

True justice does not reside in the vestiges of colonial legacies but in the relentless pursuit of civil rights and the moral compass outlined by our Constitution. For civil servants, this is not just an aspiration—it is a mandate. Their role is to work with integrity, selflessness, and unwavering commitment to the welfare of ordinary citizens.



Constitutional values are the foundation of a just society, ensuring dignity, fairness, and equality for all, irrespective of identity. For civil servants, these values are not abstract ideals; they are the lifeblood of governance. A civil servant's integrity shapes public trust, and their decisions manifest the democratic ideals we strive to uphold.

## But why are constitutional values indispensable?

**Consider this:** imagine someone enquiring about your name or community before completing a simple transaction, or an auto driver questioning your caste or religion before beginning the ride. Such moments expose the cracks in our societal fabric, reminding us of the urgent need to rise above divisive tendencies.

**Contrast this with an act of quiet heroism**—a recent episode involving an auto driver who rushed a passenger, **Saif Ali Khan**, to safety without asking for payment or questioning his identity. It's a story of humanity transcending prejudice. But it also begs the question: would the same altruism have been extended to someone less famous?

The answer lies in how deeply we internalize constitutional values. Look at the Mahakumbh in Prayagraj, where millions from diverse backgrounds unite at the Sangam, dissolving barriers of caste and religion in a shared spirit of harmony. It stands as a testament to the potential of inclusivity and the power of our shared humanity.



*Saif Ali Khan meets auto driver Bhagat Singh Rana who saved his life (Photo: IANS / X)*



*An estimated 40 crore people are expected to participate in the Maha Kumbh Mela, which will continue until February 26, 2025. (Express Photo by Vishal Srivastav)*

## How is the journey of Dr. B.R. Ambedkar offers profound lessons in justice and equality?

As a young boy ostracized for his caste, Ambedkar endured unimaginable hardships. Yet, those adversities became the foundation of his unwavering resolve to champion equality. As the principal architect of the Indian Constitution, he transformed personal pain into a roadmap for societal progress. Reflecting on the contradictions of 1950 India,





*As the principal architect of the Indian Constitution, Ambedkar transformed personal pain into a roadmap for societal progress.*

Ambedkar warned that political equality would mean little without social and economic justice. His vision underscores the urgency of bridging these gaps, even today.

As Adam Smith wrote in *The Theory of Moral Sentiments*, “In solitude, we feel everything related to us very intensely.” Ambedkar’s solitude became the crucible in which he forged a vision for a more equitable India. **Shashi Tharoor** aptly captures this in *Ambedkar: A Life*, highlighting how the Constitution centers on the individual, balancing their rights and responsibilities within the democratic framework.

Yet, as a society, why do we tolerate the erosion of these ideals? Why do caste and religion still divide us when our Constitution champions unity through “Jai Hind”? Technology like AI or **Google** Maps does not discriminate, so why do we? When we board a train or visit a doctor, we don’t question the caste or religion of those responsible for our safety and well-being. This trust embodies the principles of equality and fraternity that guide our Constitution.

Amartya Sen, in *The Idea of Justice*, reminds us that justice must be universal, impartial, and rooted in consequences. Without these values, society fractures. Protecting dignity, life, and rights is not just a constitutional duty; it is the essence of humanity.

Take a moment to imagine standing at Lal Chowk in Kashmir. As we search for our identity within constitutional values, distinctions between Hindu and Muslim fade among the tourists and citizens gathered there. Instead, the sight of the national flag fluttering in the breeze unites every gaze, dissolving divisions of identity. This is the power of constitutional values—a shared identity that transcends differences and anchors us in a collective vision of progress.

On November 25, 1949, in his final speech to the Constituent Assembly, Ambedkar articulated a timeless truth: the strength of a Constitution lies not in its words but in the integrity of those who implement it. “No matter how good a Constitution may be, it can turn out to be bad if those tasked with implementing it lack integrity.” For civil servants, this is a solemn reminder. Governance is not just about policies; it is about embodying the values that make democracy meaningful. Upholding freedom, equality, and justice is not an option—it is a responsibility that defines the future of



our nation.

Let us strive to make our actions a reflection of these values, ensuring that the Constitution remains a living document—a beacon guiding India toward unity, dignity, and progress.

## Post Read Questions for UPSC Ethics paper and Interviews:

*Dear UPSC Aspirants,*

*The above article holds no value if it doesn't guide you to some thought-provoking questions, especially from the perspective of ethics. Try them out.*

- 1. What ethical standards should civil servants hold themselves to in order to maintain the integrity of the Constitution, especially in a diverse democracy like India? Discuss in the light of Ambedkar's remark that a Constitution is only as good as the people who implement it.**
- 2. In the anecdote of the auto driver helping Saif Ali Khan, would the same altruism apply to someone less well-known? How should ethics be independent of the beneficiary's fame, status and identity?**
- 3. The article points out that technologies like AI and Google Maps do not discriminate, yet human interactions often do. How can ethical governance ensure that human values evolve to match the neutrality and fairness seen in technology? Should governments leverage technology to reinforce constitutional values?**

*(The writer is the author of 'Being Good', 'Aaiye, Insaan Banaen', 'Kyon' and 'Ethikos: Stories Searching Happiness'. He teaches courses on and offers training in ethics, values and behaviour. He has been the expert/consultant to UPSC, SAARC countries, Civil services Academy, National Centre for Good Governance, Central Bureau of Investigation (CBI), Competition Commission of India (CCI), etc. He has PhD in two disciplines and has been a Doctoral Fellow in Gandhian Studies from ICSSR. His second PhD is from IIT **Delhi** on Ethical Decision Making among Indian Bureaucrats. He writes for the UPSC Ethics Simplified (concepts and caselets) fortnightly.)*



## Expert's Talk

# What it means to be an IFS or Indian diplomat, tells former Indian High Commissioner to Pakistan

TCA Raghavan highlights the challenges and the role of Indian Foreign Services in the making of our country.

Written by **Manas Srivastava**

*Would you be willing to represent India's interests abroad? As elitist as it might sound, the role of the Indian Foreign Service does more than the on-screen portrayals of Indian diplomats. IFS is not just about protocols, it focuses on substantive issues and has the privilege to be a part of historical developments in Indian foreign relations. So, what is the role of an IFS in representing our country, and how is the life of an Indian diplomat?*



*'For our foreign policy the central challenge has been more or less the same since 1947 – how do you create an external environment conducive to our domestic development?' (Sushma Swaraj Institute of Foreign Service in background)*

**T.C.A. Raghavan, former Indian High Commissioner to Pakistan, tells Manas Srivastava of *The Indian Express* what it means to be in the Indian Foreign Service — its challenges, opportunities, and experiences.**

**Manas: How will you define the life of an Indian Foreign Service officer?**

**T.C.A. Raghavan:** An IFS officer spends long periods of his/her tenure away from home in our embassies in different countries. There are also periods of service when officers are posted in the Ministry of External Affairs in **New Delhi**, India. The core aspect of the life of an IFS officer is that he or she acts as a bridge between India and the outside world — protecting and promoting the interests of our nation.

**Manas: What are the qualities and values that are expected from a Indian Foreign Service officer?**

**T.C.A. Raghavan:** The qualities and values expected from an IFS are the same as those from any civil servant or anyone working in a large organisation. Being a team player and subordinating your personal interests for the larger interest of the organisation and country is essential.

Specifically for the IFS, having a sense of curiosity and interest in third country environments, apart from the



environment you are familiar with, is necessary. One must not just undertake his or her job and role mechanically.

**“An IFS officer will often get posted to a country or culture which he or she is unfamiliar with or has limited familiarity. Trying to understand a new culture, and seeing your own country and culture from different perspectives, is not only an essential part of the job but also enhances the performance of the IFS.”**

You must know that in IFS much more than in other services, there are often long periods of your career where you may not have a huge amount of routine work or day-to-day work. The idea is to create opportunities by having the right kind of aptitude. By doing so you develop and create new opportunities for the country.

For example, you may be posted in a country where there is not much trade with India. So the challenge will be how do you develop new opportunities. There can be countries where there is not much political interaction. In such a situation, how do you create opportunities and avenues where your leader and the leader of that country can have fruitful interactions? This is a challenge both professionally and personally. Having the capacity to develop potential for the country and being able to see what are your responsibilities are beyond the routine is what an IFS officer should be ready for.

**Manas: Indian Foreign Service is sometimes seen as a royal service. Is it true?**

**T.C.A Raghavan:** I don't think it is seen or should be seen as a royal service. It is customary for people to talk about the 'good old days'. But when you go into the details, the old days were never great. Our predecessors had tenures much more difficult than ours. People in foreign service today have an easier time than for instance I had. This is because conditions have improved. However, there were different challenges then and there are different challenges now. Professionally, it is much easier to perform your duties today because the perception and image of India has changed globally, especially in the past 20 years due to many reasons, including our economic growth. This makes a big difference in the functioning of a foreign services officer.

**Manas: What is the role of Indian Foreign Service in making our country in comparison to IAS or IPS which has a big role to play in daily lives?**

**T.C.A Raghavan:** Whether you think foreign policy is a part of your daily life or not, the fact is that we are a part of the international economy and of the global community. So how we connect to the outside world is as important as our domestic development. The days when only domestic issues mattered have never existed. Due to globalisation and other factors, what happens in the outside world now has a more direct impact on India in all spheres – economically, socially, politically, culturally etc. Therefore, the IFS is as important as any other service.

**Manas: Some of the most important areas in which a foreign services officer deals are national security, economic, political interest etc. Which one do you think is one of the most important?**

**T.C.A Raghavan:** Each area is equally important. I don't think we can give importance to any one issue over the other. There is a tendency to give importance to security and political issues, but that is a short-sighted view. Security may be more important in the short term but one of the best ways of enhancing your security is also by focussing on culture. In the end, you establish better relations not only by strengthening security alone but also by strengthening your political standing, cultural cooperation etc.

In the Ministry of External Affairs, by and large, each sector is given as much importance as the other. Our job also values creativity. The cultural sector is much more creative than the security and political domain. There is much more you can do there.



**“I see a trend towards greater securitisation in our national discourse which is not necessarily a healthy trend. For example, in on-screen portrayals of Indian diplomats there is often much greater stress given to security or political issues in which a foreign service officer is involved. That is what we call excessive securitisation.”**

**Manas: Can you recall any memorable episode from your diplomatic career that you would like to share?**

**T.C.A Raghavan:** Often foreign service officers have the privilege to witness and be a part of landmark developments in Indian foreign relations. Even as such events are taking place, one knows that they will go into the pages of history. The one that I can remember is when PM Atal Bihari Vajpayee visited Islamabad in 2004 for the SAARC Summit. People all over the world recognised it as a remarkable act of statesmanship and of major political courage. I realised then that this was history being made in front of my eyes.



*Prime Minister Shri Atal Bihari Vajpayee and the other Heads of Governments of SAARC Countries at the 12th South Asian Association for Regional Cooperation (SAARC) Summit in Islamabad, Pakistan on January 4, 2004 (Wikimedia Commons)*

I want to point out here that our role as foreign diplomats is not individually important. We work in a team towards a common goal. So, when a team works as a single unit and delivers as per expectations, that is the greatest takeaway or reward for you personally. That is what an IFS believes in too.

**Manas: What are the challenges that an IFS officer has to deal with?**

**T.C.A Raghavan:** Indian society is today facing many challenges. How to maintain social harmony and cohesion, the challenges of unemployment, economic development etc. are a few. All civil servants are expected to find solutions to such problems, and that is their challenge too. An IFS officer has to deal with similar challenges.

For our foreign policy the central challenge has been more or less the same since 1947 – how do you create an external environment conducive to our domestic development? A IFS officer has to constantly think about how he or she can contribute to creating such an external environment.



Apart from this, I believe that the real challenge for the foreign service is how it manages the country's relations with its neighbours. Our relationships with our neighbouring countries is a central factor in determining the future of India. So I have always prioritised it as the foremost challenge.

**Manas: Does the current examination pattern need a change to select specialists or candidates with IR backgrounds for the Indian Foreign Service?**

**T.C.A Raghavan:** India has the advantage of selecting IFS officers from a huge reservoir of talent; supply is way more than the demand. There is so much talent in our country that we get a very high quality of candidates after a rigorous examination process. One does not need a background in IR but a level of interest in the outside world, their cultures, history, society, economy is vital. Filling the knowledge gap is not difficult, the real X factor is always interest, and that interest has to come from within. Curiosity about the world is therefore a prerequisite, knowledge can always be provided during the training period and can even come later.

Of course, people who are chosen for Indian Foreign Services should have at least good verbal and oral skills and they must keep polishing these attributes.

**Manas: Aspirants often ask why there are so few seats in Foreign Services offered in the UPSC exam.**

**T.C.A Raghavan:** In comparison to the previous years, the number of seats has increased now. Some may say that it has increased too much. One must understand that the size of the IFS has to be proportionate to our overall global presence and the country's requirements. If you expand too much and too quickly officers may face stagnation later in their careers. The government therefore also has to keep in mind the promotions prospects and motivation levels and should not increase the number of seats irrationally.

**Manas: Your advice and recommendation for aspirants and UPSC Essentials subscribers...**

**T.C.A Raghavan:** I hear a narrative among aspirants that if one has to qualify for the UPSC exam, they must go to a coaching institute. This is a myth. This false narrative is created by a huge and unregulated coaching industry which instills in the minds of young aspirants that coaching institutes will alone guarantee their success.

My advice is that students who are aspiring to join the civil services should read widely and certainly not minimise the importance of reading newspapers. One cannot just rely on exam material, help books, whatsapp forward messages, Wikipedia, and such. Aspirants must be fully engaged with their environment, have a sense of curiosity, and read knowledge-enriching quality books and not just prepare mechanically. Reading the study materials as per the syllabus may be a necessary condition to prepare for this exam but it is not a sufficient condition.



## UPSC Current Affairs Pointers

# Prelims Tidbits for the month of January

UPSC Current Affairs Pointers will help you consolidate your Prelims exam preparation. Take a quick look at key current affairs tidbits from December 16, 2024, to January 19, 2025, curated specially for UPSC and other competitive exam aspirants.

Compiled by **Khushboo Kumari**

### Report

(FYI: The data provided in these reports can be used to substantiate your Mains answer and create a broad understanding of the topic.)

<b>QS World Future Skills Index 2025</b> Transforming Higher Education for the Skills Economy					
<b>INDIA</b>					
Indicator	Skills Fit	Academic Readiness	Future of Work	Economic Transformation	Overall
Score	59.1	89.9	99.1	58.3	76.6
Global position	37th	26th	2nd	40th	25th

*QS World Future Skills Index.*

#### ● **QS World Future Skills Index 2025**

— According to the **QS World Future Skills Index 2025**, overall India ranked **25th** across all indicators, which includes the alignment between skills and employer needs, academic readiness, and economic transformation.

— The **QS World Future Skills Index** uses specific indicators to evaluate how well countries are equipped to meet the evolving demands of the international job market.

— India has been ranked **second in terms of preparedness for jobs** of the future including artificial intelligence (AI) and green skills, only behind the United States.

— The index uses **four indicators** to measure the country's readiness to meet the jobs of the



## ● Future of Jobs Report 2025

— According to the Future of Jobs Report 2025, published by the **World Economic Forum (WEF)**, about 170 million new jobs will be created by 2030, while 92 million are projected to be displaced. This results in 78 million net new jobs.

— **Farm workers** and **drivers** will figure among the fastest growing jobs over the next five years. However, the roles of cashiers and ticket clerks will see the largest decline.

— Technological advancements, demographic shifts, geoeconomic tensions, and economic pressures are the key drivers of these changes, reshaping industries and professions worldwide.

— The fastest-growing skills by 2030 will include AI and big data, networks and cybersecurity, technological literacy, and creative thinking.

## ● 2024 Global Water Monitor Report

— The report was produced by an international team of researchers from universities in Australia, Saudi Arabia, China, Germany, and elsewhere.

— The water cycle involves water evaporating from the ground and sea, and eventually returning to the Earth as rain snow. **Climate change has intensified this cycle** as air temperatures soar, more water evaporates into the air.

— Warmer air can hold more water vapour — for every 1 degree Celsius rise in average temperature, the atmosphere can hold about 7% more moisture. This makes storms more dangerous as it leads to an increase in precipitation intensity, duration and/or frequency, which ultimately causes severe flooding across the world.

— As the rise in temperatures causes more evaporation, soils are drying out. And when the rain does arrive, most of the water runs off the hard ground into rivers and streams, and the soil remains dry.

— According to the report, in 2024, **water-related disasters** caused more than 8,700 fatalities, displaced 40 million people, and resulted in economic losses exceeding \$550 billion globally.

— There were 38% more record-dry months in 2024 than for the baseline period (1995-2005).

— Rainfall records are being broken with increasing regularity. For instance, record highs for monthly rainfall were set 27% more often in 2024 than in the year 2000, and daily rainfall records were set 52% more frequently.

## ● Nexus Report

— The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), a global group of scientific experts, has released an Assessment Report on the Interlinkages among Biodiversity, Water, Food and Health – known as the **Nexus Report**.

— This is a first-of-a-kind report looking at the interconnections between these multiple crises.

— The group examined five major challenges — **climate change, biodiversity loss, food insecurity, water scarcity, and health risks** — and found that they were strongly interconnected.

— IPBES was established in 2012 to examine all the existing scientific knowledge on biodiversity and nature to make an assessment of their current state.



— The **Nexus report** highlighted the strong interlinkages between the five identified global challenges. Its key takeaway is that responses to all these challenges need to be harmonised so that positive actions taken on any one of these do not result in negative impacts on others.

— The report pointed out that more than half of the global GDP — about 58 trillion dollars worth of annual economic activity — was moderately to highly dependent on nature. Deterioration of natural ecosystems, therefore, could directly hurt productivity and adversely impact economic output.

— The Nexus report finds that there has been a **2-6 percent biodiversity decline** per decade across all assessed indicators for the last 30-50 years.

### ● India State of Forest Report (ISFR 2023)

— The **biennial India State of Forest Report (ISFR 2023)** released by Environment Minister Bhupender Yadav reported a net gain of 156 sq km in India's forest cover and 1,289 sq km in tree cover since 2021. It also recorded a complete loss of 3,656 sq km of dense forests at that time.

— There is an increase of 1,445 sq km in the total forest and tree cover of the country.

— At 1,12,014 sq km, India's tree cover now extends over 3.41% of the land area and supplements India's 21.76% forest cover.

— The top four states that recorded the maximum increase in forest and tree cover are **Chhattisgarh** (684 sq km) followed by **Uttar Pradesh** (559 sq km), **Odisha** (559 sq km) and **Rajasthan** (394 sq km).

— The four states that recorded the maximum loss in forest and tree cover between 2021 and 2023 are **Madhya Pradesh** (612.41 sq km), **Karnataka** (459.36 sq km), **Ladakh** (159.26 sq km) and **Nagaland** (125.22 sq km).

— When it comes to gain in forest cover alone, Mizoram (242 sq km), Gujarat (180 sq km) and Odisha (152 sq km) topped the chart.

— There is a loss of 3,656 sq km of dense forests in two years.

— Since 2021, the country's mangrove cover shrunk by 7.43 sq km with Gujarat recording the biggest loss of 36.39 sq km.

### KEY FINDINGS OF ISFR 2023



#### ▲ MAXIMUM INCREASE IN FOREST

Chhattisgarh	683.62 sq km ▲
Uttar Pradesh	559.19 sq km ▲
Odisha	558.57 sq km ▲
Rajasthan	394.46 sq km ▲

#### ▼ MAXIMUM LOSS IN FOREST

Madhya Pradesh	612.41 sq km ▼
Karnataka	459.36 sq km ▼
Ladakh	159.26 sq km ▼
Nagaland	125.22 sq km ▼



- **Dr K Radhakrishnan committee**

— A seven-member panel headed by former ISRO chairman K Radhakrishnan has made a set of 101 recommendations to the Ministry of Education for conducting national-level entrance exams in a “transparent, smooth and fair” manner.

— The panel was formed in June 2024 after the NEET-UG paper leak.

## Art & Culture

- **Takanakuy festival**

— This unique annual celebration called Takanakuy takes place in the town of **Chumbivilcas** province near Cuzco in Peru on December 25, every year.

— The ancient tradition was inherited from the pre-Hispanic Chanka culture. It said this tradition serves as a way for community members to resolve conflicts and start the new year with a clean slate.

— The bouts are typically supervised by local authorities or community elders to ensure they remain controlled and respectful. After the fights, a crucial component of the festival is the collective drinking, symbolizing reconciliation and unity.

- **Tamu Loshar**

— **Gurung community** in Nepal marks its new year by celebrating Tamu Loshar.

— In the Gurung language, ‘Lho’ means year or age and ‘Sar’ denotes change. Members of the Gurung community mark the festival by organizing feasts and cultural programs.

- **Jarawa Tribes**

— In a historic step, the **Andaman and Nicobar Islands** administration has enrolled and distributed voter ID cards to 19 members of the Jarawa community.

— The Jarawas are one of the indigenous tribes of the Andaman Islands, known for their semi-nomadic lifestyle, reliance on forest resources, and deep connection to their natural environment.

— They inhabit the western coasts of **South** and **Middle Andaman Islands**, a region rich in biodiversity that supports their traditional way of life.

## Events

- **Indian Army Day 2025**

— Indian Army Day is observed every year on **January 15** to honour the bravery and sacrifices of soldiers who dedicated their lives to protecting the country.

— The theme for the 77th Army Day 2025 is ‘**Samarth Bharat, Saksham Sena**’ (Capable India, Empowered Army), reflecting the Indian Army’s commitment to national strength and defence capabilities.



— This is the **first time** the all-women Agniveer contingent participated in the Army Day parade.

— Also, Pune hosted the Army Day parade for the first time. This is the third occasion on which a city other than New **Delhi** has hosted the Army Day Parade, keeping in line with the Union government's decision to hold events of national importance outside the national capital.

— The day commemorates the occasion when General (later Field Marshal) **K M Cariappa** took over the command of the Indian Army from General Sir F R R Bucher, the last British Commander-in-Chief, in 1949 and became the first Indian Commander-in-Chief of Independent India.



Union Minister for Defence Rajnath Singh at the 9th Armed Forces Veterans Day celebrations, in Akhnoor, Tuesday, Jan. 14, 2025.  
(PIB via PTI Photo)

### ● **Armed Forces Veterans' Day**

— The Armed Forces Veterans' Day is celebrated every year on **January 14** across India to pay respects to the armed forces veterans for their selfless duty and sacrifices and to reinforce solidarity towards the next of kin of the Bravehearts.

— The first Armed Forces Veterans Day was organised on **January 14, 2017**, as a pan-India event under the purview of the Ministry of Defence. The aim was to salute the unwavering dedication and sacrifices of tri-services veterans while standing in solidarity with their families.

— January 14 was chosen to be celebrated as Veterans' Day as it was on this day in 1953 when **Field Marshal KM Cariappa**, the first Commander-in-Chief of the Indian Army post-independence, retired after glorious service to the nation and became a veteran.

### ● **Kashi Tamil Sangamam**

— The main theme of the **third edition of Kashi Tamil Sangamam**, a cultural exchange programme scheduled to be held from February 14 to 25, will be **Rishi Agastya**.



— The first edition of the programme, which is organised by the Ministry of Education, was held in 2022, and it is meant to mark the bond in terms of civilisation and culture between Varanasi and **Tamil Nadu**.

— Participants will visit Varanasi, Prayagraj, and Ayodhya, and with the event coinciding with the Maha Kumbh, they will also visit the Kumbh.

### ● **National Startup Day**

— National Startup Day is an annual observance in India on **January 16**, dedicated to recognising and promoting the vibrant startup ecosystem.

— During the inaugural Startup India Innovation Week, on January 15, 2016, PM Modi announced the commemoration of Startup Day on January 16, to recognise the economic contributions made by entrepreneurs in India during the first Startup India Innovation Week.

— As a result, **since 2022**, National Startup Day has been commemorated every year on January 16.

— National Startup Day aims to create a supportive environment for entrepreneurial ventures while celebrating startups' crucial role in stimulating economic development and job creation.

— To commemorate the day, **Udyamotsav 2025** is organised. It is a platform designed to empower student entrepreneurs by facilitating their engagement with the investor community, organised by the Ministry of Education.

— It will enable student entrepreneurs to pitch their startups, seek funding, and receive mentorship on business models and scaling strategies, taking place across 14 Indian cities.

### ● **Grameen Bharat Mahotsav 2025**

— Prime Minister Narendra Modi inaugurated the Grameen Bharat Mahotsav 2025 on 4th January at **Bharat Mandapam, New Delhi**.

— The Mahotsav was organised from 4th to 9th January, celebrating rural India's entrepreneurial spirit and cultural heritage. The theme of this year's event was 'Building a Resilient Rural India for a Viksit Bharat 2047,' with the motto **“गांव बढे, तो देश बढे.”**

(Source: PIB)



Prime Minister Narendra Modi speaks during the inauguration of the Grameen Bharat Mahotsav 2025, in New Delhi, Saturday. (PTI Photo)

### ● **Pravasi Bharatiya Divas 2025**

— The Pravasi Bharatiya Divas (PBD) is observed once every two years on January 9th. The 18th PBD 2025 was organised in collaboration with the **State Government of Odisha** from **08-10 January 2025** in **Bhubaneswar, Orissa**.

— It was celebrated under the theme, **“The Diaspora's Contribution to a Viksit Bharat,”** with a considerable number



of members of the Indian diaspora from over 50 different countries having registered to participate in the PBD Convention.

— The Pravasi Bharatiya Divas (PBD) Convention was created in 2003 by then-Prime Minister Late Shri Atal Bihari Vajpayee as a platform for recognising and engaging with the Indian population residing abroad.

— **January 9** was chosen as the day to commemorate this milestone since it was on this date in 1915 that Mahatma Gandhi, the greatest Pravasi, returned to India from South Africa, led India's liberation war, and permanently transformed the lives of Indians.

— An award called the **Pravasi Bharatiya Samman Award** is given out as part of the programme. The award is to commemorate the contribution of the Indian diaspora to create a better understanding of India abroad, support India's causes and work for the welfare of the local Indian community.

### ● **Good Governance Day**

— Good Governance Day is celebrated on **December 25th** every year to raise awareness among citizens about government accountability and effective administration while promoting the practice of "good governance" among civil servants.

— In 2014, the Union government announced that December 25 would be celebrated as "Good Governance Day" to honor the birth anniversary of former **Prime Minister Atal Bihari Vajpayee**.

### ● **National Farmers Day 2024**

— India celebrates National Farmers' Day, also known as Kisan Diwas, to recognise the lifeblood of the nation—its farmers on December 23, every year.

— This day also commemorates **the birth anniversary of India's fifth Prime Minister, Chaudhary Charan Singh**, who served from 1979 to 1980 and is well-known for his extensive understanding of rural concerns and unwavering support for farmer welfare.

— During his term, he promoted measures that would improve farmers' livelihoods, including land reforms and attempts to increase agricultural output.

— This year, the Government of India is celebrating Kisan Diwas under the idea of "**Empowering 'Annadatas' for a Prosperous Nation.**"



*Prime Minister Narendra Modi remotely flags off the 'Pravasi Bharatiya Express' during the inauguration of 'Pravasi Bharatiya Divas' convention, in Bhubaneswar, Odisha/ (PMO via PTI)*



## International Cooperation

### ● Israel-Hamas deal

— Mediators in **Doha, Qatar**, have agreed on a phased ceasefire deal in Gaza on the following terms:

— During a 42-day first phase beginning Sunday, Hamas will release 33 hostages and Israel will release between 900 and 1,650 Palestinian detainees, including all of those detained since October 7, 2023.

— The Israel Defense Forces (IDF) will withdraw from central Gaza and the **Netzarim Corridor** — a

2-4-km-wide security clearing that it has created, cutting Gaza in half **up** to the Mediterranean — and eventually from the **Philadelphi Corridor**, the buffer zone along the Gaza-Egypt border.

— Negotiations for a second phase will begin on the 16th day after **the ceasefire comes into effect**, and is expected to produce almost a full Israeli withdrawal from the Strip, and the release of all remaining hostages by Hamas in return for a yet-to-be-decided number of Palestinian detainees.

— In the third phase, border crossings will be reopened fully, and reconstruction will begin in Gaza.



Netzarim and Philadelphi corridors in Gaza. (Google Maps screenshot)

### ● UN Committee of Experts on Big Data and Data Science for Official Statistics

— **India** has joined the UN Committee of Experts on Big Data and Data Science for Official Statistics (UN-CEBD), which underscores the country's growing stature in the global statistical community and highlights its commitment to leveraging data and technology for informed decision-making.

— The UN-CEBD was created to further investigate the benefits and challenges of Big Data, including the potential for monitoring and reporting on sustainable development goals.

— India will contribute to shaping global standards and practices in harnessing Big Data and data science for official statistical purposes. India's engagement will highlight its pioneering initiatives, including the establishment of the Data Innovation Lab.

### ● International Year of Glaciers' Preservation (IYGP) 2025

— The **United Nations** declared 2025 as the **International Year of Glaciers' Preservation**. It has also proclaimed the **21st March** of each year as the World Day for Glaciers starting in 2025.

— The objective is to raise global awareness about the critical role of glaciers, snow, and ice in the climate system and the hydrological cycle, and the economic, social, and environmental impacts of the impending changes in the Earth's cryosphere.



● **India-Kuwait**

— Prime Minister Narendra Modi was awarded the ‘*Order of Mubarak Al Kabeer*’, the highest honour in **Kuwait**, by Amir of Kuwait Sheikh Meshal Al-Ahmad Al-Jaber Al Sabah. This is the 20th international honour bestowed on Modi.

— The Order of Mubarak Al Kabeer is a Kuwaiti knighthood awarded to Heads of State, foreign sovereigns, and members of foreign royal families as a symbol of friendship.

— The ‘Order of Mubarak Al Kabeer’ has been previously awarded to foreign leaders like Bill Clinton, Prince Charles and George Bush.

— PM Modi went on a two days visit to Kuwait — the first by an Indian PM in 43 years. The last Indian PM to visit Kuwait was Indira Gandhi in 1981.



*Prime Minister Narendra Modi being awarded 'The Order of Mubarak Al-Kabeer' by Kuwait's Amir Sheikh Meshal Al-Ahmad Al-Jaber Al-Sabah on Sunday. (PTI)*

**Economic Cooperation**

— Kuwait ranks as one of India's top trading partners, with bilateral trade valued at USD 10.47 billion in the financial year 2023-24.

— Indian exports to Kuwait have reached a record USD 2 billion, while investments by the Kuwait Investment Authority in India exceed USD 10 billion.

— The Indian community forms the largest expatriate group in Kuwait — with over one million Indians making up 21 percent of Kuwait's population and 30 percent of its workforce.

● **Sovereign Gold Bonds Scheme (SGBs)**

— The government is considering discontinuing the sovereign gold bond (SGBs) scheme due to the high cost of financing the scheme.

— SGBs are debt securities issued by the Reserve Bank of India (RBI) on behalf of the government, with each unit denoting a gram of gold. These bonds offer the flexibility of trading in the secondary market, providing investors with the opportunity to accrue capital gains.

— The bonds are held in the books of the RBI or in demat form eliminating risk of loss. While the tenor of bonds is **eight years**, it can be redeemed after **five years**.

— These bonds offer the flexibility of trading in the secondary market and the interest in SGBs is fixed at **2.5 per cent** per annum on the amount of initial investment.



## ● US Entity List

— In a step towards operationalising the **Indo-US nuclear deal** Washington is finalizing steps to remove long-standing regulations including removing Indian government entities from the **US entity list**.

— The US Entity List is a list of foreign individuals, businesses, and organizations that are subject to export restrictions and licensing requirements for certain goods and technologies.

— The list — compiled by the **Bureau of Industry and Security (BIS)** of the U.S. Department of Commerce — is ostensibly used to prevent unauthorized trade in items that could be diverted to terrorism, weapons of mass destruction (WMD) programs, or other activities that are perceived by the US as going its foreign policy or national security interests.



*Sullivan met Indian National Security Advisor Ajit Doval and External Affairs Minister S Jaishankar on Monday. (PTI Photo)*

## ● Initiative on Critical and Emerging Technology (iCET)

— The current trip of US National Security Advisor Jake Sullivan aims to strengthen the innovation alliance under the US-India initiative on Critical and Emerging Technology (iCET).

— The iCET was launched by Prime Minister Narendra Modi and US President Joe Biden in **May 2022** to forge greater collaboration between India and the US in areas of **critical technologies**.

## Polity

### ● 8th Pay Commission

— The Union government announced the constitution of the **8th Pay Commission** on the 16th of January 2025.

— A Pay Commission, set up by the **government of India**, decides the salary and compensation of Central government staffers and allowances of pensioners. The 8th Pay Commission will recommend revisions in the salary and pension structure of the beneficiaries, resulting in a hike in the remuneration and allowances.

— The implementation of the pay commission's recommendations results in increased consumption and economic growth, with an improved quality of life for government employees. Generally, **every 10 years**, the central government implements a pay commission to revise employee remuneration.



*A Pay Commission, set up by the government of India, decides the salary and compensation of Central government staffers and allowances of pensioners. (Express File Photo)*



— There is **no obligation** on the government to accept the recommendations of the pay commission.

— Since 1947, **seven Pay Commissions** have been constituted, with the last one constituted in 2014 and implemented on January 1, 2016. The chairman of the 7th Pay Commission is **Justice Ashok Kumar Mathur**. It's tenure will end in 2026.

### ● **Mission Mausam**

— Prime Minister Narendra Modi launched “Mission Mausam”, which aims to make the country a “weather-ready” and “climate-smart” nation, in Delhi on **14th January** as part of the events marking the 150th foundation day of the India Meteorological Department (IMD).

— In September 2024, the Union Cabinet approved “Mission Mausam”, with a **budget** of **Rs. 2000 crores**, to enhance India's ability to predict and respond to extreme weather events and the impacts of climate change.

— It will be primarily implemented by three key institutions under the **Ministry of Earth Sciences (MoES)**: the India Meteorological Department, the Indian Institute of Tropical Meteorology, and the National Centre for Medium-Range Weather Forecasting.

— Critical elements of “Mission Mausam” include- the deployment of next-generation radars and satellite systems with advanced sensors, high-performance supercomputers, the development of enhanced Earth system models, and a GIS-based automated decision support system for real-time data sharing.

### ● **Data Localisation**

— During an IT Ministry organised consultation with the tech industry on the recently released draft data protection rules 2025, a few concerns stood out: apprehensions over data localisation, consent verification and behavioural tracking of children, and worries over cross-border data flows to foreign jurisdictions.

— Under data localisation, the companies are required to **store a copy of certain sensitive personal data** – like health and financial data – within India, and the export of undefined “critical” personal data from the country is prohibited.

### ● **Bharat Ranbhoomi Darshan**

— On the occasion of the 77th Army Day (15th January), Defence Minister Rajnath Singh launched the “Bharat Ranbhoomi Darshan” which is a **dedicated website** for visitors, including information on the 77 sites, their stories, and how to get there.

— The Bharat Ranbhoomi Darshan website will be a one-stop destination for visitors to make all necessary arrangements for their travel planning, including how to apply for permits for some of these places, officials add.

— The website will feature details on various **battlefields and border areas**, offering virtual tours, historical narratives, and interactive content. The sites will also be highlighted by the Tourism Ministry as part of the Incredible India campaign.



- **Bharatpol Portal**

— Union Home Minister Amit Shah inaugurated the ‘Bharatpol’ portal, emphasizing the need for **Indian investigative agencies** to adopt modern technology and methods to apprehend fugitives.

— The portal will facilitate the exchange and retrieval of case-related information between Indian investigative agencies and Interpol’s 195 member countries.

— The ‘Bharatpol’ initiative has been established under the **CBI** and the **National Central Bureau of India**, which oversee Interpol-related matters.

- **Genome India Project**

— The genome sequencing data of 10,000 Indians, sequenced from 99 distinct populations, will now be available for researchers to develop medicines tailored to the local population.

— The **Genome India project** was approved by the government in 2020 with the aim of creating a comprehensive catalogue of genetic variations found in the Indian population.

— Researchers from 20 different scientific institutions have come together to sequence the first 10,000 genomes under the project.

— A map of genetic diversity is essential for understanding the history of our evolution, discovering the genetic basis for various diseases, and creating therapies for the future.

- **PM-Kisan**

— The Centre has made it mandatory for new applicants to obtain a **farmer ID** for enrolment into the **Pradhan Mantri Kisan Samman Nidhi (PM-Kisan)** to get benefits under the scheme.

— Kisan Pehchaan Patra or farmer ID is an **Aadhaar-like unique digital identity** linked dynamically to the state’s land records with information like demographics, crops sown, and ownership details.

— The database created through the farmer ID will be known as **Farmer’s Registry** — one of the three registries under the Agri-Stack component of the Centre’s Digital Agriculture Mission for the creation of digital public infrastructure in the farm sector, which was approved by the Union Cabinet last year.

— Under the **PM-Kisan scheme**, eligible farmer families receive **Rs 6,000 per annum** in three equated instalments (Rs 2,000 in each instalment) through Direct Benefit Transfer (DBT) every four months.

— The scheme was launched on **February 24, 2019**, just before the 2019 Lok Sabha elections. With **100 per cent funding from the Centre**, the money is directly transferred to the bank accounts of the beneficiaries.

- **PMFBY and RWBCIS**

— The Union Cabinet on January 1, 2025, approved the continuation of two crop insurance schemes — the **Pradhan Mantri Fasal Bima Yojana (PMFBY)** and **Restructured Weather-Based Crop Insurance Scheme (RWBCIS)** until 2025-26.

— PMFBY was launched in 2016 to replace the existing National Agricultural Insurance Scheme (NAIS) and the



Modified National Agricultural Insurance Scheme (MNAIS). The scheme was initially compulsory for loanee farmers; in February 2020, the Centre revised it to make it optional for all farmers.

— Under the PMFBY, a farmer is required to pay as a premium **2% of the sum insured** or actuarial rate, whichever is less, for all kharif foodgrain and oilseed crops; **1.5% of sum insured or actuarial rate**, whichever is less, for all rabi foodgrain and oilseed crops; and **5% for horticultural crops**.

— While PMFBY is **based on yield**, RWBCIS is based on **proxies**. Farmers are provided insurance protection against adverse weather conditions such as excess rainfall, wind, and temperature. The number of insured farmers under RWBCIS is relatively low.

### ● **FIAT**

— The government approved the creation of the Fund for Innovation and Technology (FIAT) with a corpus of Rs.824.77 crore.

— The FIAT would be used towards funding technological initiatives under schemes such as **Yield Estimation System using Technology (YES-TECH)**, **Weather Information and Network Data Systems (WINDS)**, etc, as well as research and development studies.

— **YES-TECH** uses Remote Sensing Technology for yield estimation with a minimum 30 per cent weightage to technology-based yield estimates. Nine states — Andhra Pradesh, Assam, Haryana, Uttar Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, and Karnataka — are implementing it.

— **WINDS**, the statement said, envisages setting up Automatic Weather Stations (AWS) at the block level and Automatic Rain Gauges (ARGs) at the Panchayat level. “Under WINDS, a 5 times increase in current network density is envisaged to develop hyper-local weather data. Under the initiative, only data rental costs are payable by Central and State Governments,” it said.

### ● **Good Governance Index**

— The Centre has decided not to release the **Good Governance Index 2023**, the biennial ranking of states and Union Territories (UTs) scheduled to be released during Good Governance Week (December 19 to December 25), and is now planning to publish the next edition in 2025.

— It was launched on **December 25, 2019** on the birth anniversary of late prime minister Atal Bihari Vajpayee which is observed as Good Governance Day.

— The index covers over 50 indicators across sectors, including agriculture, economic governance, public health, and citizen-centric governance.

— Tamil Nadu and Gujarat got first place among big states in the 2019 and 2021 rankings, respectively.

### ● **Suposhit Gram Panchayat Abhiyan**

— The PM launched the ‘Suposhit Gram Panchayat Abhiyan’, which aims at improving nutritional outcomes and well-being by **strengthening** the implementation of **nutrition-related services** to eliminate malnutrition and form the basis of developed India.



— The programme will involve competition among **anganwadis**, and a total of 1,000-gram panchayats will get Rs 1 lakh while a part of this amount will be used for better nutrition in the anganwadis.

### ● **SVAMITVA**

— Prime Minister Narendra Modi has asked all Union ministers to attend the public events to be held to distribute 57 lakh property cards among a dozen states and UTs on December 27, under SVAMITVA, a central sector scheme.

— The acronym SVAMITVA stands for **Survey of Villages and Mapping with Improved Technology in Village Areas**. It is a Central Sector Scheme aimed at “providing ‘record of rights’ to village household owners possessing houses in inhabited rural areas in villages and issuance of property cards to the property owners.”

— The scheme was launched by the Prime Minister on the occasion of National Panchayati Raj Day, **April 24, 2020**.

### ● **FREE-AI**

— The Reserve Bank of India (RBI) has constituted an **eight-member committee** of experts to develop a **framework for responsible and ethical enablement of artificial intelligence (FREE-AI)** in the financial sector.

— The committee, to be headed by **Pushpak Bhattacharyya**, professor (Department of Computer Science and Engineering), IIT Bombay, will recommend a robust, comprehensive, and adaptable AI framework for the financial sector.

— The committee will assess the current level of adoption of AI in financial services, globally and in India, and review regulatory and supervisory approaches on AI with a focus on the financial sector globally.

### ● **PM CARES Fund**

— The Prime Minister’s Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund) received Rs 912 crore in contributions during the financial year 2022-23 as donations continued to pour in even after the Covid pandemic.

— The PM CARES Fund was registered as a **Public Charitable Trust** under the Registration Act, 1908 in New Delhi on March 27, 2020, three days after the lockdown in the country in the wake of the **Covid-19** pandemic.



*The Prime Minister is the ex-officio chairman of the PM CARES Fund.*

— The **Prime Minister** is the **ex-officio chairman** of the PM CARES Fund, while the Defence Minister, Home Minister and Finance Minister are ex-officio trustees of the Fund. The Prime Minister, as the chairperson of the Board of Trustees of the PM CARES Fund, has nominated Justice K T Thomas (retd.) and Kariya Munda as trustees.



### ● Protected Area Permit (PAP)

— The Centre has re-imposed the Protected Area Regime or Protected Area Permit (PAP) in the **states of Manipur, Mizoram, and Nagaland**.

— According to the Union Home Ministry's guidelines, a foreign national is not allowed to visit a 'Protected Area', as laid down in the Foreigners (Protected Areas) Order, 1958, "unless it is established to the satisfaction of the Government that there are extraordinary reasons to justify such a visit".

— The guidelines also specify certain areas within the Protected Areas which tourists can visit with a permit.

— For grant of Protected Area Permits for reasons other than tourism, prior permission is needed from the Union Ministry of Home Affairs.

## Defence

### ● INS Surat, INS Nilgiri, and INS Vaghsheer

— Prime Minister Narendra Modi commissioned three pivotal naval assets — INS Surat, INS Nilgiri, and INS Vaghsheer — at the Naval Dockyard in Mumbai on 15th January 2025.

### ● INS Surat

— The final and fourth ship of the **P15B Guided Missile Destroyer Project**, is recognised as one of the world's largest and most sophisticated destroyers. The other three are INS Visakhapatnam, INS Mormugao, and INS Imphal. These are named after the major cities in the four corners of the country.

— A contract for the construction of four guided missile destroyers under the project codenamed 15B was signed in January 2011.

— INS **Surat** is the **Indian Navy's first AI** (artificial intelligence) enabled warship, which will utilise indigenously developed AI solutions to enhance its operational efficiency manifold.

— Destroyers are a category of warships that have high speed and manoeuvrability, greater strike capability, and longer endurance, because of which they are a key asset in various types of naval operations, mainly offensive.

### ● INS Nilgiri

— The Nilgiri-class stealth frigate, built under the codename **Project 17A**, is a follow-on vessel of the Shivalik class



*Prime Minister Narendra Modi with Maharashtra Governor C.P. Radhakrishnan, and others during a ceremony to dedicate frontline naval combatants INS Surat, INS Nilgiri and INS Vaghsheer to the nation, at the Naval Dockyard in Mumbai. (@NarendraModi on Youtube via PTI Photo)*



or Project 17 frigates that are currently in service.

— INS Nilgiri is the first of seven frigates in Project 17A being built by Mazagon Dock Shipbuilders Limited (MDL), Mumbai, and Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.

— The multi-mission frigates are capable of operating in a “blue water” environment — in the deep seas far from the coast — and deal with both conventional and non-conventional threats.

— The ships are fitted with a supersonic surface-to-surface missile system, a Medium Range Surface-to-Air Missiles (MRSAM) system, a 76 millimetre upgraded gun, and a combination of rapid-fire close-in weapon systems.

— The other six ships of this class — Himgiri, Taragiri, Udaygiri, Dunagiri, Mahendragiri, and Vindhyagiri — are at various stages of construction at MDL, **Mumbai**, and GRSE, **Kolkata**. They are named after hill ranges in India.

### ● **INS Vaghsheer**

— INS Vaghsheer is the sixth and final submarine of the modern **stealthy Kalvari class** built under Project 75.

— The design of the Kalvari class of submarines is based on the Scorpene class designed and developed by the **French defence** major Naval Group (formerly DCNS), and the Spanish state-owned entity Navantia.

— They have diesel electric transmission systems and are primarily “attack” or “hunter-killer” submarines — which means they are designed to target and sink adversary naval vessels.

— The submarines are armed with wire-guided torpedoes, anti-ship missiles, and advanced sonar systems, and feature modular construction that allows for future upgrades such as the integration of Air Independent Propulsion (AIP) technology.

— The submarines in the current Kalvari class take their names from now-decommissioned classes of submarines named Kalvari — including Kalvari, Khanderi, Karanj — and the Vela class, which included Vela, Vagir, Vagshir.

— Vaghsheer is named after a type of sandfish found in the Indian Ocean.

## **Environment**

### ● **Bald Eagle**

— The bald eagle, a symbol of power and the strength of the United States for more than 240 years has officially become the **US’s National bird**. They are put under the **Least concerned** category of the IUCN Red List.

— In 2007, when the bald eagle was removed from the endangered species list, there were roughly 9,789 known breeding pairs in the US. The latest figures (from 2021) put the number of nesting pairs at about 71,4000 with the overall population standing at roughly 316,700.

— According to the U.S. Fish and Wildlife Service, Bald eagles are native to North America and can be found in almost every state, but they are most populous in Alaska.



## ● Red Pandas

— West Bengal marked Christmas by welcoming two red pandas from the Netherlands, the first such acquisition from a foreign country in a decade.

— The red panda (*Ailurus fulgens*), also known as **the lesser panda**, is a small mammal native to the eastern Himalayas and southwestern China.

— It is listed as **endangered** in the list of the International Union For Conservation of Nature. According to the World Wildlife Fund, their population is less than 10,000.

## ● Pangolins

— Recent incidents in Telangana have renewed concerns about the smuggling of pangolins, a scaly nocturnal mammal known for its huge demand in the international market.

— In India, both **Indian pangolins** and **Chinese pangolins** are listed in **Schedule I** of the Wildlife (Protection) Act, of 1972. Therefore hunting, trade, or any other form of utilisation of the species or their body parts and derivatives is banned.



— Since 2017, all pangolin species have been listed in **Appendix I** of the Convention on International Trade in Endangered Species (CITES), prohibiting their commercial trade.

— Chinese Pangolin is classified as '**Critically Endangered**' on the International Union for Conservation of Nature (IUCN) Red List while the Indian Pangolin is classified as '**Endangered**' on the IUCN Red List.

— They are the only known mammals with large keratin scales covering their skin. They are also toothless and nocturnal. They curl up into scaly spheres upon being alarmed.

## ● Gangetic Dolphin

— The first ever Ganges river dolphin (*Platanista gangetica*) was tagged in Assam on December 18, the movement aimed towards conserving India's National Aquatic Animal.

— The family **Platanistidae** comprises two extant species of Indian river dolphins — **the Indus river dolphin** and the **Ganges river dolphin**.

— Ganges river dolphins go by a number of local names across their range including susu, soons, soans, or soos in Hindi, shushuk in Bengali, hiho or hihu in Assamese, and bhagirath, shus or suongsu in Nepali.

— Both the Indus and Ganges dolphins have been listed as '**Endangered**' in the International Union for Conservation of Nature (IUCN) Red List since the 1990s.



### ● **Murder Hornets**

— The **Northern giant hornet**, nicknamed the “murder hornet”, has been eradicated in the United States. The insect was first spotted in Washington state near the Canadian border in 2019.

— The hornets can be 2 inches long and are an invasive species from Asia. They first came under the spotlight in 2013 when they killed at least 42 people in China.

— The species poses a significant threat to insects and native pollinators. ‘Murder hornets’ can kill an entire beehive of honeybees in just 90 minutes.



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*Northern giant hornets can sting through most beekeeper suits, delivering almost seven times the amount of venom as a honey bee. (Source: Elaine Thompson/AFP)*

### ● **Sacred Groves**

— The Supreme Court asked the Centre to create a comprehensive policy for the governance and management of sacred groves across the country while underlining their ecological importance.

— According to IUCN, **Sacred groves** are found all over India - especially in states like Maharashtra, Karnataka, Kerala, and Tamil Nadu. As a refuge for various plant and animal species, they are usually areas of natural vegetation resembling small forests and important sites for worship and community gatherings.

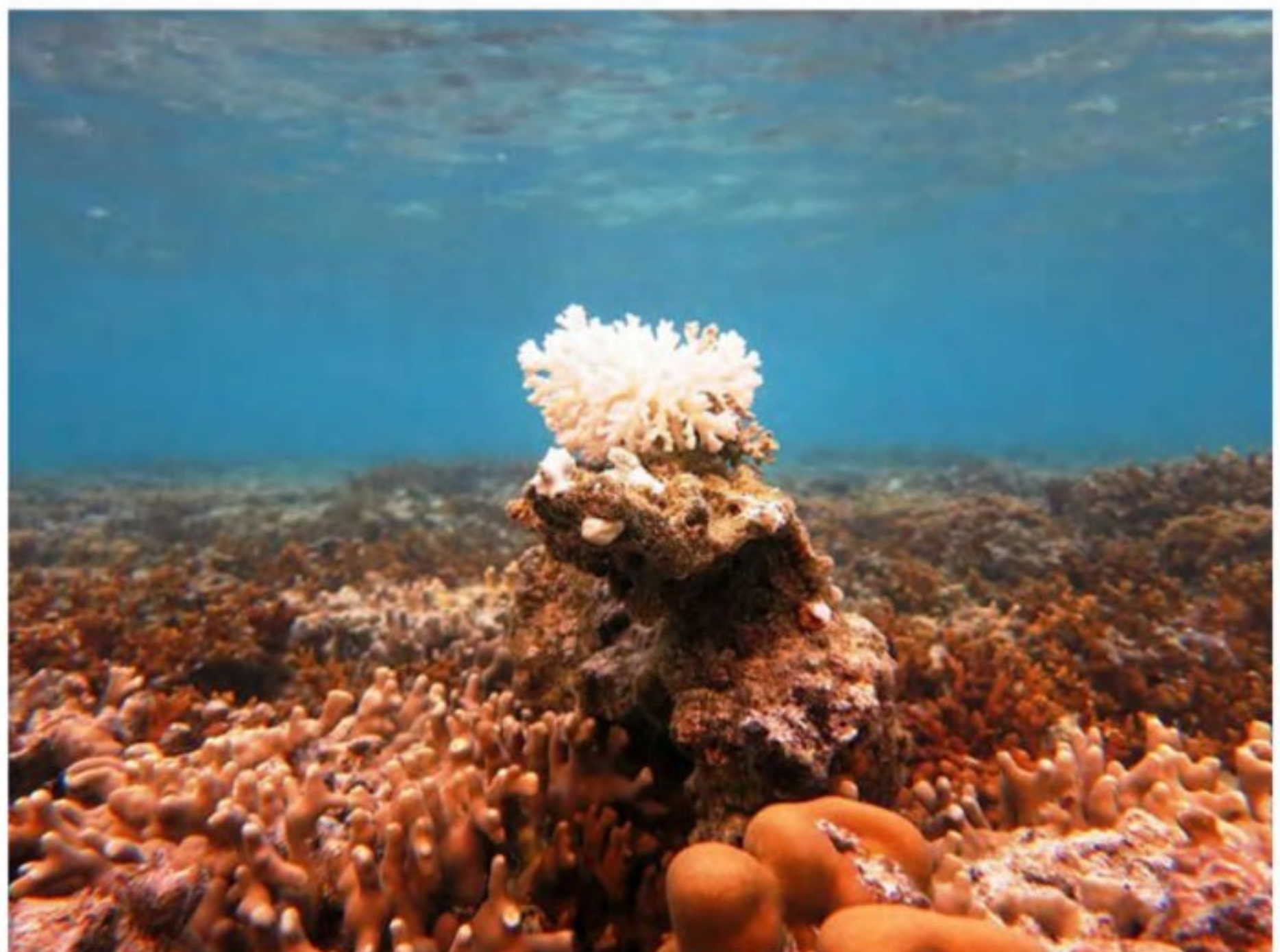
### ● **Marine Heatwave**

— A new study claims that a record-breaking marine heatwave nearly a decade ago caused the mass deaths of a species of Alaskan seabird known as the common murre.

— A marine heat wave is an extreme weather event. It occurs when the surface temperature of a particular region of the sea rises to 3 or 4 degree Celsius above the average temperature for at least five days.

— MHWs can last for weeks, months or even years, according to the US government’s agency National Oceanic and Atmospheric Administration (NOAA).

— Another example is when high ocean temperatures in the tropical Atlantic and Caribbean in 2005 led to a massive coral bleaching event. A 2010 study showed that more than 80 per cent of surveyed corals had bleached and over 40 per cent of the total surveyed had died.



*A bleached coral. (Credit: Wikimedia Commons/Wendy Cover/NOAA)*



— Corals are very sensitive to the temperature of the water in which they live. When water gets too warm, they expel the algae known as zooxanthellae, living in their tissues, causing them to turn entirely white. This is called coral bleaching.

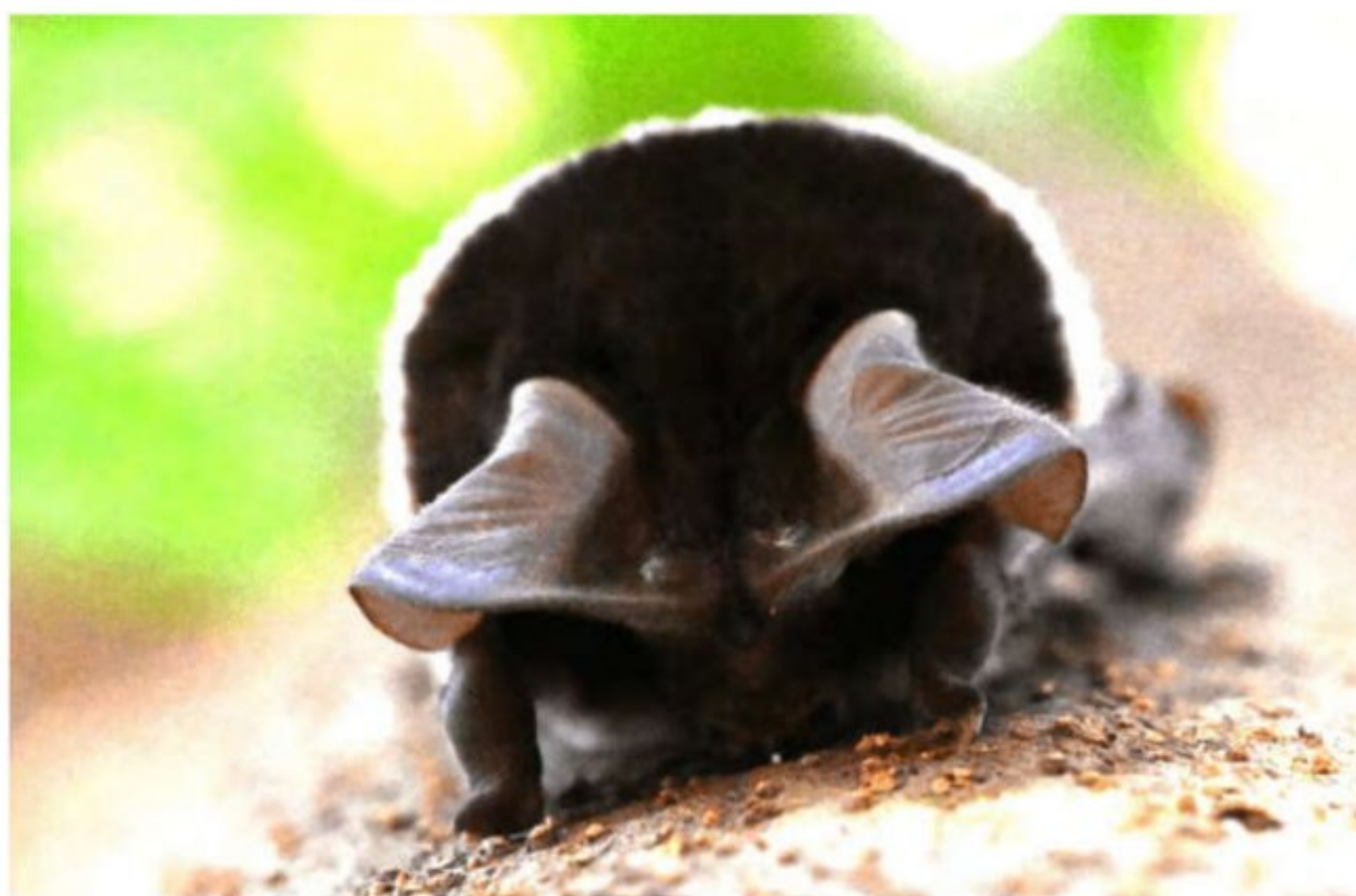
### ● **Wroughton's free-tailed bat**

— Wroughton's free-tailed bat, a highly rare species of molossus bat, has been spotted at the Delhi Development Authority (DDA)'s Yamuna Biodiversity Park, marking a unique sighting.

— This bat species is primarily found in the Western Ghats, where there is only one known breeding colony. Small colonies have also been recorded in Jaintia Hills, Meghalaya, and a single individual was noted in Cambodia.

— Wroughton's free-tailed bat is ecologically important for regulating insect populations and is also known to assist in pollination. Until 2000, the species was considered **critically endangered** because of a single known population in the Western Ghats.

— Later, with discoveries in three different localities, the bat species was placed on the **International Union for Conservation of Nature (IUCN) Red List** as data deficient.



*Wroughton's free-tailed bat is ecologically important for regulating insect populations and is also known to assist in pollination. (Photo: Mohan Singh, officer at the DDA Yamuna Biodiversity Park)*

### ● **2024 was India's warmest year**

— According to the India Meteorological Department, India experienced its warmest year since 1901, beating the previous temperature record of 2016.

— The annual mean land surface temperature averaged over the country was up by 0.65 degrees Celsius, making 2024 the warmest in 123 years. Globally also, the year gone by was racing to become the warmest ever, but the official announcement in this regard is awaited.

— IMD's temperature data (**long period average** based on 1991 – 2020) suggested that the top five warmest years have been : 2016 (0.54 degrees Celsius), 2009 (0.40 degrees Celsius), 2010 (0.39 degrees Celsius) and 2017 (0.38 degrees Celsius).

### ● **Green Crabs**

— Green crabs are an **invasive species** native to Europe. Sea otters are devouring thousands of green crabs at the Elkhorn Slough National Estuarine Research Reserve in California, helping save the ecosystem of the West Coast of the United States.

— Green crabs first arrived in **North America** in the 1800s, likely via the ballast water — fresh or saltwater held in the ballast tanks and cargo holds of ships — of merchant ships from Europe.



— Around the late 1980s, green crabs came to be seen as a threat to coastal ecosystems in the region.

— The **Convention on Biological Diversity (CBD)** defines invasive alien species (IAS) as “species whose introduction and/or spread outside their natural past or present distribution threatens biological diversity”. These include animals, plants, fungi, and even microorganisms, and can influence all kinds of ecosystems.

### ● **Sea Otters**

— Sea otters are devouring thousands of green crabs — an invasive species native to Europe — at the Elkhorn Slough National Estuarine Research Reserve in California, helping save the ecosystem of the West Coast of the United States, according to a new study.

— Once thought to be extinct, **sea otters** have rebounded along the coast, and have eaten so many crabs that they have locally solved a problem that has plagued the West Coast for years.



*Eurasian Otter (Source: Thinkstockimages)*

— Sea otters are a “super voracious predator” as unlike most marine mammals, they rely on a very rapid metabolism to stay warm in chilly oceans.

— Sea otters not only hunt green crabs but also sea urchins — small, spiky animals that can destroy entire forests of kelp, leaving behind deserts called urchin barrens.

— Sea otters are classified as **endangered** on the **IUCN Red List** due to habitat loss and pollution.

### ● **Polar Vortex**

— At least five people have died in the United States after a winter storm hit a large swathe of the country over the weekend. The extreme weather has been caused by the expansion of the polar vortex southwards.

— The polar vortex is a large area of low-pressure and cold air that swirls like a wheel around both of the Earth’s polar regions. There are two types of polar vortex: **tropospheric** and **stratospheric**.

— The tropospheric polar vortex occurs at the lowest layer of the atmosphere — it extends from the surface up to about 10 km to 15 km — where most weather phenomena occur.

— The stratospheric polar vortex occurs at around 15 km to 50 km high. Unlike the tropospheric polar vortex, the stratospheric polar vortex disappears during the summer and is the strongest during the autumn.

— **The US, parts of Europe, and Asia** experience chilly winds when the polar vortex at the North Pole weakens travel from its usual position.

— “As this system weakens, some of the cold, arctic air can break off and migrate south, bringing plenty of cold air with it. Areas as far south as Florida may experience arctic weather as a result,” according to a report in the National Oceanic and Atmospheric Administration (NOAA) SciJinks.



● **Santa Ana winds**

— Multiple wildfires have destroyed homes and businesses, and covered cities and highways in smoke in **Southern California, the United States**. Experts have suggested two reasons for this wildfire - the “Santa Ana” winds and climate change.

— Santa Ana winds blow when high pressure builds over the Great Basin — the area between the Rocky Mountains and Sierra Nevada (a mountain range in the Western United States) — and the pressure is low over California’s coast.

— The difference in pressure triggers the movement of powerful winds from the Basin’s inland deserts, east, and north of Southern California, over the mountains toward the Pacific Ocean.

— As the wind comes down the mountains, it compresses and heats up. The wind’s humidity also drops, sometimes to less than 20% or even less than 10%. The extremely low moisture turns vegetation dry, making it ready to burn. This process helped fuel the three wildfires in Southern California.

— Santa Ana-driven wildfires are a natural part of California’s landscape. However, experts say the wildfire season in California has lengthened in recent years. This has happened primarily because of climate change. Rise in global temperatures over the years has led to warmer springs and summers, and early spring snow melts.



*A wildfire fueled by gusty Santa Ana winds spread through southeast of Los Angeles in the US state of California on Monday. (AP Photo)*

● **Pink fire retardant**

— As multiple wildfires continue to torch Southern California, authorities are using planes to drop a large amount of bright pink fire retardant to curb the blaze.

— Fire retardant is a mix of chemicals used to extinguish or slow down the spread of fires. There are different types of fire retardant but to **tackle wildfires in the US**, authorities most commonly use **Phos-Chek** — a brand of fire retardant — which mostly contains an ammonium phosphate-based slurry.

— Typically, it is made of salts such as ammonium polyphosphate, which does not evaporate easily like water and stays for longer.

Colour is usually added to the fire retardant to ensure that firefighters can see it against the landscape.

— Environmental experts have said that spraying fire retardants using planes is ineffective, expensive and a growing source of pollution for rivers and streams.



*As multiple wildfires continue to torch Southern California, authorities are using planes to drop a large amount of bright pink fire retardant to curb the blaze. (NYT)*



— These toxic metals include chromium and cadmium which can cause **cancer**, and kidney and liver diseases in humans. However, their adverse impact on the environment is of more concern, especially when retardants enter waterways.

### ● Ring of fire

— A strong earthquake with a preliminary magnitude of 6.9 hit the **Kyushu region** in southwestern Japan on January 13. Japan's position along the "Ring of Fire" makes it vulnerable to frequent earthquakes.

— The Ring of Fire is a string of hundreds of volcanoes and earthquake sites that runs along the Pacific Ocean. It is shaped like a semicircle or horseshoe and stretches nearly 40,250 kilometres.

— The Ring of Fire traces the meeting points of numerous tectonic plates, including the Eurasian, North American, Juan de Fuca, Cocos, Caribbean, Nazca, Antarctic, Indian, Australian, Philippine, and other smaller plates, which all encircle the large Pacific Plate, according to a report by National Geographic.

— Japan experiences earthquakes due to the interactions of four tectonic plates — the *Pacific Plate*, the *Philippine Sea Plate*, the *Okhotsk Plate* and the *Eurasian Plate*.

— The existence of volcanoes in the Ring of Fire is also due to the **movement of tectonic plates**. Many of the volcanoes have been formed through a process known as subduction. It takes place when two plates collide with each other and the heavier plate is shoved under another, creating a deep trench.



The map of the Pacific Ring of Fire. (Credit: USGS)

## Science and Technology

### ● SpaDeX Mission

— SpaDeX mission was lifted off from the Satish Dhawan Space Centre in Sriharikota on December 30 by PSLV-C60 and successfully placed two satellites in the desired lower earth orbit.

— The SpaDeX or **Space Docking Experiment** is key to ISRO's future missions – sample return from the Moon, an Indian on the Moon, the building and operation of the Bharatiya Antariksh Station (BAS).

— The success of this mission will make India the fourth country in the world with space docking technology – after Russia (the former USSR), US and China.



— Two small satellites— the **SDX01 Chaser** and **SDX02 Target**, injected in a 475-km circular orbit after the launch, will demonstrate the docking.

— The **Chaser satellite** has a high resolution camera on board – a miniature version of a surveillance camera. The Target is carrying a multispectral payload that will be used for monitoring natural resources and vegetation along with a radiation monitor that will study space radiation and create a database.



*ISRO PSLV-C60 SpaDeX Mission Live Streaming: The PSLV-C60's cargo mainly comprises two small, identical satellites. (Image credit: ISRO)*

— The fourth stage of the launch vehicle will be used as **POEM – or PS4 Orbital Experiment Module** – to demonstrate 24 technologies, including 10 technologies from start-ups and educational institutions.

— This will be the first time an ISRO mission will carry a **biological experiment**. The **CROPS (Compact Research Module for Orbital Plant Studies) experiment** will see the germination of seed and sustenance of a plant up to a two-leaf stage.

### ● **Firefly**

— India's space tech startup **Pixxel** has launched the country's first private satellite constellation, named Firefly, marking a major milestone in the country's space exploration journey.

— Firefly is Pixxel's flagship **hyperspectral imaging satellite constellation**, featuring six of the highest-resolution commercial hyperspectral satellites to date. It has launched three of its six hyperspectral imaging satellites aboard a SpaceX rocket from California.

— The satellites aim to use hyperspectral imaging, a technology that captures highly detailed data across hundreds of light bands to serve industries such as agriculture, mining, environmental monitoring, and defence.

### ● **Third Launchpad**

— The Union Cabinet on January 16 approved the setting up of a third launchpad at the **Satish Dhawan Space Center (SDSC)** in Sriharikota — a spindle-shaped island on the east coast of Andhra Pradesh.

— The new launchpad will help the Indian Space Research Organisation (Isro) to become future ready to use the heavier Next Generation Launch Vehicle (NGLV) that it is currently developing.

— The SDSC is the **country's only spaceport** from which spacecraft and satellites are launched.

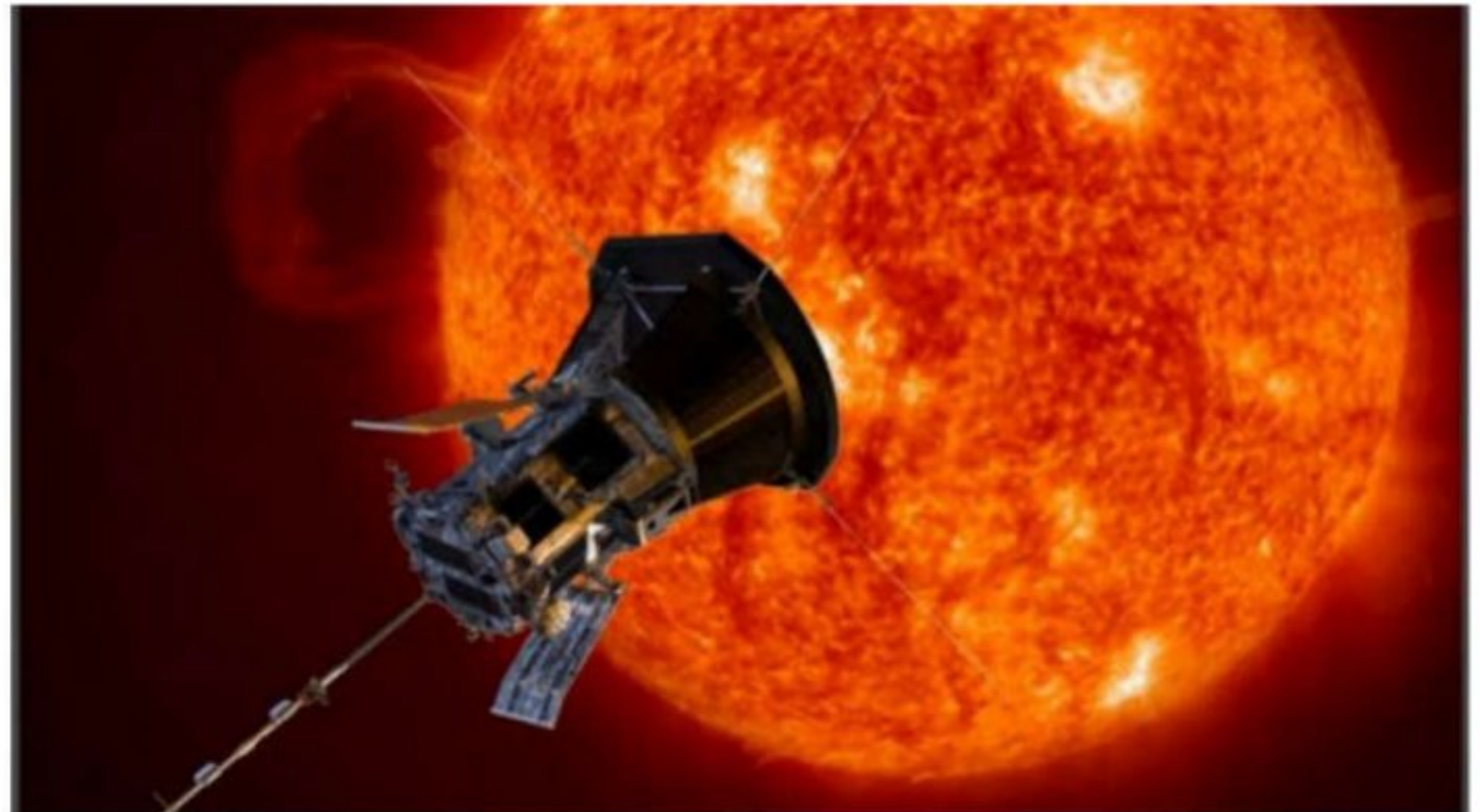


### ● **Parker Solar Probe**

— NASA scientists announced on December 28 that the Parker Solar Probe survived the closest-ever approach to the Sun.

— Launched in **2018**, the Parker Solar Probe was developed as part of NASA's Living With a Star program to explore aspects of the Sun-Earth system that directly affect life and society on Earth.

— It is designed to make observations of the Sun's upper atmosphere, known as the corona, and carries four instrument suites.



*An artist's concept showing Parker Solar Probe. (Photo: NASA/ASL)*

### ● **Neutrinos**

— Scientists have deployed telescopes under the Mediterranean Sea to detect the **high-energy neutrinos** also known as **ghost particles**. The two telescopes are part of the **Cubic Kilometre Neutrino Telescope** or **KM3NeT**.

— These telescopes are much like the IceCube Neutrino Observatory, which can detect high-energy neutrinos from deep space but is under the frozen ice in the Antarctic rather than being in the water.

— Neutrinos are tiny particles, very similar to electrons, but without any electric charge. They are miniscule subatomic particles that hardly interact with anything.

— They were **first detected in 1959**, though their existence was predicted almost three decades earlier, in 1931.

— KM3NeT is a deep-sea research infrastructure in the **Mediterranean Sea**, comprising a neutrino telescope with a volume of at least one cubic kilometre. It uses Cherenkov radiation to study neutrinos.

### ● **Air-to-ground (ATG) technology**

— Air India welcomed the new year by announcing the availability of Wi-Fi Internet access services on domestic and international flights operated by chosen aircraft in its fleet.

— In-flight communication systems rely on ground-based cellular towers, commonly known as air-to-ground (ATG) technology, and satellite-based connectivity. Both require the installation of special antennae and other equipment on the aircraft.

### ● **Automated & Intelligent Machine-aided Construction (AIMC) system**

— Given the concerns over delays in the completion of many National Highway projects across the country, the Ministry of Road Transport & Highways (MoRTH) has expedited the use of Automated & Intelligent Machine-aided Construction (AIMC) system.



— **NHAI** is implementing AIMC on a pilot basis in the 63-km long under-construction **Lucknow-Kanpur Expressway** Project, also known as the Awadh Expressway, where automated & intelligent machines such as GPS-aided motor grader, intelligent compactor, and stringless paver have been used.

— Officials said that on the basis of these pilot projects, there will be countrywide adoption of the AIMC in National Highway construction.

### ● **Hybrid Aerogel**

— A novel hybrid aerogel capable of easily extracting gold from electronic waste was developed by a group of researchers from Pune.

— Sujit Ghosh and team at IISER, Pune, have designed and synthesised aerogel : the sponge-like absorbents, light in weight and porous synthetic materials for this purpose.

— Aerogels are most preferred in environment and oil spill clean up, for insulation purposes and more.

### **Handy data on e-waste**

— Between 2020 and 2022, the e-waste generation grew by 131 per cent, according to UN Trade and Development report.

— The Global E-waste monitor 2020 report has projected an increase of e-waste from 9.2 million tons to 74.7 million tonnes by the end of this decade in India.

### ● **Jetson Orin Nano Super**

— **Nvidia** unveiled the Jetson Orin Nano Super Generative AI supercomputer on December 17.

— It brings a lot more computing power in a tiny form factor. Owing to its enhanced performance, the supercomputer can help developers fuel innovation.

### ● **Data on obesity**

— Globally, one in eight people were living with obesity in 2022. There were 890 million adults and 160 million adolescents living with obesity in 2022.

— In India, there were 44 million women and 26 million men living with obesity in 2022.

— WHO scientists say that global costs associated with obesity are likely to reach \$3 trillion by 2030. In countries with 30 per cent prevalence of obesity, it could absorb up to 18 per cent of the national health expenditure.



*In a way, Nvidia's latest tiny supercomputer is making AI accessible for businesses of all sizes. (Picture Credit: Nvidia)*



## Diseases

(**Just FYI:** UPSC has consistently included questions on health and diseases in its examinations over the years. For instance, in 2014, a question about the Ebola virus appeared in the Prelims, and in 2017, a question about the Zika virus was featured. Therefore, it is crucial to stay updated on diseases that are currently in the news.)

### ● Hepatocellular carcinoma

— Hepatocellular carcinoma or HCC is a **type of cancer** where malignant cells grow in the liver's main cells, called hepatocytes.

— It accounts for the vast majority of liver cancer cases and is one of the leading causes of cancer deaths globally.

— According to available data, the incidence rate of hepatocellular carcinoma (HCC) in India for men “ranges from 0.7 to 7.5 and for women 0.2 to 2.2 per 100,000 population per year,” said Dr Sheetal Mahajani, senior hepatologist and one of the pioneers of the liver transplant programme in Pune.

— Hepatocellular carcinoma is treated by **transarterial chemo-embolization (TACE)**. This is a minimally invasive procedure that involves injecting chemotherapy drugs and particles that block blood supply to the tumour through a catheter.

— Once the particles block blood to the tumour, starving it of oxygen and nutrients, chemotherapy drugs reach it in higher concentrations for a longer period of time, which can kill more cancer cells.

### ● HMPV

— The Union Health Ministry has convened a joint monitoring group and has sought timely updates from the World Health Organisation after reports of **increasing cases of respiratory illnesses** likely HMPV in China.

— HMPV or **human metapneumovirus** is similar to RSV — which is a common pathogen that leads to common cold — and leads to symptoms such as cough, fever, runny nose, and sore throat. It may sometimes lead to more severe symptoms like pneumonia among the very young and the elderly.

### ● Norovirus

— The stomach infection norovirus is causing alarm in the United States. In India, norovirus has previously **affected people in Kerala**, although on a much smaller scale compared to the numbers in the US.

— Norovirus is a highly contagious virus that is also sometimes referred to as the ‘winter vomiting bug’. It can be transmitted through contaminated food, water, and surfaces. The primary route is oral-faecal.

— It is similar to diarrhoea-inducing rotavirus and infects people across age groups. Disease outbreaks typically occur aboard cruise ships, in nursing homes, dormitories, and other closed spaces.

## Persons in News

(**Just FYI:** Noting historical personalities' anniversaries aids UPSC prep. UPSC often includes such personalities in questions, so revisiting their lives refreshes your static syllabus.)



● **Jimmy Carter**

— Jimmy Carter, who served as the **39th President** of the US, passed away on 29 December 2024 in his home in Plains, Georgia. He was 100.

— Carter, who served as the president from 1977 to 1981, lived longer than any president in the history of the US.

— He was awarded the **Nobel Peace Prize in 2002** for undertaking peace negotiations, campaigning for human rights, and working for social welfare.

— The high-point of his presidential term was the peace agreement between Egypt and Israel.



*Egyptian President Anwar Sadat, left, U.S. President Jimmy Carter, center, and Israeli Prime Minister Menachem Begin clasp hands on the north lawn of the White House after signing the peace treaty between Egypt and Israel, March 26, 1979, in Washington. (photo: AP)*

● **Sree Narayana Guru**

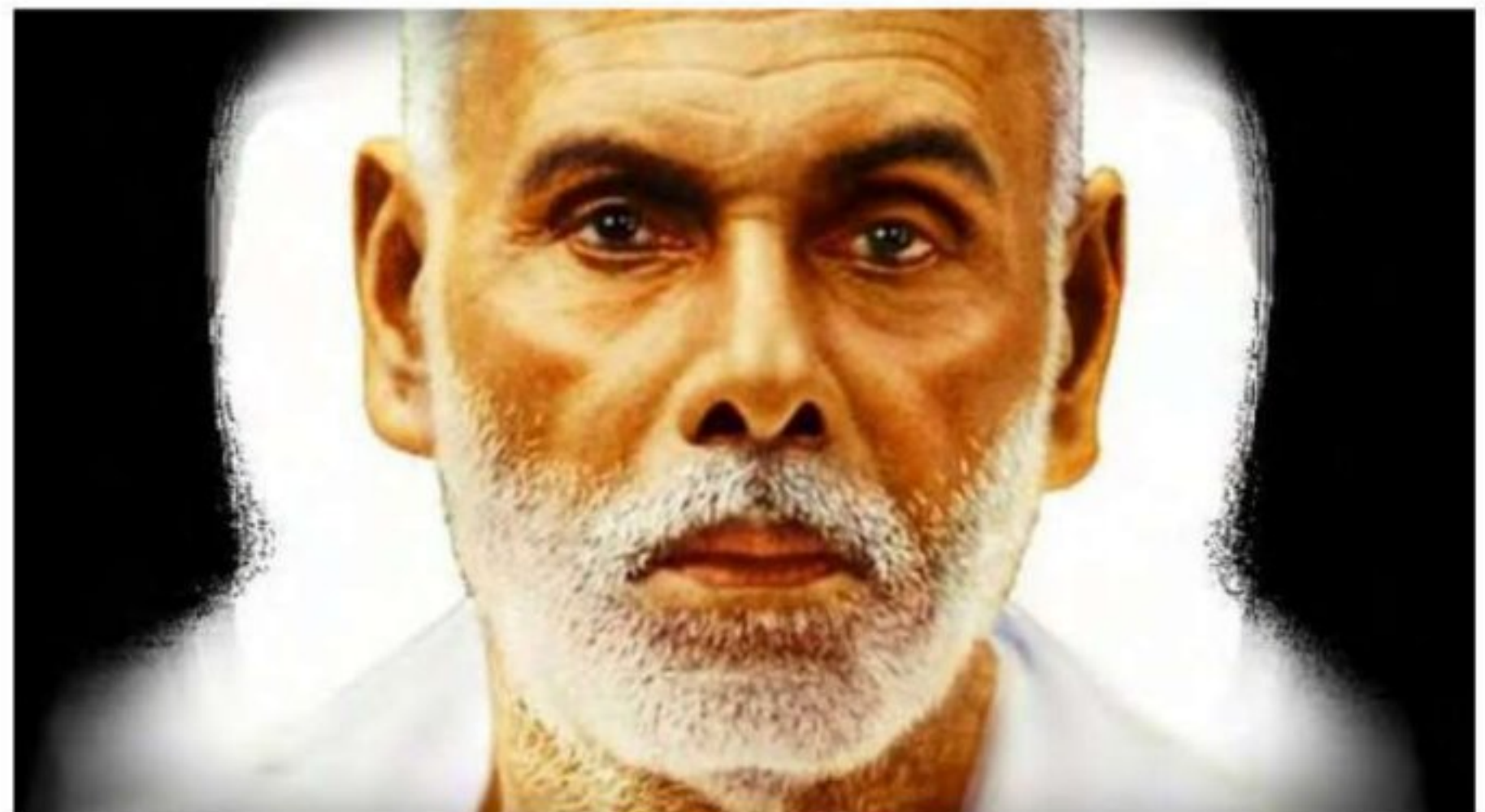
— The ruling CPI(M) in Kerala and **BJP** have locked horns now over Sree Narayana Guru.

— **Sree Narayana Guru** (20 August 1856 – 20 September 1928) was a saint, philosopher, spiritual leader, and a social reformer from Kerala.

— Guru's teachings and philosophy – dating back to the early part of the last century – have come to be known as Advaita Vedanta.

It is a doctrine of “non-duality”, in which Guru says that the “ultimate reality” or “Brahman” is singular and indivisible, and that the “individual self” or “Atman” is one with this universal essence.

— His teachings call for individuals to turn inwards, recognise their “divine nature”, and embrace “the interconnectedness of all beings”.



*Sree Narayana Guru was one of Kerala's top social reformers in the early 1900s.*

● **Dr R Chidambaram**

— A former chairman of the Atomic Energy Commission and a former Principal Scientific Advisor, Chidambaram passed away at the age of 88.

— The idea to explode a thermonuclear device — the hydrogen bomb — during the 1998 tests could be largely attributed to him.



### ● Om Prakash Chautala

— Indian National Lok Dal (INLD) supremo and five-time Haryana chief minister Om Prakash Chautala passed away Friday on 20th December.

— Chautala was born to former Deputy Prime Minister Devi Lal and Harki Devi.

— Chautala holds the distinction of being Haryana's CM for the maximum number of times but his overall tenure was around six-and-a-half years. The only full term he could complete was from 2000 to 2005.



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*On December 2, 1989, O P Chautala became the CM for the first time after Devi Lal vacated the chair and went to Parliament.*

### ● Ustad Zakir Hussain

— Tabla virtuoso Ustad Zakir Hussain passed away at the age of 73 in the United States after complications from **idiopathic pulmonary fibrosis**.

— The percussionist received the Padma Shri in 1988, Padma Bhushan in 2002, and the Padma Vibhushan in 2023. He was the recipient of four Grammy awards in his career.

— In 1999, he received the United States National Endowment for the Arts National Heritage Fellowship, a testament to his global impact.

### ● Idiopathic Pulmonary Fibrosis (IPF)

— The exact cause of the initial injury to lung tissue is unknown, which is why it is called “idiopathic” (meaning without a clear origin).

— It is believed that genetic factors, environmental exposures, and chronic inflammation all play a role in triggering this faulty repair process.

— Fibrosis causes the lungs to stiffen, making breathing harder.

### ● Manmohan Singh

— Former Prime Minister Dr. Manmohan Singh passed away on **26th December** at the age of 92. The Union government has declared a seven-day mourning period for Singh and has canceled all government programs scheduled for Friday.

— He was the **chief architect** of the **economic reforms**, particularly the LPG (Liberalization, Privatization, and



*Singh served as Prime Minister from May 22, 2004, to May 26, 2014, leading the Congress-led United Progressive Alliance (UPA) government for a historic 3,656 days.*



Globalization) policy in the 1990s, which transformed India's economic trajectory.

— Singh's reforms in 1991 sought to liberalise and end the 'Licence Raj' through industrial policy reforms.

— Singh served as **Prime Minister** from **May 22, 2004**, to **May 26, 2014**, leading the Congress-led United Progressive Alliance (UPA) government for a historic 3,656 days. His tenure made him the third longest-serving Prime Minister in Indian history, following Jawaharlal Nehru and Indira Gandhi.

### ● **V Ramasubramanian**

— Former Supreme Court judge **V Ramasubramanian** has been appointed as the 9th Chairperson of the National Human Rights Commission (NHRC) for a tenure of three years until December 2027.

— The previous NHRC chairman, Justice Arun Mishra, completed his term on June 1, 2024.

— The first NHRC chairman was former Chief Justice of India Ranganath Mishra.

— Until 2019 only former Chief Justices of India could be appointed as NHRC chairperson. However, in July 2019, the Protection of Human Rights Act, 1993, was amended to also allow former SC judges for the post.

— The committee to select the NHRC chairperson is headed by the Prime Minister. It has the Lok Sabha Speaker, the Union Home Minister, the Leaders of the Opposition in the Lok Sabha and Rajya Sabha, and the Deputy Chairperson of the Rajya Sabha as its members.

### ● **Sanjay Kishan Kaul**

— Retired Supreme Court judge Sanjay Kishan Kaul has been appointed a member of the **Bahrain International Commercial Court** by King Hamad bin Isa Al Khalifa. He is among the nine members appointed to the newly established BICC.

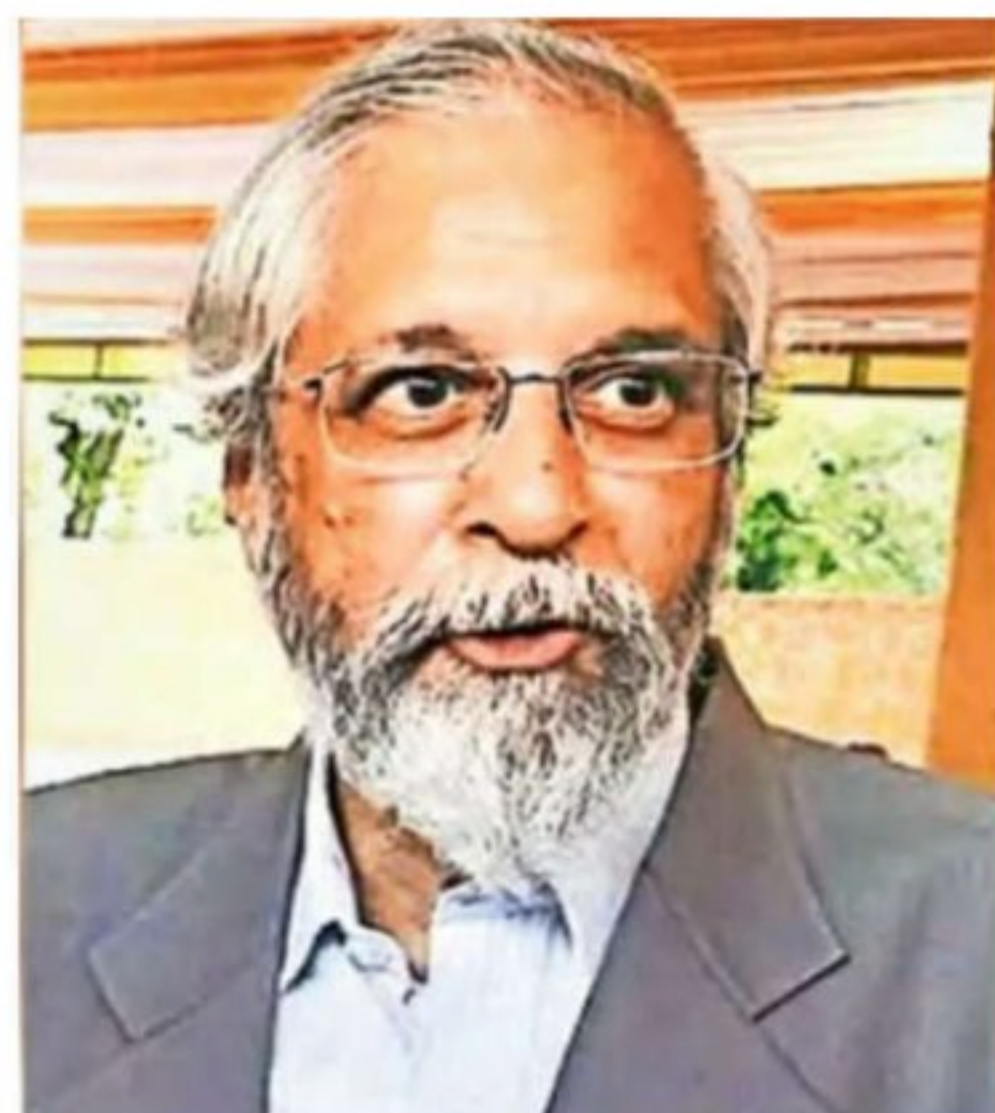
— Leading arbitrator Jan Paulsson has been appointed as BICC president and former British judge Sir Christopher Greenwood as its vice president.

— The BICC is a part of the Bahrain government's "Team Bahrain" to enhance private sector investment in the country by providing a forum for dispute resolution between parties.

### ● **Madan B Lokur**

— Retired Supreme Court judge Madan B Lokur has been appointed **chairperson** of the **United Nations Internal Justice Council**.

— The Internal Justice Council comprises five members appointed by the Secretary-General. The other four members on the list are Carmen Artigas (Uruguay), Rosalie Balkin (Australia), Stefan Brezina (Austria) and Jay Pozenal (United States of America).



*Madan B Lokur*



● **Bapsi Sidhwa**

— Bapsi Sidhwa died in Houston, Texas. She was 86. She is survived by her novels known for their comedy, tragedy and seamless fusion of the political and personal.

— Her first novel, **The Crow Eaters** (1978), published to much backlash in Pakistan, was about a Parsi businessman, a stalwart of his community, who couldn't tolerate his mother-in-law. The book tracked his fortunes and failures after he uprooted his family's life in central India and moved them to Lahore.

● **Shyam Benegal**

— Shyam Benegal breathed his last on 23rd December at the age of 90. Benegal has been suffering from chronic kidney disease for several years.

— He was honoured with the **Padma Shri in 1976** and the Padma Bhushan in 1991.

— His impressive body of work includes a host of landmark television shows and documentaries, including landmark series such as *Yatra* (1986) and *Bharat Ek Khoj* (1988).

● **MT Vasudevan Nair**

— Renowned Malayalam author-filmmaker MT Vasudevan Nair passed away on **December 25**, in Kozhikode at the age of 91.

— Important works: *Valarthumrigangal*, *Kalam*, *Gopuranadayil*, *Swargam Thurakkunna Samayam*, *Randamoozham*, and more.

— At 25, he won the Kerala Sahitya Akademi award for *Naalukettu*. In 1970, he won the Sahitya Akademi prize for his fifth novel, *Kaalam*. He won the National Award for screenplay four times and the Kerala State film award 11 times.

● **V Narayanan**

— The Central Government has appointed Dr V Narayanan, currently the director of Liquid Propulsion Systems Centre (LPSC), Thiruvananthapuram, as the **new chairperson of the Indian Space Research Organisation (ISRO)**, and also as the secretary of the Department of Space.

— Dr Narayanan started his career at the space agency in 1984 and has worked towards developing key technologies used in the launch vehicles of today, including the workhorse PSLV and the country's heaviest LVM3.

— LPSC, the center that Dr Narayanan was heading, is working towards developing the Next Generation Launch Vehicle (NGLV) — a heavier launch vehicle that would be needed for India's ambition of setting up its own space station and sending a man to the moon.



*Dr Narayanan started his career at the space agency in 1984 and has worked towards developing key technologies.*



• **General Joseph Aoun**

— General Joseph Aoun, a 60-year-old career soldier, has been elected president of **Lebanon**, filling a position that had been vacant for over two years. He is the fifth army commander in Lebanon's history to become president, and succeeds former President Michel Aoun, who is not related to him.

— During a year-long conflict between Israel and Hezbollah, Aoun kept the Lebanese military neutral. Despite the deaths of over 40 Lebanese soldiers in Israeli strikes, the army avoided direct engagement in the conflict.



Newly-elected Lebanese President Joseph Aoun reviews the honor guard upon his arrival at the Lebanese Parliament to be sworn in as a new president, in Beirut, Lebanon. (AP photo)

**Places in News**

(**Just FYI:** The location of the place is important, considering that UPSC has asked several questions about places that were in the news, such as Aleppo and Kirkuk, in the 2018 UPSC Prelims. The best way to remember them is to plot them on a world map.)

• **Z-Morh Tunnel**

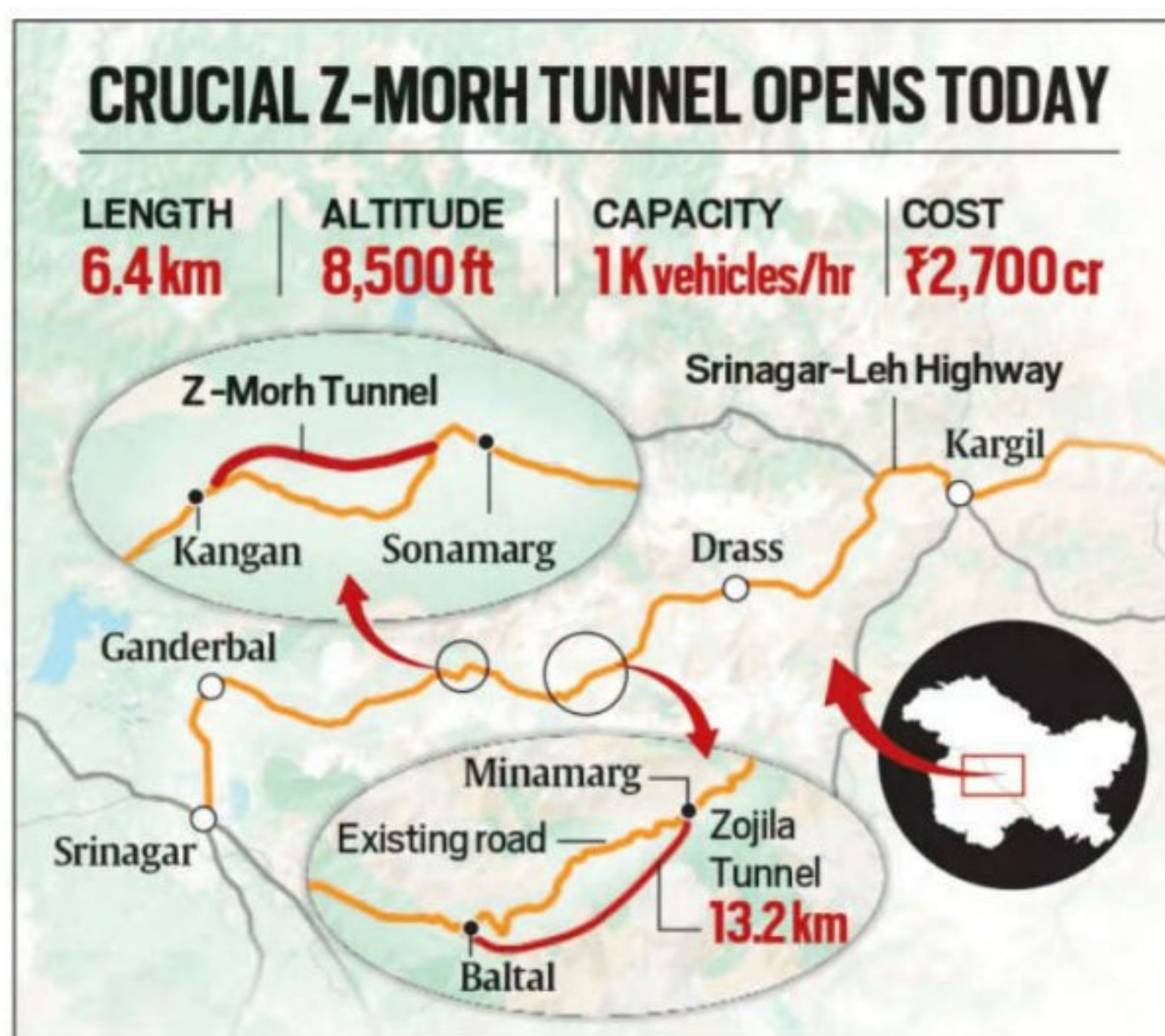
— Prime Minister Narendra Modi inaugurated the Z-Morh tunnel, which is renamed as **Sonmarg tunnel**, on 13th January, a strategically significant infrastructure project located in the Ganderbal district of Jammu and Kashmir.

— The name “Z-Morh” derives from the **Z-shaped roadway** that existed before the tunnel's construction, which was situated at an elevation of over 8,500 feet and was susceptible to snow avalanches during winter, which led to the closure of access to Sonamarg throughout the cold months.

— The Z-Morh tunnel is part of the Zojila tunnel project that aims to provide all weather connectivity from Srinagar to Ladakh throughout the year. Concurrently, the construction of the **Zoji-la Tunnel**—linking **Sonamarg in Kashmir** to **Drass in Ladakh**—is in progress, with completion slated for December 2026.

— A 6.4-km bi-directional tunnel with an approach road of 5.6 km, Z-Morh joins Gagangir in Ganderbal with Sonamarg health resort, which will help to boost winter tourism. It will provide safe connectivity between Srinagar, Dras, Kargil and Leh regions.

— It is developed by National Highways and Infrastructure Development Corporation Limited (NHIDCL).



The Z-Morh Tunnel project was originally conceived in 2012 by the Border Roads Organisation (BRO), a unit of India's Ministry of Defense responsible for maintaining roads in border areas.



## ● Kerch Strait

— An emergency task force arrived in **Russia's southern Krasnodar region** as an oil spill in the Kerch Strait from two storm-stricken tankers continues to spread a month after it was first detected, officials said.

— **Kerch Strait** separates the Russia-occupied Crimean Peninsula from the Krasnodar region.

— The Kerch Strait is an important global shipping route, providing passage from the inland Sea of Azov to the Black Sea. It has also been a key point of conflict between Russia and Ukraine after Moscow annexed the peninsula in 2014.

## ● Panama Canal

— US President-elect Donald Trump's remark that he would not rule out the use of military force to secure control over the Panama Canal has sparked a fresh debate.

— The United States built the canal in early 1914 as it looked for ways to facilitate the transit of commercial and military vessels between its coasts. **The canal is one of the two most strategic artificial waterways in the world alongside the Suez Canal.**

— It **connects the Atlantic and Pacific Oceans through the narrow Isthmus of Panama.**

— Washington relinquished control of the waterway to Panama on Dec. 31, 1999, under a treaty signed in 1977 by President Jimmy Carter.

## ● Winter Char Dham circuit

— The Uttarakhand government on December 8 inaugurated the winter Char Dham circuit, aimed at drawing tourists to the state in the off-season winter months.

— The four revered Hindu shrines or dhams — **Gangotri, Yamunotri, Kedarnath, and Badrinath**- collectively known as Char Dham.

— During the winter months, the presiding deities of these temples are brought to shrines at lower altitudes — Mukhba in Uttarkashi is the winter seat of Gangotri Dham; Kharsali in Uttarkashi is the winter seat of Yamunotri Dham; Kedarnath's winter abode is the Omkareshwar Temple in Rudraprayag's Ukhimath; and Badrinath's is at Pandukeshwar in Chamoli.

— The winter Char Dham is aimed at drawing pilgrims to these shrines, and thus attract tourist footfall to Uttarakhand during off-season months.



*The Panama Canal connects the Pacific and Atlantic Oceans. (Express graphic, data via Scientific American)*



● **Belgaum session, Karnataka**

— Congress leaders planned to celebrate the 100 years of Mahatma Gandhi presiding over the Congress's historic Belgaum session as the party president in 1924.

— Exactly 100 years ago, on **December 26-27, 1924**, the Congress held its **39th session in Belgaum** (now Belagavi) — the sole session to be chaired by Mahatma Gandhi.

— Belgaum was then a part of the Bombay Presidency. The session's venue was named Vijayanagara, after the Vijayanagara Empire.

● **Ken- Betwa River Linking National Project**

— Prime Minister Narendra Modi laid the foundation stone of the **Ken- Betwa River Linking National Project** on December 25, on the 100th birth anniversary of former Prime Minister Atal Bihari Vajpayee.

— The KBLP envisages transferring water from the Ken River to the Betwa River, both tributaries of the Yamuna. The Ken-Betwa Link Canal will be 221 km in length, including a 2-km tunnel.

— It is the first project under the National Perspective Plan for the interlinking of rivers, which was prepared in 1980. This plan has 16 projects under its peninsular component, including the KBLP. Apart from this, 14 links are proposed under the Himalayan rivers development plan.

— The Ken-Betwa Link Project has **two phases**. Phase I will involve building the Daudhan Dam complex and its subsidiary units such as the Low-Level Tunnel, High-Level Tunnel, Ken-Betwa Link Canal, and power houses. Phase II will involve three components — Lower Orr Dam, Bina Complex Project, and Kotha Barrage.

— On March 22, 2021, a memorandum of agreement was signed among the Ministry of Jal Shakti and the governments of **Madhya Pradesh** and **Uttar Pradesh** to implement the Ken-Betwa Link Project.

● **Pokhara, Nepal**

— Nepal's tourism capital, **Pokhara**, has taken adventure tourism to new heights with its inaugural International Balloon Festival.

— The nine-day event, running from December 24, 2024, to January 2, 2025, is being held in the Pame region, known for its scenic beauty and adventure opportunities.



*The festival spans three kilometers, from Lauruk to Chankhapur. (Photo: @sthemanta via Kantipur)*

● **Greenland**

— Donald Trump has expressed his intention to gain control of Greenland, an autonomous territory of Denmark. During his first term, Trump looked into the idea of buying the island territory.

— **Greenland** is geographically part of the North American continent. It became a formal territory of Denmark in 1953 and is subject to the Danish constitution, meaning any change to its legal status would require a constitutional amendment.



## Awards

### • Sahitya Academy Awards

<https://telegram.me/+KSUmQ-87JBE2NTE1> Mags®Papers

— The Sahitya Akademi was established by Jawaharlal Nehru, who was also its first chairperson, and inaugurated on March 12, 1954.

— Every year, the Akademi announces awards for authors of works of outstanding literary merit in Indian languages.

— Awards are currently given for 24 languages; the most recent additions being Bodo and Santhali in 2005. Awards in English began in 1960 — the first recipient was R K Narayan for his novel *The Guide*.

Category	Awardees
<b>Poetry</b>	Sameer Tanti (Assamese), Dileep Jhaveri (Gujarati), Gagan Gill (Hindi), K. Jayakumar (Malayalam), Haobam Satyabati Devi (Manipuri), Paul Kaur (Punjabi), Mukut Maniraj (Rajasthani), Dipak Kumar Sharma (Sanskrit)
<b>Novel</b>	Aron Raja (Bodo), Easterine Kire (English), Sohal Koul (Kashmiri)
<b>Short Stories</b>	Yuva Baral (Nepali), Hundraj Balwani (Sindhi)
<b>Essays</b>	Mukesh Thali (Konkani), Mahendra Malangia (Maithili), Baishnab Charan Samal (Odia)
<b>Literary criticism</b>	K.V. Narayana (Kannada), Sudhir Rasal (Marathi), Penugonda Lakshminarayana (Telugu)
<b>Play</b>	Maheswar Soren (Santali)
<b>Research</b>	A.R. Venkatachalapathy (Tamil)





Golden Globes 2025 Winners List: Hiroiyuki Sanada won Best Actor in a Television Series for his role in *Shōgun*, and Adrien Brody received the Best Actor in a Motion Picture – Drama award for *The Brutalist*. (Pic: Reuters)

● **Golden Globes 2025**

— The winners of the 82nd Golden Globe Awards are:

<b>Best Film (Drama)</b>	The Brutalist
<b>Best Film (Musical or Comedy)</b>	Emilia Pérez
<b>Best Male Actor in a Film (Musical or Comedy)</b>	Sebastian Stan, A Different Man
<b>Best Male Actor in a Film (Drama)</b>	Adrien Brody, The Brutalist
<b>Best Female Actor In a Film (Drama)</b>	Fernanda Torres, I’m Still Here
<b>Best Television Series (Drama)</b>	Shogun
<b>Best Television Series (Musical or Comedy)</b>	Hacks
<b>Best Film (Animated)</b>	Flow



## Sports

(*Just FYI:* With the unpredictability of the UPSC examinations and questions like the ICC World Test Championship question 2021, you can't be sure of anything. It is wise to know what it is and not go into too much detail.)

### • National Games 2025

— **Uttarakhand** is hosting the **38th National Games** from January 28 to February 14, 2025.

— The mascot, named “Mauli,” is inspired by the Monal, the state bird of Uttarakhand, symbolizing the region's uniqueness and encouraging young athletes to aim high.

— The logo, also inspired by the Monal, highlights the natural beauty and diversity of Uttarakhand.

— The tagline for the Games is “Sankalp Se Shikhar Tak” (From Resolve to Zenith).

— The theme for the event this year is “**Green Games**” emphasising the usage of environment-friendly items.

### • World Blitz Championship

— **R Vaishali** won the bronze medal at the **World Blitz Championship** after reaching the semi-finals at the year-end event at New York's Wall Street.

— Ju Wenjun clinched the women's blitz crown by defeating Lei Tingjie in the final. Vaishali had lost to Wenjun in the semis and finished behind the two Chinese women.

— In the men's section, **Magnus Carlsen** and **Ian Nepomniachtchi** agreed to share the title after both players won two games each in the final and three tie-break games were drawn.

### • Koneru Humpy

— Humpy was crowned **FIDE Women's World Rapid Champion**, clinching her second title in this tournament.

— The 37-year-old from Vijayawada won the women's World rapid championship after defeating Indonesia's Irene Sukandar in the final round. This is the second World rapid title for Humpy, which she won first in 2019.



India's Koneru Humpy won the FIDE Women's World Rapid Champion. (FIDE)

### • National Sports Awards 2024

— **Major Dhyan Chand Khel Ratna Award** is given for the spectacular and most outstanding performance in the field of sports by a sportsperson over the period of the previous four years.

— **Arjuna Award** for outstanding performance in Sports and Games' is given for good performance over a period of the previous four years and for showing qualities of leadership, sportsmanship and a sense of discipline.

— Praveen Kumar, D Gukesh, Manu Bhaker and Harmanpreet Singh will be honoured with the Major Dhyan Chand



Khel Ratna Award. The ministry also announced 32 Arjuna Awardees.

— The Khel Ratna winners receive a cash prize of Rs 25 lakh along with a citation and a medallion. The Arjuna awardees are given Rs 15 lakh as cash reward, a statuette of Arjuna and a citation. The award ceremony will be held in New Delhi on January 17.

## Terms making buzz

— **Nanoship**: According to a dating app, nanoship is small, yet meaningful interactions. It is a connection that is pregnant with all sorts of possibilities but not weighed down by any of them.

— **Planet parade**: A ‘planet parade’ refers to a situation when several planets in our solar system are visible in the night sky, at the same time. It is not a technical term in astronomy.

— **Artesian Aquifer**: According to the United States Geological Survey’s website, an artesian aquifer refers to water stored under pressure, between layers of sediments and soil below the earth’s surface. It is also described as “confined” water because of hardy materials above and below it.

— **Soapstone**: Soapstone is a metamorphic rock made of talc, a naturally occurring mineral, and is used in construction and design for countertops, sinks, hearths, and sculptures. Talc is used in cosmetics, pharmaceuticals, and other industries. According to the Indian Bureau of Mines, the states of **Rajasthan** (57%) and Uttarakhand (25%) boast substantial reserves of soapstone in India.



## Practice Quiz

### Current Affairs Revision MCQs

Brush Up Your Current Affairs Knowledge And Consolidate Your UPSC CSE Preparation.

Compiled by **Nitendra Pal Singh**

#### QUESTION 1

Consider the following statements:

1. The human brain processes thought at a much faster rate than the rate of information transmitted over the Internet.
2. The human brain processes sensory information from sight, smell, and sound at a rate that is approximately 100,000,000 times faster than cognition.

**Which one of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

#### QUESTION 2

With reference to the interactive art, consider the following statements:

1. It is a type of art that requires the intervention of viewers — they can control or dictate the course of artwork.
2. The roots of interactive art go back to the early 20th Century when surrealist artists such as Salvador Dali and Joan Miro challenged conventional notions of art.
3. This art cannot be done through artificial intelligence.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only

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

#### QUESTION 3

**The port of Hodeida was recently in the news. It is located in:**

- (a) Israel
- (b) Oman
- (c) Yemen
- (d) Sri Lanka

#### QUESTION 4

Consider the following statements about the National Consumer Disputes Redressal Commission (NCDRC):

1. It is a quasi-judicial commission in India.
2. It was set up in 2018 under the Consumer Protection Act of 2013.
3. The head office of the NCDRC is situated in Mumbai.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None



### QUESTION 5

With reference to the Sea otters, consider the following statements:

1. They were mainly hunted for their thick, soft fur.
2. They are considered as the “fully protected mammal”.
3. The sea otter population is not affected by the oil spills.
4. They rely on a rapid metabolism to stay warm in chilly oceans.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

### QUESTION 6

Consider the following statements:

1. The indexes of prices paid (IPP) for farmers have decreased from 2004-05 to 2022-23.
2. The indexes of prices received (IPR) for agricultural labourers have increased from 2004-05 to 2022-23.
3. The terms of trade for farmers have decreased from 2004-05 to 2022-23.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

### QUESTION 7

With reference to the Forest Rights Act, consider the following statements:

1. It was enacted during the first term of Manmohan Singh.
2. This Act empowered tribal and forest-dwelling

communities by recognising their historical rights over forest land and forest resources.

3. The act does not encompass the Community Rights as Grazing.
4. The Gram Sabha is an empowered body under the Act.

**Which of the statements given above are correct?**

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

### QUESTION 8

Consider the following statements:

1. The Right of Children to Free and Compulsory Education (RTE) Act of 2009 was meant to provide free and compulsory education to all children aged 6 to 14.
2. The Ministry of Education allowed students in Classes 5 and 8 in central schools, including Kendriya Vidyalayas and Jawahar Navodaya Vidyalayas, to be held back if they failed to clear examinations.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 9

**The term ‘neoantigens’ refers to:**

- (a) These are proteins that are found only on cancerous cells.
- (b) These can be caused by viral infections that lead to transcription and translation errors
- (c) These are carbohydrate antigens that are expressed on the surface of red blood cells (RBCs).
- (d) These are antigens that have not yet been processed by an APC into smaller parts.



### QUESTION 10

With reference to the sudden cardiac arrest and heart attack, consider the following statements:

1. A sudden cardiac arrest is described as a condition where the heart comes to a standstill and loses all its activity due to an irregular heart rhythm while a heart attack is the result of plaque blockages and clotting in arteries that restrict blood flow to the heart, causing muscle scarring.
2. A blockage can cause a sudden cardiac arrest.
3. If the heart attack can change the heart's electrical impulses, then it could become a trigger for a sudden cardiac arrest.

**Which of the statements given above are correct?**

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

### QUESTION 11

**Hay-Bunau-Varilla Treaty is related to which of the following events of history?**

- (a) It was a multilateral agreement attempting to eliminate war as an instrument of national policy.
- (b) It was a treaty adopted by more than 100 countries that prohibited the manufacture, transfer, and use of cluster munitions.
- (c) It was a peace agreement that ended the Russo-Japanese War.
- (d) It established the Panama Canal Zone and the construction of the Panama Canal.

### QUESTION 12

With reference to 18th biennial State of Forest Report (ISFR-2023) by the Forest Survey of India (FSI), consider the following statements:

1. For the first time, India's green cover has exceeded the 25% threshold
2. Between 2003 and 2023, dense forests — half the size of Punjab — have disappeared.

**Which of the above given statements are true?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 13

**Government of India's 'SVAMITVA' scheme is related to:**

- (a) encouragement to employers to create new jobs
- (b) property survey and mapping
- (c) eradicating bonded labor in India
- (d) grant for construction workers to purchase tools

### QUESTION 14

**Prime Minister Narendra Modi was recently awarded the Wisam Mubarak al-Kabeer. It is the highest national award of:**

- (a) Oman
- (b) United Arab Emirates
- (c) Qatar
- (d) Kuwait

### QUESTION 15

With reference to the Ken-Betwa river linking project, consider the following statements:

1. Both the rivers are tributaries of Yamuna.
2. It is the first project under the National Perspective Plan for interlinking of rivers, which was prepared in 1980.
3. The project will involve large-scale deforestation inside the heart of the Bandhavgarh National Park.

**Which of the above given statements are correct?**

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



### QUESTION 16

Consider the following statements:

Statement 1: The United States has announced its emission reduction target for 2035, promising to reduce its emissions to 61-66 per cent below 2005 levels by that time.

Statement 2: The current US target for 2030 aims to attain 50-52 per cent reductions over 2005 levels.

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement 1 and Statement 2 are correct and Statement 2 is the correct explanation for Statement 1.
- (b) Both Statement 1 and Statement 2 are correct and Statement 2 is not the correct explanation for Statement 1.
- (c) Statement 1 is correct but Statement 2 is incorrect.
- (d) Statement 1 is incorrect but Statement 2 is correct.

### QUESTION 17

With reference to the use of Automated & Intelligent Machine-aided Construction (AIMC) system, consider the following statements:

- 1. It will provide real-time data on the status of each project, with a survey going hand-in-hand with construction at every stage of the road-building process.
- 2. India will be the first country to implement the AIMC.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 18

With reference to the Colombo Security Conclave

mechanism, consider the following statements:

- 1. It was formed in 2018.
- 2. It is a trilateral maritime security grouping of India, Sri Lanka and Bangladesh.
- 3. Recently, India has flagged the importance of maritime security and the possibility of working on the rehabilitation of Sri Lanka's Kankesanthurai port.

**Which of the statements given above is/are correct?**

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

### QUESTION 19

**Which of the following countries has eradicated the Northern giant hornet, nicknamed the "murder hornet"?**

- (a) China
- (b) Mexico
- (c) United States
- (d) Brazil

### QUESTION 20

With reference to the Edible oils, consider the following statements:

- 1. Edible oils currently attract an 18 per cent rate of Goods and Services Tax.
- 2. Before 2017 the GST regime was implemented, provisions of the Central Excise Tariff Act, 1985 (CET Act) were applied to coconut oil.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2



### QUESTION 21

With reference to the Captagon, consider the following statements:

1. It is manufactured to help treat attention deficit disorders.
2. It contains fenethylamine.
3. It was commercially sold in several countries until the 1980s and was banned due to fears of its highly addictive nature.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

### QUESTION 22

**The buffalo and bulbul fights are part of the folk culture associated with the winter harvest of:**

- (a) Karnataka
- (b) Arunachal Pradesh
- (c) Goa
- (d) Assam

### QUESTION 23

With reference to the Joint Committee of Parliament, consider the following statements:

1. A Joint Parliamentary Committee (JPC) is set up by the Parliament for a special purpose, like the detailed scrutiny of a subject or Bill.
2. It is not dissolved.
3. JPC can scrutinise documents and summon people for questioning.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

### QUESTION 24

With reference to the Ganges river dolphin, consider the following statements:

1. The first ever Ganges river dolphin (*Platanista gangetica*) was tagged in Bihar.
2. The tagging exercise will help to understand the species' seasonal and migratory patterns.
3. It is India's National Aquatic Animal.

**Which of the statements given above is/are correct?**

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

### QUESTION 25

Consider the following states:

1. Punjab
2. Himachal Pradesh
3. Rajasthan
4. Uttar Pradesh
5. Himachal Pradesh

**Which of the states are bickering over a Shanan Hydel Project?**

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

### QUESTION 26

With reference to the demand for rupee vis a vis dollar consider the following statements:

1. Suppose the US decides that it will not allow Indian imports, the demand for Indian rupees will plummet and the rupee will weaken.
2. If an investor does not make any fresh investments into India or if he or she actually pulls out money from India and invests it back in the US, it will



reduce the demand for rupees relative to the dollar and the rupee will weaken against the dollar.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 27

With reference to the National Investigation Agency Act, 2008 (NIA Act), consider the following statements:

1. The National Investigation Agency Act, 2008 (NIA Act) includes offences under the Unlawful Activities (Prevention) Act, 1967 (UAPA) but not the Anti-Hijacking Act, 1982.
2. The Supreme Court held that the NIA can investigate offences “connected” to the main Scheduled Offence that is already under investigation — even if the connected offence was committed by a separate person who is not an accused in the Scheduled Offence.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 28

**Which Indian city has been finalised as the venue for the 2025 Para Athletics World Championship?**

- (a) Mumbai
- (b) Chennai
- (c) New Delhi
- (d) Lucknow

### QUESTION 29

**‘Operation Chutney’ is referred to in history with reference to:**

- (a) Travancore
- (b) Goa
- (c) Hyderabad
- (d) Imphal

### QUESTION 30

**Banaskantha’s Masali was recently in the news because:**

- (a) It is India’s first green village.
- (b) It is India’s first border solar village in the country.
- (c) It is India’s first model-tourism village.
- (d) It is India’s first craft handloom village.

### QUESTION 31

With reference to the Firefly Sparkle, consider the following statements:

1. It has a mass equal to about 10 million stars the size of our sun.
2. The European Space Agency’s James Webb Space Telescope (JWST) has spotted Firefly Sparkle, a distant galaxy.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 32

The Central Water Commission (CWC) in its study titled ‘Assessment of Water Resources of India 2024’ assessed the average annual water availability based on:

1. Annual net-runoff using precipitation



2. Evapotranspiration
3. Land use and land cover
4. Soil datasets

**Select the correct answer using the codes given below:**

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

### QUESTION 33

Consider the following statements:

1. The 'atomic spins' are formed when magnetic elements – iron or manganese or chromium – mix in tiny proportions with non-magnetic elements such as gold or copper or silver.
2. A 'spin glass' carried by magnetic elements freezes in random directions and locations, few and far between in the host lattice of nonmagnetic elements.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 34

**Who among the following personalities has become the youngest universally recognised champion in the history of chess?**

- (a) Gukesh Dommaraju
- (b) Emanuel Lasker
- (c) Ding Liren
- (d) Viswanathan Anand

### QUESTION 35

With reference to the Durgadi Fort, consider the following statements:

1. The earliest references to the Durgadi Fort date to the 16th century under the Bijapur-based Adil Shahi Sultanate.
2. The fort stands next to the Ulhas River.
3. In 1760, the Marathas renamed the fort Durgadi Killa.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

### QUESTION 36

**The Nayakkarpatti block which includes Arittapatti, a biodiversity-rich area is famous for mining of ore of:**

- (a) Iron
- (b) Copper
- (c) Coal
- (d) Tungsten

### QUESTION 37

Consider the following diseases:

1. Cholera
2. Dengue
3. Hepatitis
4. Snakebite
5. Tuberculosis

**Which of the diseases given above are included in the list of notifiable diseases?**

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



### QUESTION 38

Consider the following statements:

1. More than half of the Indian population lives in areas where the air quality does not meet the country's National Ambient Air Quality Standards (NAAQS).
2. Air pollution, especially PM<sub>2.5</sub> affects the respiratory system and also increases the risk of causing spikes in blood pressure.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### QUESTION 39

With reference to the mule bank account, consider the following statements:

1. A mule account is a bank account that criminals use for illegal activities.
2. The criminals from their original users typically buy over a mule account.
3. MuleHunter.AI, has been developed by the Council of Scientific & Industrial Research (CSIR).

**Which of the statements given above is/are correct?**

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

### QUESTION 40

Consider the following countries:

1. Norway
2. Switzerland
3. Ireland
4. Germany

**How many of the countries given above are members of the European Free Trade Association?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

### QUESTION 41

Consider the following statements about Adhai Din ka Jhonpra:

1. It is a 12th-century mosque commissioned by Qutbuddin Aibak
2. The iconic screen wall that forms the mosque's facade, with its seven corbelled arches, was commissioned by Ibrahim Khan Lodi.
3. It is the oldest surviving monument in Punjab.

**Which of the statements given above is/are correct?**

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

### QUESTION 42

**The Polavaram multipurpose project was in the news recently. It is located in:**

- (a) Odisha
- (b) Madhya Pradesh
- (c) Kerala
- (d) Andhra Pradesh

### QUESTION 43

With reference to the Oilfields (Regulation and Development) Amendment Bill, 2024, consider the following statements:

1. It encourages domestic production of petroleum and other mineral oils, along with private investment



in these sectors to reduce import dependence.

2. The Bill amends the Oilfields (Regulation and Development) Act of 1948.

3. The Bill defines mineral oils as “any naturally occurring hydrocarbon, whether in the form of natural gas or in a liquid, viscous or solid form.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

#### QUESTION 44

With reference to the Production-Linked Incentive (PLI) schemes, consider the following statements:

- 1. PLI schemes are crucial for India to scale up the domestic manufacturing base and to create lakhs of direct and indirect jobs.
- 2. If employment generation is used as a metric, all the 14 Production-Linked Incentive (PLI) schemes are relatively in the slow lane.
- 3. It does not include the aviation sector.

**Which of the statements given above is/are correct?**

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

#### QUESTION 45

With reference to the Marburg virus disease (MVD), consider the following statements:

- 1. It belongs to the filovirus family.
- 2. The first recognised MVD outbreak occurred in Ghana.
- 3. There are no vaccines for MVD.
- 4. It is also called the “bleeding eye virus”.

**Which of the statements given above are correct?**

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

#### QUESTION 46

**Which of the following forces are included in the Central Armed Police Forces (CAPFs)?**

- 1. Sashastra Seema Bal (SSB)
- 2. Border Security Force (BSF)
- 3. National Security Guard (NSG)
- 4. Ladakh Scouts

Select the correct answer using the codes given below:

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

#### QUESTION 47

Consider the following statements:

Statement 1: Land degradation is undermining Earth’s capacity to sustain humanity, and failure to reverse it will pose challenges for future generations.

Statement 2: A million sq km of land is degraded yearly, with an estimated 15 million sq km already impacted.

**Which one of the following is correct with respect to the above statements?**

- (a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I
- (b) Both Statement I and Statement II are correct and Statement II is not the correct explanation of Statement I
- (c) Statement I is correct but Statement II is not correct.
- (d) Statement I is incorrect but Statement II is incorrect.



**QUESTION 48**

With reference to the cash reserve ratio (CRR), consider the following statements:

1. It is the percentage of a bank's total deposits that it is required to maintain in liquid cash with the RBI as a reserve.
2. Recently, the Reserve Bank of India (RBI) slashed the cash reserve ratio (CRR) by 50 basis points (bps) to boost liquidity in the financial system.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**QUESTION 49**

With reference to B.R. Ambedkar, consider the following statements:

1. He is credited with awakening the Dalit consciousness which started with the Mahad Satyagraha of 1927.

2. His doctoral thesis was published as "The Problem of the Rupee".

3. He took oath as the first Law Minister of independent India.

4. The book "Federation Versus Freedom" was written by him.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

**QUESTION 50**

**Aleppo, Hama, Homs and Daraa are places in the news. Where are they located?**

- (a) Saudi Arabia
- (b) Syria
- (c) Israel
- (d) Iran

**Answer Key**

1. (b)	2. (a)	3. (c)	4. (a)	5. (c)	6. (a)	7. (d)	8. (c)	9. (a)	10. (c)
11. (d)	12. (c)	13. (b)	14. (d)	15. (a)	16. (a)	17. (a)	18. (b)	19. (c)	20. (b)
21. (c)	22. (d)	23. (b)	24. (c)	25. (a)	26. (c)	27. (b)	28. (c)	29. (b)	30. (b)
31. (a)	32. (d)	33. (d)	34. (a)	35. (c)	36. (d)	37. (d)	38. (c)	39. (d)	40. (b)
41. (b)	42. (d)	43. (c)	44. (a)	45. (d)	46. (a)	47. (a)	48. (c)	49. (d)	50. (b)

**Detailed explanations:**

For a detailed explanation, visit [indianexpress.com/section/upsc-current-affairs/](https://indianexpress.com/section/upsc-current-affairs/). Click on the 'UPSC Quiz' tab and explore the weekly current affairs quizzes from January 2025.