

UPSC ESSENTIALS

July 2025 Issue



LETTER TO ASPIRANTS

Dear Aspirants,

The popularity of the UPSC Civil Services Examination — among both aspirants and their families — has made it one of the most sought-after competitive exams in the country. And while exam season brings its own intensity, the broader conversation around UPSC reforms continues year-round. This year is no different. Just last month, former DGP of Uttarakhand, Ashok Kumar, spoke to us for our 'Expert Talk' segment, where he shared a few significant reform suggestions that the UPSC should seriously consider. That, along with several other must-reads in this month's magazine, makes this issue one you shouldn't miss.

This issue's *Cover Story* delves into India's literacy movement, exploring what it truly means for states to be considered 'fully literate.' In the *Express Edge* section, subject experts offer sharp insights on a wide range of topics—from temple architecture and nuclear technology to India's disavowal of the SCO statement, ecological restoration efforts, and the growing threat to ocean health. Also featured are special write-ups on the health and defence sectors—timely and relevant as the Mains exam season gains momentum.

The *UPSC Focus* section offers a thoughtful mix: a retrospective on 50 years since the Emergency, a unique perspective connecting ethics to sports, an in-depth essay discussion with a model answer, a crisp roundup through *Current Affairs Pointers*, and a comprehensive quiz to aid your revision for the Prelims exam.

Aspirants, let's return to where we began. After reading the interview with Ashok Kumar, what are your thoughts? How much do you agree with his recommendations? Feel free to write to me at manas.srivastava@indianexpress.com.

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

Until next month,

Manas Srivastava

INDEX

COVER STORY

India's literacy drive and its fully literate states

02

EXPRESS EDGE

HISTORY & CULTURE

How Indian temple architecture is rooted in art, religion, and politics

10

SCIENCE & TECH

Understanding nuclear technology in the wake of US attack on Iran

13

INTERNATIONAL RELATIONS

How India's disavowal of SCO statement signals a new realism in global politics

17

DEFENCE

How India's defence spending is aligned with its regional ambition

20

ENVIRONMENT & ECOLOGY

1. How India pushes for ecological restoration

24

2. UN: Growing threat to oceans a global emergency

28

HEALTH

1. Food adulteration and its consequences on health

31

2. How microplastics harm the heart

34

UPSC FOCUS

ISSUE AT A GLANCE

50 Years of Emergency: From causes to constitutional implications

37

ESSAYS SIMPLIFIED

'If youth knew, if age could' — How to balance idealism with realism in an abstract previous year essay topic

44

UPSC ETHICS SIMPLIFIED

What does IPL offer beyond entertainment, glamour and money?

48

UPSC EXPERT TALK

Former DGP of Uttarakhand on UPSC exam reforms

51

UPSC CURRENT AFFAIRS POINTERS

Prelims Tidbits for the month of June

55

PRACTICE QUIZ

Current Affairs Revision MCQs

86

COVER STORY

India's literacy drive and its fully literate states

Written by Roshni Yadav



INTRODUCTION

Tripura attained the “full literacy” tag, with a literacy rate of 95.6 per cent, Chief Minister Manik Saha announced on June 23rd, citing data from Understanding Lifelong Learning for All in Society (ULLAS) – Nav Bharat Saksharta Karyakram. Earlier, Mizoram and Goa also declared themselves to be “fully literate” states under ULLAS. In this context, let’s understand how states get the “fully literate” status. Also, what are the major government policies/programmes related to education and other associated issues.

(Relevance: UPSC Syllabus General Studies-I, II: Social issues, government policies and interventions, issues relating to the development and management of the social sector/services relating to education. Questions on social issues and associated topics have become extremely important, as they are being asked not only in General Studies I or II but also as essay topics and in ethics theory and case studies. Thus, covering the topic of literacy in India in light of recent developments becomes highly relevant.)

What is the current status of literacy in India?

India’s literacy rate was only 14% at the time of independence, which has increased over the years as more people

have received better education. According to the 2011 Census, the literacy rate at the all-India level is 72.98%, with literacy rates for females and males at 64.63% and 80.9%, respectively. During the last decade, the highest improvement in the literacy rate was observed among rural females (24%).

According to Census 2011, among the states/UTs, the male and female literacy rates were highest in Kerala (male: 96.1%, female: 92.1%) and lowest in Bihar (male: 71.2%, female: 51.5%).

Literacy Rate

To identify potential for intellectual and educational progress, the literacy rate is a crucial indicator of a country's economic progress; according to the Office of the Registrar General of India, a person aged 7 years and above who can read and write with understanding in any language is considered literate.

As per the Periodic Labour Force Survey 2023-24, among the states and UTs, **Mizoram** has the **highest literacy rate** in India. It was ranked as the third most literate state in India, with a 91.33% literacy rate in the 2011 Census. Mizoram has recently achieved 98.2%, according to the government statement.



(From left) Lalramsiami, Lalsiamtlingi, principal Malsawmthanga, Laltinkimi and , Laldawnsang. Taught by the principal of the government-aided Tingham Primary School-II in Mizoram, these adult learners cleared the recent foundational literacy and numeracy test.
(Express photo by Sukrita Baruah)

Contrastingly, **Andhra Pradesh and Bihar** recorded the **lowest literacy** rates in India, standing at 72.6% and 74.3%, respectively, for both urban and rural populations, according to the Periodic Labour Force Survey 2023-24.

After learning about the status of education in India, it is important to note the key highlights of the Ministry of Education's recently released latest assessment of school education indicators, the Performance Grading Index (PGI) 2.0 report for 2023-24.

Performance Grading Index (PGI) 2.0: Key highlights

The PGI was introduced in 2017, and the ministry revamped it as PGI 2.0 in 2021. It is an assessment of school education based on 73 indicators, which are grouped under 2 categories, viz., outcomes and governance and management. These categories are further divided into 6 domains: **learning outcome and quality, access, infrastructure and facilities, equity, governance processes, and teacher education and training.**

The latest report, covering the years 2022-23 and 2023-24, draws data from the National Achievement Survey 2021, the Unified District Information System for Education Plus (UDISE+), and information on the mid-day meal programme (PM-POSHAN).

States/UTs are scored out of 1,000 points. In PGI 2.0, the nomenclature for PGI scores is classified into various grades. The highest achievable grade is called Daksh, which is for state/UT scoring more than 90% of the grade range. The details of grades and grade ranges so obtained are:

Scores (% of total points)	Score range	Grade
91% to 100%	941-1000	Daksh
81% to 90%	881-940	Utkarsh
71% to 80%	821-880	Atti-Uttam
61% to 70%	761-820	Uttam
51% to 60%	701-760	Prachesta -1
41% to 50%	641-700	Prachesta -2
31% to 40%	581-640	Prachesta -3
21% to 30%	521-580	Akanshi-1
11% to 20%	461-520	Akanshi-2
Up to 10%	401-460	Akanshi-3

The details of grades and grade ranges. (Source: PGI State 2021-22 Report)

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

Notably, no state/UT has scored in the higher ranges of 761 and above. **Chandigarh** scored 703 points, achieving Prachesta-1 — the highest grade achieved in the latest PGI. Chandigarh scored 703 points, as opposed to 687.8 in 2022-2023, to emerge as the only state or UT in the **Prachesta-1** grade that has the score range of 701 to 760.

Chandigarh is followed by Punjab at 631.1, and Delhi at 623.7. Kerala, Gujarat, Odisha, Haryana, Goa, Maharashtra, and Rajasthan also scored in the 581-640 range. The state that scored the lowest was **Meghalaya** (417.9). Just above it were Arunachal Pradesh (461.4), Mizoram (464.2), Nagaland (468.6), and Bihar (471.9).

Referring to the inter-state disparity, the report said, “The maximum and minimum scores obtained by the States/UTs in 2023-24 are 719 and 417 respectively.”

How is “full literacy” defined in the Indian context?

Tripura attained the “full literacy” tag, with a literacy rate of 95.6 per cent, Goa’s literacy rate was 99.72%, and Mizoram’s stood at 98.2%. These states followed Ladakh, which was the first in the country to have declared itself “fully literate” in June last year, having “achieved more than 97% literacy”. This raises a pertinent question: What qualifies a state to be declared “fully literate” in the Indian context?

The Ministry of Education wrote to the states in August last year, defining “literacy” and “100% literacy” for ULLAS. Literacy was defined as “the ability to read, write, and compute with comprehension, i.e., to identify, understand, interpret and create, along with critical life skills such as digital literacy, financial literacy, etc.”

It added that achieving **95% literacy** in a state/UT may be considered equivalent to being fully literate. The communication also referred to the National Education Policy (NEP) 2020, which calls for government initiatives for adult education to “expedite the all-important aim of achieving 100% literacy”.

It mentioned the UN Sustainable Development Goals, which include ensuring that “all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy” by 2030. States were urged to strive towards this goal. Tripura, Goa, Mizoram, and Ladakh have said they surpassed the 95% literacy mark. Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBawMGQ1>

What is the ULLAS (Understanding Lifelong Learning for All in Society) scheme and its key features?

ULLAS – Nav Bharat Saaksharta Karyakram, or New India Literacy Programme (NILP), is a **centrally sponsored scheme** implemented from 2022-2027. It aims to equip 5 crore ‘non-literate individuals’ over the age of 15 across the country with foundational literacy and numeracy skills, which means basic reading and writing and simple arithmetic learnt in primary classes. The teaching material is also meant to impart ‘critical life skills’ like financial and digital literacy.

The scheme aligns with the recommendations of the NEP 2020. It is based on the spirit of Kartavya Bodh and is being implemented on volunteerism. It consists of five components:

- (i) Foundational Literacy and Numeracy,
- (ii) Critical Life Skills,
- (iii) Basic Education,
- (iv) Vocational Skills, and
- (v) Continuing Education.

Working with schools and officials, states and union territories have identified people who need such education through door-to-door surveys. They are then taught by registered volunteers – school students, students from higher education and teacher education institutions, and community members. The NCERT has developed the learning material, and the states have done it in their local languages. A mobile app is available for teaching and learning, but it can also be done offline.

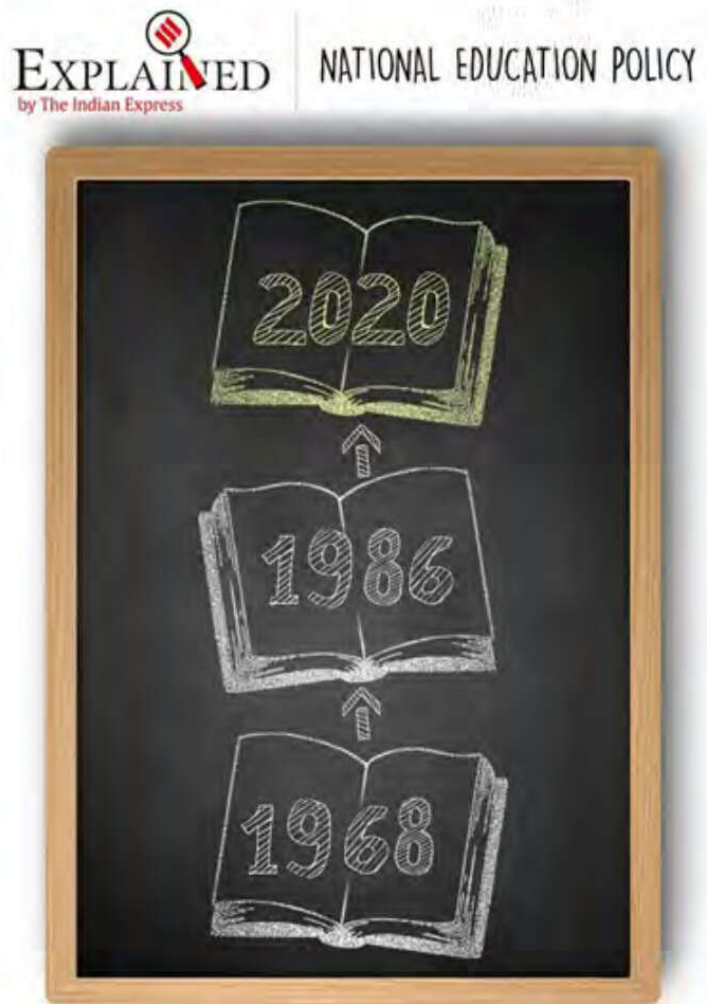
Notably, ULLAS is the latest of the adult literacy programmes rolled out by the Indian government since the 1950s. This includes programmes targeting farmers and women in the 1960s and ’70s and a country-wide programme called the National Adult Education Programme for the 15-35 age group. Then came the **National Literacy Mission from 1988 to 2009** for this bracket.

The government launched the ‘Saakshar Bharat’ (Literate India) scheme in 2009, and it ran until 2018. It equipped those aged 15 and above with functional literacy and was also linked to opportunities for skill development and further education. ULLAS also includes these goals.

What are India’s various education policies towards increasing the literacy rate?

India has implemented several education policies and initiatives over the years to increase its literacy rate and improve the quality of education. These initiatives have aimed to address issues such as access to education, quality of education, and the reduction of educational disparities. Some of the key policy measures are:

- Right to Education (RTE) Act:** Enacted in 2009, the RTE Act is a landmark legislation that makes education a fundamental right for children aged 6 to 14 years. It mandates free and compulsory education, establishes minimum standards for schools, and prohibits practices like discrimination and corporal punishment. The act aims to ensure equitable access to quality education for all children.
- National Education Policy 2020:** NEP 2020 is a transformative blueprint for educational reform. It emphasises foundational literacy and numeracy, promotes multilingualism, integrates vocational education, and fosters technology-enabled learning. With a focus on holistic development, the policy aims to equip students with 21st-century skills. It also advocates teacher training and professional development.
- Samagra Shiksha Abhiyan:** The Ministry of Education’s Samagra Shiksha Abhiyan is a comprehensive school education programme. It combines three Centrally Sponsored Schemes (CSS): Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Teacher Education (TE).
- PM SHRI (PM Schools for Rising India):** It is an initiative run by the Union Ministry of School Education and Literacy. It intends to improve 14,500 schools to “showcase” the NEP, 2020, and be “exemplars” for other schools in their region. The scheme is for existing elementary, secondary, and senior secondary schools run by the central government and state and local governments around the country.
- Digital India and E-learning Initiatives:** In recent years, the Digital India campaign has aimed to leverage technology for educational transformation. Initiatives like DIKSHA (Digital Infrastructure for Knowledge



What purpose does a National Education Policy serve?
A National Education Policy or NEP is a comprehensive framework to guide the development of education in the country. A new policy usually comes along every few decades. The latest policy is India's third. It replaces the 1986 NEP, which was in place for 34 years.

#QUIXPLAINED

Sharing) provide digital content and resources to teachers and students. The move towards e-learning and digital classrooms has been accelerated to bridge gaps in access to quality education, especially in remote areas.

- **Beti Bachao, Beti Padhao:** This initiative aims to promote the education of the girl child and address gender disparities in education. By raising awareness about the importance of girls' education and providing incentives, it seeks to create a more inclusive and equitable educational environment.
- **PM Vidyalyaxmi Scheme:** It is a Central Sector scheme to provide financial support to students so that financial constraints do not prevent anyone from pursuing higher studies. Under the scheme, students admitted to quality higher education institutions (QHEIs) are eligible for collateral-free and guarantor-free education loans. Students will be provided a 75% credit guarantee by the central government for loans up to Rs 7.5 lakh. Students, with an annual family income of up to Rs 8 lakh, who are ineligible for benefits under any other government scholarship or interest subvention schemes, will be provided 3% interest subvention for loans up to Rs 10 lakh during the moratorium period.

These initiatives reflect India's commitment to improving literacy rates and educational quality across the country. While challenges remain, these policies signify a concerted effort to provide accessible, equitable, and quality education to all citizens, thereby contributing to the nation's socio-economic development.

EXPLAINED NATIONAL EDUCATION POLICY



Is it binding on all the states?

The policy provides a broad direction and state governments are expected to follow it. But it's not mandatory. Tamil Nadu, for instance, does not follow the three-language formula that was prescribed by the first education policy in 1968.

#QUIXPLAINED

2

Annual Status of Education Report (Rural)

The NGO Pratham has released the Annual Status of Education Report (Rural) to measure basic reading and arithmetic levels among school children, attendance in school, and other indicators. It is a nationwide rural household survey conducted by the NGO Pratham. The survey considered children in three age categories — pre-primary (ages 3 to 5), elementary (6 to 14), and older children (15 to 16).

- According to the report, the basic reading levels for Class 3 children enrolled in government schools have been the highest since the survey began 20 years ago.
- Reading level: The number of Class 3 children who can read a Class 2 textbook in government schools stands at 23.4%, up from 16.3% in 2022 and 20.9% in the pre-pandemic year of 2018.
- Overall reading levels, across both government and private schools, too improved from 20.5% in 2022 to 27.1% in 2024, almost touching the pre-pandemic level of 27.3%.
- Arithmetic levels, too, improved across both government and private schools. The percentage of Class 5 students who can read a Class 2 textbook has gone up from 42.8% in 2022 to 48.7% in 2024.
- In line with the NEP's focus on providing early childhood care and education to all children before Class 1, the percentage of children aged between 3 and 5 who enrolled in some form of pre-school rose in 2024 over 2018 and 2022.

How effective are educational programmes in India? What key challenges hinder their implementation and outcomes?

India's educational programmes have witnessed notable progress, marked by rising literacy rates, improved enrolment, expanded infrastructure, technological advancements, and policy innovations. However, it is also important to evaluate these initiatives in the context of obstacles they encounter. Pranay Aggarwal writes in 'UPSC Essentials: Society and Social Justice — Literacy and associated issues'— Some of the major challenges are:

1. Equity and Inclusion: Disparities persist based on socio-economic status, gender, and caste. Not all social groups have equal access to the expanding educational opportunities in India. Various marginalised communities often have limited access to quality education.

2. Disparities in Quality: Despite increased enrolment, ensuring quality education remains a challenge. Disparities exist between urban and rural areas, private and public schools, and among states.

3. Dropout Rates: Despite efforts, dropout rates at various educational levels remain high due to factors like poverty, child labour and lack of infrastructure.

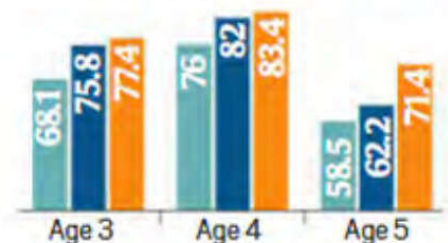
4. Teacher Quality: The quality of education is heavily dependent on well-trained and motivated teachers. However, teacher shortages, uneven qualifications, and inadequate training persist.

5. Administrative Challenges: Bureaucratic red tape slows down policy implementation, hindering the effectiveness of educational programmes.

In conclusion, though, India's educational programmes have made progress in expanding access and introducing innovative policies; challenges related to equity, quality, teacher training, and curriculum need attention. Addressing these hurdles requires a multi-faceted approach that combines policy reforms, investments in infrastructure, teacher development, and a commitment to holistic education that nurtures critical thinking and practical skills.

CHILDREN ENROLLED IN PRESCHOOL/ECE CENTRE

■ 2018 ■ 2022 ■ 2024 (in %)



Note: Pre-school coverage includes enrolment in anganwadis, pre-primary classes in govt schools, or private LKG/UKG classes. ECE is Early Childhood Education. Source: ASER 2024

Post Read Questions

Prelims

(1) Which of the following provisions of the Constitution does India have a bearing on Education? (UPSC CSE 2012)

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

Select the correct answer using the codes given below:

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

(2) Consider the following statements with reference to the ULLAS initiative:

1. It is a centrally sponsored scheme implemented from 2022-2027.
2. It is being implemented on volunteerism.

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

(3) With reference to the PM SHRI scheme, consider the following statements:

1. It is a scheme under the Union Ministry of School Education and Literacy.
2. It is a centrally sponsored scheme.
3. It aims to transform only the primary schools and not higher secondary schools.

Which of the statements given above is/are correct?

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

(4) Which among the following are the components of ULLAS scheme:

1. Critical Life Skills
2. Basic Education
3. Vocational Skills
4. Foundational Literacy and Numeracy

Select the correct answer using the codes given below:

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

Mains

How have digital initiatives in India contributed to the functioning of the education system in the country?

Elaborate on your answer. (UPSC CSE 2020)

Prelims Answer Key

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

Sources: Tripura is now a fully literate state, says CM Manik Saha (IE), Top 10 Indian states/UTs with highest and lowest literacy rates: Mizoram becomes 1st 'fully literate' state (IE), UPSC Essentials | Society and Social Justice — Literacy and associated issues (Part 3) (IE), Annual Status of Education Report (Rural) (IE), Knowledge Nugget: Why is the Performance Grading Index (PGI) 2.0 relevant for UPSC Exam? (IE)

EXPRESS EDGE

History & Culture

How Indian temple architecture is rooted in art, religion, and politics

The Indian temple architecture is broadly characterised by two overarching traditions, namely the Nāgara or northern building tradition and Draviḍa or southern building tradition. But how do they reflect the intersection of religion and politics?

— Ajeya Vajpayee

Temples in the Indian subcontinent survive in an intelligible and coherent form from at least the fifth century CE. The tradition, however, dates back much earlier to the times when they were makeshift or built in perishable material. Artefacts associated with temples – like the Garuḍa pillar from Besnagar and Śivaliṅga from Gudimallan dated to around 120 BCE and 80 BCE, respectively – corroborate the antiquity of this tradition.



Virupaksha Temple. Picture: Shutterstock

The Indian temple architecture is broadly characterised by two overarching traditions, namely the Nāgara or northern building tradition and Draviḍa or southern building tradition. Although geographically defined, they are not exclusive to the two regions.

In addition to these two, Indian art treatises include a third type of building tradition called the “Vesara” or hybrid. The etymological bearing of the term has led scholars in the past to understand this category as a synthesis of the northern and southern artistic traditions and associate it with the geographically fitting Deccan region.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

Nāgara and Draviḍa temples

The multi-storeyed exterior of the Nāgara and Draviḍa temples reflects their common ancestry from the Buddhist artistic tradition. Relief carvings on the gateways of Sanchi and Bharhut, and Mathura depict cities with gatehouses, mansions, and urban dwellings. The depiction showcasing visual images of dormer-windows, pillared balconies, railings, and domed structures evokes the structural temples. The facades of the later rock-cut caves at Kondane,

Karle, Bhaja, and Ajanta (caves 1 and 19) display similar palatial arrangements.

The multi-storeyed towers of the Nāgara and Draviḍa temples harbouring the *garbhagṛha* (sanctum) of the temple are composed of a string of aedicules (small temple forms). These are transformed through diminution, repetition, splitting, super-imposition, and contraction to achieve its decorative exterior.

Each tradition uses different varieties of aedicules. For instance, the Nāgara superstructure incorporated the *āmalaka* (fluted bulbous capstone of a Nāgara śikhara), *gavākṣa* (cow's eye motif or horseshoe arch), and *bālapanjara* (nāśī-roofed cage aedicule) over pillarlets. The Draviḍian *vimāna* (south Indian shrine) featured *kūṭa* (domed aedicule), *śālā*, (wagon-vault roofed aedicule), and *bālapanjara*.

In the process of their evolution, the functional storeys of these towers were reduced to surface applique. The degree of architectural compression varied in both traditions: the Draviḍian superstructures were contracted enough to retain their palatial or horizontal profile, while the Nāgara superstructures were condensed significantly. In the latter, the many layers within the horizontal storeys were condensed enough to be visually subsumed within the verticality of the spire, thereby losing and mutating its original structural provenance.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

Lineage of architectural tradition

The modest lineage of the temple architectural tradition was short-lived. The rock-cut, monolithic, and unpretentious structural shrines in timber, brick, and stone were swiftly supplanted by expansive structures. The caves of Barabar, Udayagiri, and Deccan, the stone shrines of Sanchi and Tigowa, the brick temples of Bhitargaon and Tala, and the monoliths of Mahabalipuram, to name a few, represent early attempts at temple building. The memory of timber shrines is captured in the rock-cut monuments of Deccan at Kondane, Karle, and Bhaja.

Over time, stones of different varieties, owing to their durability, became the primary building material in the later centuries. In the south, it was, reluctantly, adopted later in the seventh century CE because of its association with the megaliths.

In the rock-cut traditions, rocks from mountains were carved from ceiling to base-mouldings, using wooden pegs, iron chisels, and hammers. For the structural temples, the stone was dressed and placed horizontally, usually without mortar to achieve the desired form. The architectural transition owed to a range of religious, social, political, and economic necessities of the time.



The gopuram of the Brihadeshwara Temple (Wikimedia Commons)

Temple patronage

The religious and social necessities of ritual-based worship – such as *darśan*, *pradakṣiṇa*, puja backed by didactic texts – demanded an elaborate structure for the temple as opposed to the compact Buddhist *caityas*. The temples of the sixth-seventh centuries CE comprised a *maṇḍapa* (hall), *garbhagrha*, and *śikhara* (superstructure). Religious merit accrued through temple construction attracted important individuals towards the cause, making the temple a public institution.

Temples were often patronised by powerful kings to revere their favourite deity as well as assert, consolidate, and legitimise their overlordship over an existing or new domain. For example, Rajaraja Cola built the Thanjavur Brihadesvara temple to assert his supremacy over the region. Rulers also named the presiding deities after themselves to assert their divine kingship. For example, the presiding deity of Chalukya king Vijayāditya at Pattadakal Sangamesvara was called *Śrī-Vijayēśvara-Bhaṭṭāraka*.

As asserted by Kesavan Veluthat, and echoed in the arguments of Alexis Sanderson, “Patronage was not entirely without its return. It helped the patron to use the symbols of that religion for their benefit. This political use of religion included the use of its symbol for the purpose of political mobilisation and then using them as metaphors of power.” Simply put, religious institutions, such as temples, were patronised by rulers to meet political ends. Built with the same intent, small-scale temples and miniature shrines often accompanied big ones owing to meagre patronage by disadvantaged individuals.

Temples as centres of community activity

As public institutions, temples also served as monasteries and focal points of community activity. In an inscription from the Alampur Bala Brahma, the temple’s function as a monastery is highlighted in the establishment of an asylum and hospital for the ill and for sick cattle. The same inscription also elucidates the disposition of land grants towards organising musical programmes within temples.

The development of Indian temple architecture is rooted in a complex interplay of art, religion, politics, and society. While it began modestly, it developed into a sophisticated tradition that varied across regions yet maintained a coherent cultural identity.

Post Read Questions

1. What are the two main architectural traditions of Indian temples, and how are they geographically defined?
2. What is the Vesara tradition, and how has it been historically interpreted?
3. What are aedicules, and how do they contribute to the decorative features of Nāgara and Drāviḍa temple towers?
4. What early sites and structures represent the beginnings of temple building in India?
5. How does temple architecture reflect the intersection of religion and politics in early India?

(Ajeya holds a PhD in History from the University of Delhi. Her research focuses on the art historical traditions of India and South Asia.)

Science & Tech

Understanding nuclear technology in the wake of US attack on Iran

The US attack on Iran's nuclear facilities has ignited numerous grave concerns. It also highlights the double-edged nature of nuclear technology and the need to revisit its development and regulation at both national and international levels.

— Renuka



Satellite images provided by Maxar of the Natanz Nuclear Enrichment Facility (left) and Fordow Nuclear Enrichment Facility. (Photos: AP)

The attacks by the US on Iran's three nuclear sites – Natanz, Isfahan and Fordow – have triggered numerous concerns, including the risk of radiation leaks, with the UN's nuclear watchdog saying that craters caused by ground-penetrating US bombs were visible at Fordow.

The attacks – the first on any country's operational nuclear facilities – serve as a stark reminder of the double-edged nature of nuclear technology, and underline the need to revisit its development and regulation both at national and international levels. But first, let's understand nuclear technology.

What is nuclear technology?

Nuclear technology is one of the few innovations that have changed the modern world profoundly and controversially. It involves harnessing nuclear reactions of atomic nuclei through the processes of nuclear fission and fusion.

Nuclear fission is a process in which a heavy atomic nucleus splits into two or more lighter nuclei. It is also associated with the process of radioactive decay as heavier nuclear elements decay into lighter ones. In contrast, nuclear fusion is considered a process of creation as it involves the formation of a new, heavier atomic nucleus from the merger of two lighter and smaller nuclei.

Both processes release a huge amount of energy. While the practical application of nuclear fusion is still under research, nuclear fission has been harnessed for destructive as well as constructive purposes since its discovery in 1938 by Otto Hahn and Fritz Strassmann.

The first practical application of nuclear fission was the creation of nuclear weapons using Uranium and Plutonium by the US under the Manhattan Project. These weapons were used in the atomic bombing of Hiroshima and Nagasaki in 1945, which led to the beginning of the 'nuclear or atomic age'.

Nuclear technology at a critical crossroads

The unprecedented destruction in the Japanese cities led to an international push to redirect nuclear technology towards peaceful and constructive purposes. Today, nuclear technology stands at a critical crossroads where its potential benefits are immense while risks associated with it, especially nuclear weapons and its misuse, are a vital concern. Some of its benefits include the following:

Energy security and industrial applications – Nuclear technology provides reliable, long-term, and high-capacity electricity with a low-carbon option. According to the International Atomic Energy Agency's (IAEA) 2024 report, as of December 2023, global nuclear power capacity stood at 392 gigawatts (GW), generated from approximately 440 reactors. In addition to electricity generation, nuclear energy is used in industrial processes such as district heating and desalination.

Food and agriculture – Nuclear technology also improves agriculture and food security by enabling early detection of animal disease, optimising soil and water use, and controlling pests through environmentally friendly techniques such as Sterile Insect Technique. Apart from this, techniques such as irradiation can enhance crop resilience and ensure food safety.

Healthcare system – Nuclear technology, especially through the field of nuclear medicine, has made vital contributions to the healthcare system. Imaging techniques like Positron Emission Tomography (PET) and Single Photon Emission Computed Tomography (SPECT), and targeted treatment such as radiotherapy and radioisotope therapy are used in cancer diagnosis and care.

Military strategy – Nuclear technology also plays a role in the military strategy of 'deterrence', helps in maintaining strategic stability, and provides political leverage. These factors largely reduce the likelihood of nuclear or large-scale wars.

Climate goals – Being a low-carbon option, nuclear technology has the potential to help the world in achieving its climate goals. Considering this, 22 countries (now 31) launched a declaration at COP 28 to triple nuclear energy capacity by 2050. In addition to its low carbon footprints, nuclear energy produces more electricity on less land compared to some other renewable energy sources.

International regulatory framework

The international regulation of nuclear technology started in 1957 with the establishment of the IAEA as an

intergovernmental forum for the peaceful use of nuclear technology. In 1970, the Nuclear Non-Proliferation Treaty (NPT) entered into force with the main objectives of non-proliferation, disarmament, and the promotion of peaceful use of nuclear technology.

It grants Non-Nuclear Weapon States (NNWS) the inalienable right to develop and use nuclear energy for peaceful purposes in exchange for their commitment to abstain from acquiring nuclear weapons. Another notable treaty is the Comprehensive Test Ban Treaty (CTBT), adopted in 1996, which is a multilateral agreement that bans all nuclear explosions for any purpose in all environments.

In 2021, the Treaty on the Prohibition of Nuclear Weapons entered into force, banning all nuclear weapon-related activities, including development, testing, production, possession, use, and threat of use. The other significant international arrangements are the Zangger Committee (Non-Proliferation Treaty Exporter Committee), and the Nuclear Supplier Group (NSG), established in 1975. The former maintains a 'trigger list' of special fissionable materials, while the latter is a group of nuclear supplier countries that seeks to contribute to the prevention of nuclear proliferation by controlling the export of materials, equipment, and technology.

India's nuclear programme

India's nuclear programme was developed in 1954 as a unique three-stage strategy aimed at efficiently utilising its limited uranium and abundant thorium reserves through a sequence of advanced nuclear technologies.

The three-stage nuclear programme begins with Pressurised Heavy Water Reactors (PHWRs) using natural uranium. The second stage involves Fast Breeder Reactors (FBR) fueled by plutonium and uranium-238 extracted from reprocessed spent fuel. The third stage focuses on advanced reactors designed to harness thorium and aims to achieve long-term energy self-sufficiency.

Currently, the first stage of India's nuclear programme using PHWRs has achieved commercial maturity. The second stage commenced in 2024 with the development of India's first Prototype Fast Breeder Reactor (PFBR) at Kalpakkam, Tamil Nadu. The reactor would use thorium along with uranium, thereby harnessing the country's vast reserve of thorium.

In the budget 2025-2026, the government introduced the 'Nuclear Energy Mission for Viksit Bharat' and allocated Rs. 20,000 crores. The mission focuses on the development of Small Modular Reactors (SMRs), which will help India achieve its goal of 100 GW of nuclear energy by 2047 in a safer and sustainable way. For this, the government is collaborating with private sector entities and signing civil nuclear deals with countries like the US, Russia and France.

Nuclear technology regulation in India

India has a comprehensive legal framework to regulate nuclear technology. Under the Constitution of India, 'atomic energy' falls under the Union List, conferring exclusive power on the central government to legislate on the subject. In 1954, the Department of Atomic Energy was established, which is governed by the Atomic Energy Commission, the key policy body for nuclear energy in India.

To strengthen nuclear regulation, the Atomic Energy Act, 1962 (which replaced the Atomic Energy Act 1957) was enacted, vesting the central government with the power to produce, develop, use and dispose of atomic energy. It also confers vast power on the government to implement the act by making rules and setting up bodies.

Exercising these powers, the central government has enacted rules on radiation protection and waste management. It

also established the Atomic Energy Regulatory Board, which oversees and enforces nuclear safety regulations in India.

In addition to this, the Power Corporation of India Limited (NPCIL) is responsible for the design, construction, and operation of nuclear power plants. Considering the potential damages related to nuclear operations, the Civil Liability for Nuclear Damage Act was enacted in 2010, which imposes strict liability for any damage on the operators, regardless of fault.

Challenges and way forward

Though nuclear technology is widely regarded as a clean technology with numerous benefits, it is not without significant challenges. Disasters like Chernobyl and Fukushima underscore the need for strict nuclear safety measures. Also, health risks associated with uranium mining and radioactive waste remain persistent concerns in the pursuit of nuclear technology.

Furthermore, in developing countries like India, the usage of nuclear technology in sectors like agriculture and medicine is still at its nascent stage and requires substantial investment in research and development. Nevertheless, by adopting responsible policies, stringent safety protocols and international co-operation, nuclear technology can be harnessed to meet the world's energy demands and drive scientific progress in a safe and sustainable manner.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

Post Read Questions

1. What is the difference between nuclear fission and nuclear fusion in terms of process and energy output?
2. What are the key goals of India's three-stage nuclear power programme? Discuss the key benefits of Small Modular Reactors.
3. How can nuclear energy contribute to achieving global climate targets like net-zero emissions?
4. What are the risks associated with nuclear energy, and how can they be mitigated through policy and regulation?
5. What role does the International Atomic Energy Agency (IAEA) play in regulating the peaceful use of nuclear energy?

(Renuka is a Doctoral researcher at Himachal Pradesh National law university, Shimla.)

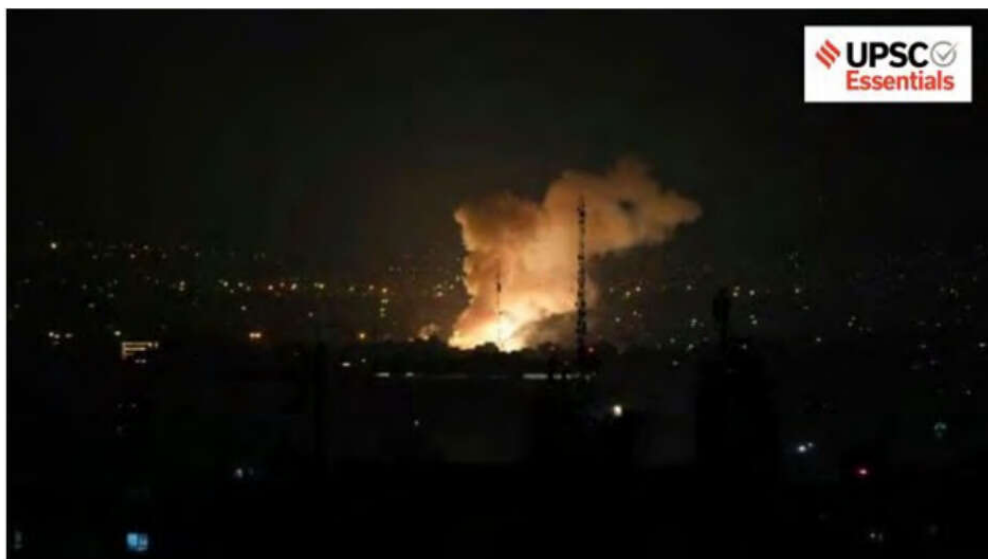
International Relations

How India's disavowal of SCO statement signals a new realism in global politics

Why does India distance itself from the SCO's statement condemning Israel's military strikes on Iran? The answer opens a window into the dynamics of rising powers, shifting alliances, and the strategic contest to control not just geography, but global narratives.

— Amit Kumar and John Harrison

As the Israel-Iran conflict rages on, India has distanced itself from the statement issued by the Shanghai Cooperation Organisation (SCO) last week, condemning Israel's military strikes on Iran. As one of the most influential members of the SCO, currently chaired by China, India dissociated itself from the statement and said it didn't even participate in the discussion.



Iran-Israel conflict, nuclear weapons, WMD, weapons of mass destruction, FATF (AP Photo)

This diplomatic friction within the 10-member bloc is more than a technical disagreement. It poses a critical question: What does the SCO's statement criticising Israel reveal about China, and what does India's quick withdrawal from it indicate about global politics? The answer opens a window into the dynamics of rising powers, shifting alliances, and the strategic contest to control not just geography, but global narratives.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

Israel-Iran conflict and SCO's strategic pivot

At first glance, the SCO's intervention in the Israel-Iran conflict might seem like a bold assertion of a regional security body stepping up to global relevance. But the deeper context matters. The Israel-Iran relationship has long been defined by hostility, espionage, and proxy warfare. Israel's strikes on June 13, deep into Iranian territory, marked a dangerous escalation in a conflict that often teeters on the edge of a regional war.

But why would the SCO – a forum traditionally focused on Central Asian stability and counterterrorism – involve itself in the conflict so visibly? The answer lies in the bloc's new composition, particularly the recent inclusion of Iran as a full member, and more fundamentally, in the growing centrality of China within it.

What looks like a gesture of support for a fellow member is, more subtly, a reflection of the SCO's transformation into a geopolitical lever for Chinese diplomacy. By positioning the SCO as a moral counterbalance to Western-aligned military action, it looks like China is seeking to extend the SCO's relevance far beyond its founding mandate.

This pivot also suggests that China is attempting to redefine the normative language of international conduct, one that seemingly aligns less with UN charters or US-led alliances and more with a China-centric worldview that selectively invokes sovereignty, non-intervention, and regional stability based on who benefits from the narrative.

China's quiet bloc-building and strategic messaging

Behind the SCO's statement lies a bold, if underappreciated, strategy. China is no longer content to merely participate in global forums. It is repurposing them. By mobilising the SCO to speak collectively against Israel, China was not just defending Iran; rather it was testing a model of bloc-based legitimacy that could challenge Western diplomatic hegemony. The symbolism was potent – a group representing over 40 per cent of the world's population speaking in unison against a close US ally.

This messaging also marks a subtle recalibration of China's non-interference doctrine. Beijing is no longer sitting on the fence when its strategic partners are involved. Whether by abstaining from condemning the October 7 Hamas attacks or by amplifying Iranian grievances through multilateral forums, China is beginning to act with strategic asymmetry. It remains non-confrontational with the West on its own borders, yet assertive when it comes to Western partners in volatile regions like West Asia.

Such moves reveal China's attempt to build a moral alternative to US exceptionalism, not by mimicking Western institutions, but by gradually bending others, like the SCO, into ideological alignment. Through carefully orchestrated diplomatic theater, China is reshaping the perception of who holds the moral high ground, casting itself as a defender of sovereignty and stability against Western chaos.

India's refusal stands for sovereignty amid bloc politics

India's prompt disavowal of the SCO statement was neither accidental nor reactionary. It was a calibrated act of diplomatic insulation – a move designed to protect its carefully balanced relationships with both Iran and Israel, while also signalling its discomfort with China's dominance over the SCO's voice. In doing so, India reaffirmed a principle that is becoming the hallmark of its foreign policy in the multipolar age: alignment without entanglement.

What makes India's move even more significant is its context within the global narrative competition. China may have tried to portray the SCO condemnation as reflective of a broader anti-Israel, implicitly anti-Western consensus, and India, had it stayed silent, would have been passively co-opted into that message. But India's refusal disrupted the choreography. It showed that multilateralism, in a world of self-confident middle powers, can no longer be orchestrated so easily.

Moreover, India's action speaks to a subtle transformation in its global identity. It no longer sees itself as a bridge between East and West, nor as a swing state, but as a sovereign power center shaping its own trajectory in the global order. In distancing itself from the SCO statement, India is rather projecting a future in which it refuses to let other powers define its strategic posture, even within forums it has co-founded or supports.

India's dissent points to a new realism

The incident reveals more than a disagreement between two members of a regional bloc. It exposes the tectonic shifts in global governance. China's attempt to manufacture a diplomatic consensus through the SCO is emblematic of a broader ambition. It seeks to build a non-Western geopolitical ecosystem where legitimacy flows from shared grievance, not shared values. In this system, countries like Iran find a voice not because of shared vision, but because of shared opposition to the US-led order.

At the same time, India's dissent points to a new realism in global politics. Multipolarity is not about blocs competing with one another. It is about a growing number of states refusing to be defined by any bloc at all. India's stance implies that true global influence now depends on agility, narrative independence, and the ability to defy both Western and Eastern orthodoxy.

If China's rise is defined by the repurposing of institutions like the SCO into ideological tools, India's ascent is marked by its refusal to be absorbed into any ideological project, not of its own making. This divergence in strategy, one building a club of allies, the other cultivating freedom of motion, may well define the contours of the coming global order.

In trying to turn the SCO into a stage for its foreign policy theatre, China revealed both its growing capabilities and its limitations. While it may script the lines, not all actors will follow. India's silent refusal to play the part it was assigned shows that even in the age of emerging powers, autonomy, not alignment, remains the highest currency of diplomacy.

Post Read Questions

1. **India's disavowal of the Shanghai Cooperation Organisation statement on Israel's attack against Iran reaffirmed a principle that is becoming the hallmark of its foreign policy in the multipolar age: alignment without entanglement. Comment.**
2. **Critically examine the aims and objectives of the Shanghai Cooperation Organisation. What importance does it hold for India?**
3. **By positioning the Shanghai Cooperation Organisation as a moral counterbalance to Western-aligned military action, is China seeking to extend the bloc's relevance far beyond its founding mandate?**
4. **Multipolarity is not about blocs competing with one another. It is about a growing number of states refusing to be defined by any bloc at all. Explain with examples.**
5. **Virus of Conflict is affecting the functioning of the Shanghai Cooperation Organisation; In the light of the above statement point out the role of India in mitigating the problems.**

(Amit Kumar is a PhD candidate at the Birla Institute of Technology & Science, Pilani, Rajasthan, India. Dr. John Harrison is an Associate Professor at Rabdan Academy, the UAE.)

Defence

How India's defence spending is aligned with its regional ambition

Global militarisation is accelerating at a pace unseen since the Cold War, with South Asia and the Indo-Pacific emerging as the key theatres of this trend. But does India's balancing efforts help maintain strategic stability in the Indo-Pacific amid Chinese military assertiveness and US-allied engagement?

Written by **K M Seethi**

West Asia is among the regions witnessing the steepest defence spending largely driven by the Israel-Gaza conflict, according to the Stockholm International Peace Research Institute (SIPRI) report, 2025. The ongoing Israel-Iran conflict only compounds the situation.

At the same time, South Asia has emerged as one of the fastest militarising regions worldwide, exacerbating security concerns across Asia. But what are the major factors behind increased military spending worldwide and, specifically, in the Indo-Pacific region – home to seven of the 10 largest militaries?



India's defence strategy largely revolves around addressing simultaneous challenges - maintaining stability along the Line of Actual Control with China and mitigating asymmetric security threats from Pakistan, particularly terrorism.

Mapping global trends in military spending

Global militarisation is accelerating at a pace unseen since the Cold War, with South Asia and the Indo-Pacific emerging as the key theatres of this trend. According to the SIPRI, global defence spending in 2024 surpassed \$2.7 trillion, with over one-fifth coming from Asia and Oceania.

Driven by declining geopolitical trust, nuclear competition, and escalating rivalries, defence spending has now increased for ten consecutive years. Across the Himalayas and throughout the Indian Ocean, military buildups are growing more complex and consequential.

The SIPRI estimates show that global defence spending rose by 9.4 per cent in 2024 in real terms, reaching approximately \$2.72 trillion. The five largest military spenders – the US, China, Russia, India, and Saudi Arabia – together contributed around 61 per cent of global defence expenditures.

The steepest regional increases were observed in Europe (17 per cent) and West Asia, largely driven by the Russia-Ukraine war and the Israel-Gaza conflict. The total world spending rose by 37 per cent in the past decade and the US continued to be the largest spender with \$997 billion in 2024 – 3.2 times more than the next biggest spender, China.

However, the International Institute for Strategic Studies (IISS) presents an alternative estimate, placing global defence spending at \$2.46 trillion for 2024 – a 7.4 per cent increase after adjusting for inflation. Although both sources confirm a significant rise in global defence budgets, the SIPRI uses a more comprehensive accounting method – covering pensions and paramilitary forces – while IISS restricts its focus to formal military allocations.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

South Asia's expanding defence outlays

South Asia has emerged as one of the fastest militarising regions worldwide. According to the SIPRI, India's military expenditure in 2024 stood at \$86.1 billion, a 1.6 per cent increase from the previous year, placing it fifth among the top global spenders. Meanwhile, Pakistan's defence budget was estimated at \$10.2 billion, nearly nine times less than India's, although Islamabad has now proposed a 20 per cent hike in military spending for 2025–26 in response to the recent military showdown with India.

India's defence strategy largely revolves around addressing simultaneous challenges – maintaining stability along the Line of Actual Control with China and mitigating asymmetric security threats from Pakistan, particularly terrorism. With increasing maritime commitments and aspirations to become a regional security provider, India's military focus is now deeply tied to its vision for the Indian Ocean Region (IOR). The Indian Navy has seen steady modernisation, with over \$21 billion earmarked for equipment in the 2025–26 budget.

Pakistan continues to rely on a blend of conventional and nuclear deterrence. Although its economic situation limits long-term defence investments, its military planning remains responsive, aimed at preserving some degree of strategic balance with India. Islamabad's increasing dependence on Chinese support, including under initiatives such as the China-Pakistan Economic Corridor (CPEC), enhances its military capacity but also deepens geopolitical reliance.

India's balancing efforts in the Indo-Pacific

The Indo-Pacific region, home to seven of the 10 largest militaries, has become the focal point of the global rise in military expenditures. Three interconnected factors define this: China's increasingly assertive military posture, India's balancing efforts, and the strategic involvement of the US and its allies in shaping regional security.

— China: With a defence budget of \$314 billion in 2024 – up 7 per cent from 2023 – China continues its three-decade trait of steady rise in military spending. IISS offers a slightly lower figure of \$296 billion, noting a 6 per cent real-term increase. China is responsible for nearly 50 per cent of defence expenditure across Asia and Oceania, with its priorities centred on expanding anti-access/area-denial (A2/AD) capabilities, enhancing maritime surveillance, and updating its nuclear forces. China's activities in the South China Sea, its port-building spree across the IOR, and its sharpening rhetoric on Taiwan have alarmed regional powers.

— India: India's spending rose modestly by SIPRI's estimate (1.6 per cent), but IISS reports a 4.2 per cent increase, possibly due to exchange rate adjustments and accounting categories. Strategically, India is placing increasing emphasis on maritime security, deterrence against China, and technological self-reliance. Defence Minister Rajnath Singh outlined a vision of "Aatmanirbhar Bharat" in defence production, with a target of 1.75 lakh crore (approx. \$21 billion) in domestic military manufacturing in 2025.

— Pakistan: Faced with growing fiscal constraints, Pakistan's real defence capacity remains limited. Yet, the proposed 20 per cent hike in 2025–26 aims to send a strong political message after its April 2025 confrontation with India. The addition of military pensions and a significant allocation for equipment purchases reflects its desire to keep pace strategically despite economic headwinds.

— Japan and Australia: Japan's defence budget reached \$55.3 billion in 2024, registering a 21 per cent increase, as Tokyo moves away from its post-WWII pacifism. Australia too continues to scale up, with its outlay of \$33.8 billion, driven by the AUKUS agreement and a perceived need to counterbalance China in the Pacific. These actors amplify the Indo-Pacific's shift from a trade-first paradigm to a security-centric theatre.

What fuels the fire

Military spending in the Indian Ocean Region (IOR) is not driven by economics alone – it is fed by an uptight mix of strategic distrust, nuclear deterrence, and sovereignty concerns.

Nuclear posturing

The nuclear arms race is once again intensifying, especially in Asia. According to SIPRI's latest estimates, the total number of nuclear warheads globally stands at 12,241, with 9,614 in military stockpiles and around 3,912 deployed, some on high alert. The US and Russia together possess almost 90 per cent of all nuclear weapons. One of the most concerning trends is the continuous growth and upgrading of nuclear arsenals, particularly among China, India, and Pakistan.

China is estimated to have between 500 and 600 nuclear warheads and is reportedly expanding its arsenal by around 100 warheads per year. Over 350 new intercontinental ballistic missiles (ICBMs) silos are also under development. It is building a robust second-strike capability through sea- and air-based systems.

India is developing its nuclear triad with technologies like canisterised missile systems and ballistic missile submarines (SSBNs), aiming to enhance both deployment flexibility and survivability. Pakistan is gradually expanding its nuclear arsenal and placing growing emphasis on tactical nuclear capabilities for potential use in regional conflict.

This expansion is closely linked to the deteriorating regional security situation. The 2025 India-Pakistan war and China's assertiveness in the South China Sea have added urgency to nuclear preparedness. Compounding this are the failures of global arms control – such as the uncertain fate of New START – and the lack of regional risk-reduction mechanisms. West Asia is witnessing the consequences of this setback.

In the IOR, the presence of nuclear-armed submarines, especially from China and India, increases the risk of miscalculation. Without new confidence-building measures, the regional nuclear competition threatens to destabilise rather than deter.

Territorial and maritime disputes

China's sweeping claims in the South China Sea and increased naval presence in the Eastern IOR (Gwadar, Djibouti, Maldives) are reshaping strategic calculations. India's response has been to deepen naval outreach, participate in multilateral naval exercises (like Malabar), and build infrastructure in the Andaman-Nicobar command.

Deterrence by denial

Rather than deterrence by punishment, many states in the region are focusing on deterrence by denial – developing submarine fleets, surveillance networks, and air defence systems to deny adversaries access to key maritime zones.

Securitisation of the commons

Even areas like seabed mapping, undersea cables, and marine biodiversity – once under scientific or civilian control – are now being securitised. This blurs the line between peace-time preparations and war-time readiness.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

Need for confidence-building

The Indo-Pacific is evolving into one of the most militarised regions globally. Although modernisation and deterrence can promote security, the absence of clear military doctrines, effective arms control frameworks, and reliable confidence-building channels increases the risk of accidental escalation.

Despite their significant military budgets, India and China lack dedicated hotlines or transparent mechanisms to verify each other's military activities – raising the risk of miscalculation during crises. India and Pakistan continue to observe a fragile ceasefire, but sustained diplomatic engagement and backchannel communications are largely absent. In such a context, every military drill, arms purchase, or border incident becomes a potential flashpoint.

There is an urgent need to reinvigorate CBMs – such as greater transparency in defence spending, advance notification of military drills, collaborative disaster-response training, and open dialogues on maritime security. Multilateral institutions like the Indian Ocean Rim Association (IORA) and ASEAN need to be empowered to facilitate such efforts.

Long-term strategic stability in South Asia and the Indo-Pacific needs to go beyond deterrence. It demands sustained dialogue, responsible restraint, and a shared understanding that economic progress cannot flourish amid constant military tension.

Post Read Questions

1. According to recent reports by SIPRI and IISS, defence spending has increased for ten consecutive years globally. Evaluate major reasons behind this trend.
2. What does India's rising defence expenditure reveal about its strategic priorities?
3. How is India's defence strategy balancing its continental challenges with maritime ambitions in the Indian Ocean Region?
4. In what ways does India's approach to balancing power in the Indo-Pacific illustrate its broader strategic goals amid China's assertiveness and increasing US-led alignment in the region?
5. Discuss Confidence Building Measures (CBMs) that could help reduce tensions and enhance transparency in the Indo-Pacific.

(K.M. Seethi is the Director of Inter University Centre for Social Science Research and Extension (IUCSSRE), Mahatma Gandhi University (MGU), Kerala, and former Senior Professor of International Relations at the same university.)

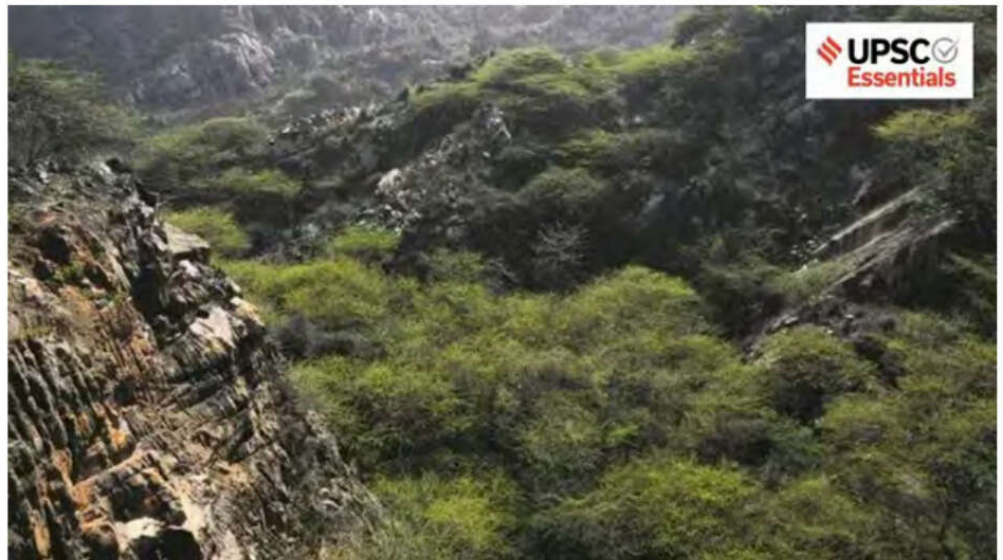
Environment & Ecology

How India pushes for ecological restoration

On World Environment Day, Prime Minister Narendra Modi underlined the importance of the Aravalli Green Wall project. But what are the other key initiatives India has in place to combat ecological degradation?

— Renuka

On the occasion of World Environment Day, Prime Minister Narendra Modi planted a sapling at the Bhagwan Mahavir Vanasthali Park in Delhi, strengthening the 'Ek Ped Maa Ke Naam' campaign and underlining the importance of the Aravalli Green Wall project – a large-scale land restoration project to combat the degradation of the country's longest mountain range.



India will mark World Environment Day by launching the ambitious Aravalli Green Wall project. (File)

The 700-km Aravalli mountain range acts as a natural barrier against the incursion of sand and dust from the Thar desert. But it has suffered extensive degradation due to deforestation, mining, urbanisation, agriculture practices and development.

Notably, the degradation of the Aravallis is not an isolated phenomenon, rather a broader part of extensive ecological damage largely driven by human-induced factors such as deforestation, habitat loss, and climate change.

Earth is experiencing biodiversity loss at an alarming rate. Studies have estimated that species are now going extinct at rates 10 to 100 times higher than the natural rate. According to the International Union for Conservation of Nature (IUCN), over one-third of the world's tree species are now threatened with extinction. Around 40 per cent of the world's population is already adversely affected by land degradation, while up to \$577 billion in annual crop production is at risk due to the loss of pollinators.

Narendra Modi @narendramodi
Today, on #WorldEnvironmentDay, we strengthened the #EkPedMaaKeNaam initiative with a special tree plantation drive. I planted a sapling at the Bhagwan Mahavir Vanasthali Park in Delhi. This is also a part of our effort to reforest the Aravalli range - the Aravalli Green Wall project.



12:07 pm · 05 Jun 25 · 663K Views

3,852 Reposts 93 Quotes 22.8K Likes

A recent report by IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) warns that continued biodiversity decline will directly undermine the progress of Sustainable Development Goals related to Poverty, Hunger, Health, Water, etc. The degradation of rivers, forests, wetlands, and coastal zones is not only accelerating ecological collapse but also widening social and economic inequities, particularly in the global south, including India.

Amidst this, a shift towards ecological restoration – one that actively revives degraded land and diminishing biodiversity – is the need of the hour to support well-being and climate resilience. This imperative is especially relevant for India, where the combined pressures of rapid development and climate change are accelerating the degradation of forests, wetlands, rivers, and other fragile ecosystems.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

Ecological restoration in India

Currently, about 30 per cent of the land in India is degraded, and 25 per cent is undergoing desertification. Although the National Forest Policy mandates a minimum of 33 per cent forest cover, the country's current forest cover stands at only 24.62 per cent.

Considering these problems, India has steadily recognised the significance of environmental conservation and restoration. The Aravalli Green Wall project is a case in point. In addition, it enacted laws such as the Wildlife Protection Act 1972, Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, and the Biological Diversity Act 2002 to protect its diminishing forest cover and biodiversity. The Water (Prevention and Control of Pollution) Act, 1974, aims to prevent and control water pollution and restore the wholesomeness of water.

In 1990-1991, the National Watershed Development Project for Rainfed Areas (NWDPR) was launched, which aimed to restore the ecological balance in degraded rainfed regions by promoting green cover. Other programmes like the National Afforestation Programme (2000) and the National Mission for a Green India (2014) were launched to protect and restore the diminishing forest cover of India.

In 2016, the Compensatory Afforestation Act (CAMPA) was enacted to ensure that forestland diverted for non-forest purposes is compensated through afforestation and ecological regeneration. To restore the degraded land and promote sustainable land management practices, the National Action Plan to Combat Desertification, 2022, was launched, which aims to restore 26 million hectares of degraded land by 2030 through forestry interventions.

Furthermore, flagship programmes like Namami Gange, Yamuna Action Plan, and National Plan for Conservation of Aquatic Ecosystems (NPCA) were put into effect to protect and revive aquatic and wetland ecosystems. Additionally, the polluter pays principle under Indian Environmental Jurisprudence mandates ecological restoration by the defaulting entity in case of industrial degradation.

In this context, the European Union's Nature Restoration Law merits attention, which is a key part of its biodiversity strategy and broader European Green Deal.

European Union's Nature Restoration Law

The European Union's Nature Restoration Law, which entered into force on June 17, 2024, aims to reverse biodiversity loss and build resilient ecosystems. It seeks to contribute to the broader goals related to climate change mitigation and adaptation, land degradation neutrality and enhancing food security.

To achieve these objectives, the regulation sets out qualitative and quantitative targets to restore terrestrial, coastal,

marine, and freshwater ecosystems. It covers forests, wetlands, grasslands, rivers, and lakes for improving and restoring biodiverse habitats.

The regulation also aims to reverse biodiversity loss by halting the decline of pollinators like bees and butterflies by 2030. It seeks to enhance biodiversity in agricultural ecosystems through measures such as boosting grassland butterfly populations and increasing high-diversity landscape features.

To increase the green cover, member states are expected to plant at least three billion additional trees by 2030 and to ensure no net loss of green urban space by 2030. On the implementation front, the regulation requires the Member States to submit National Restoration Plans by September 1, 2026. It will cover the period up to 2050, with intermediate deadlines, and will be monitored by the European Commission, which will report progress to the European Parliament.

Global efforts for ecosystem revival

In addition to this regional initiative, considerable efforts at the global level are also being invested towards the cause. Over the past few decades, various international initiatives have been taken to address environmental degradation, particularly biodiversity loss. One of the earliest global efforts was the establishment of the International Union for Conservation of Nature (IUCN) in 1948, which has played a pivotal role in the conservation and restoration of nature.

Since 1964, the IUCN has been maintaining the Red List of Threatened Species as a key tool for monitoring ecosystem health and identifying restoration priorities. Global emphasis on restoration inclination is also evident in key international agreements like the Ramsar Convention on Wetlands, the Convention on International Trade in Endangered Species (CITES), the United Nations Convention to Combat Desertification (UNCCD), and the Convention on Biological Diversity (CBD).

Principle 5 of the Earth Charter, 2000, also underscores the need to protect and restore the integrity of Earth's ecosystems, emphasising biodiversity. It may be noted here that the idea of restoration gained prominence with the Aichi Biodiversity Target, which had called for restoring at least 15% of degraded ecosystems by 2020. The ambition was further expanded in the Kunming-Montreal Global Biodiversity Framework, adopted in 2022 at COP15, which set a new global target to restore 30% of degraded ecosystems by 2030.

In support of these efforts, the United Nations declared 2021-2030 as the Decade on Ecosystem Restoration, aiming to drive global, coordinated action to restore ecosystems. While these initiatives have significantly advanced the cause of nature restoration, the absence of a cohesive, enforceable global framework along with the lack of binding targets remains a significant issue.

Recognising nature's intrinsic value

In the face of accelerating environmental degradation, nature restoration needs to become the new norm, going beyond protection alone. While conservation efforts have historically focused on preserving what remains, today's ecological crisis demands proactive regeneration of what has been lost. To achieve this, a global model legal framework on ecosystem restoration with binding obligations, a funding mechanism and knowledge-sharing platforms, akin to climate treaties, perhaps would be a step in the right direction.

For a country like India, nature restoration is critical. However, most of the restoration laws, programmes and policies in the country seem to be either conservation-centric or fragmented in their approach. In light of this, there appears to be a need for a comprehensive National

Framework on Ecosystem Restoration. Such a framework may be based on ecological baseline and biodiversity mapping and mandated across all levels of government – from centre to states and districts. As nature also holds socio-economic and cultural value, restoration efforts can also be based on a bottom-top approach with active community involvement. In this regard, the EU restoration law offers a blueprint.

Lastly, while ecological restoration offers undeniable socio-economic benefits, it may not be reduced to a utilitarian exercise that serves just human needs but needs to be guided by the recognition of nature's intrinsic value and the principle of biocentrism, which places all forms of life at the centre of moral concerns.

Post Read Questions

1. **Examine the status and challenges of land degradation and desertification in India. How do national policies address these issues?**
2. **How does the European Union's Nature Restoration Law serve as a model for global ecosystem restoration efforts? What lessons can India draw from it?**
3. **Given that India's forest cover stands below the mandated 33%, how can restoration strategies be integrated into national development plans without compromising ecological integrity?**
4. **Why is ecological restoration emerging as a global imperative in the face of accelerating environmental degradation? Illustrate with examples.**
5. **What is the concept of 'rights of nature' and how does it challenge traditional anthropocentric environmentalism?**

(Renuka is a Doctoral researcher at Himachal Pradesh National law university, Shimla.)

UN: Growing threat to oceans a global emergency

As the third UN Ocean Conference begins, coinciding with World Oceans Day, the UN has urged world leaders to translate their pledges into action to safeguard ocean health. But what are the major threats faced by oceans, which act as carbon sink and climate regulator?

— **Abhinav Rai**

The recent sinking of the Liberian-flagged vessel MSC ELSA-3 near the Kochi coast, with potentially hazardous cargo, underscores the vulnerability of marine ecosystems. Kochi coast is rich in bio-diversity and this accident could adversely affect the community living nearby. The Kerala government has declared the incident a state disaster. Such incidents are detrimental to marine life and the overall health of the oceans.



As the third UN Ocean Conference begins, coinciding with World Oceans Day, the UN has urged world leaders to translate their pledges into action to safeguard ocean health. (Source: Unsplash)

The crisis reminds us of the growing threats to the ocean that the United Nations has called a global emergency urging world leaders to translate their pledges into action. In this context, thousands of delegates, including heads of state, scientists, and environmental advocates, are expected in Nice, France this week to mark the third UN Ocean Conference (June 9-13), which also coincides with World Oceans Day (June 8).

The idea of dedicating a day to the ocean emerged from the growing importance of ocean awareness and led to the declaration of 'Oceans Day' at the 1992 UNCED. It was later designated as 'World Ocean Day' by the UN in 2008. This year's theme is "Wonder: Sustaining what sustains us".

Against this backdrop, it's important to understand oceans' spatial coverage, features, critical ecological functions, and the rising global concerns about ocean health.

How oceans sustain us

Covering over 70 per cent of Earth's surface and holding 97 per cent of its water, oceans are the very essence of our planet, sustaining 94 per cent of all life. Oceans are the world's largest ecosystem, rich in biodiversity and home to nearly a million known species.

As highlighted by UN SDG-14, Life Below Water, focusing on the conservation and sustainable use of marine resources is crucial. Oceans also act as a massive carbon sink, absorbing significant amounts of CO₂, while their phytoplankton (the base of the marine food web) produce over half the oxygen we breathe.

Furthermore, they govern the Earth's hydrological cycle and redistribute heat through currents, profoundly influencing

global climate patterns. The convergence of warm and cold currents creates highly productive fishing grounds, like Newfoundland, by fostering plankton growth, the base of the marine food web.

Apart from being fishing grounds, oceans' continental shelves have vast reserves of fossil fuels and natural gas. Some examples include the Gulf of Mexico, the Siberian Shelf in the Arctic Ocean, the Persian Gulf, and the Bombay High in the Arabian sea.

Oceans under threat

The health and sustainable management of our oceans are not merely environmental concerns but fundamental to our planet's life support systems and global economic stability. However, increasing sea surface temperature, sea level rise, plastic pollution, overexploitation of marine resources, maritime accidents, and the increasing frequency and intensity of cyclonic events have raised concerns about the ocean health and populations living in coastal regions.

Oceans absorb approximately 23 per cent of annual CO₂ emitted by anthropogenic activities and more than 90 per cent of the excess heat in the climate system. The increasing sea surface temperature is making oceans more saline and dense, adversely affecting marine life. This has made oceans 30 per cent more acidic compared to pre-industrial times, and lowered their oxygen levels.

At the same time, corals, known as the 'Rainforests of the Sea' are dying (also called Coral Bleaching) due to rising sea temperatures and other environmental factors. When water is too warm, corals expel the algae (zooxanthellae) living in their tissues causing the coral to turn completely white. This is called coral bleaching.

The International Coral Reef Initiative (ICRI) has confirmed that during the 4th global mass bleaching event between January 2023 to March 30, 2025, bleaching-level heat stress impacted 84 per cent of the world's coral reefs affecting 82 countries.

Antarctica and Arctic regions are experiencing an increased number of ice-free days, while ocean warming is accelerating calving and the breaking off of glacier mass from coasts, which also contributes to rising sea levels. In addition, plastic pollution and accidents of cargo ships in the oceans are posing threats to ocean health.

Such challenges underline the urgency for countries to balance maritime ambitions with sustainability.

India's aim to become maritime power

India's geographic location with 11,098 km coastline puts it in a strategically important position along the Indian Ocean. As global economic shifts and geopolitical factors elevate the significance of the Indo-Pacific, India finds itself at a crucial juncture.

However, its ambition to become a maritime power faces multiple challenges – from conventional security threats to climate change, pollution, frequent cyclones, etc. These issues could have serious consequences for India's coastal communities, maritime trade, blue economy ambitions, and the geopolitics of the region.

A 2021 Intergovernmental Panel on Climate Change report warned that since the 1950s, the Indian Ocean has been warming faster than any other ocean. It has led to a 20 per cent decrease in phytoplankton population in the western Indian Ocean.

Rising sea levels also pose a severe threat to major coastal urban centers like Mumbai, Chennai, and Kolkata – critical for maritime trade and the national economy – and increase the risk of flooding, contamination of underground drinking water, and damage to infrastructure.

The Central Marine Fisheries Research Institute (CMFRI) reported in 2021 that Catch of oil sardine has experienced a drop of 75 per cent along the Kerala coast compared to the previous year. Meanwhile, mega development projects like Vadhavan Port in Maharashtra are being criticised for displacing fishing communities and harming the region's marine

ecosystem.

On the geopolitical front, countries like China, which have developed a strategic framework called ‘String of Pearls’ (or a network of ports and military bases) pose challenges to India’s maritime influence in the Indian Ocean Region.

However, India has launched key initiatives such as SAGAR (Security and Growth for All in the Region), the Maritime India Vision 2030, and actively participates in regional platforms like BIMSTEC and the Indian Ocean Rim Association (IORA) to promote maritime security and regional cooperation. While these efforts focus on enhancing strategic and regional maritime engagement, the economic and developmental potential of India’s own maritime domain also demands attention.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBawMGQ1>

Need for sustained efforts to protect ocean health

Currently, about 30 per cent of India’s population resides in coastal regions, and the blue economy contributes 4 per cent to the GDP. However, India’s Exclusive Economic Zone, extending 200 nautical miles into the sea, remains largely unexplored and represents significant untapped potential.

The Ministry of Earth Sciences (MoES), has proposed adding a ninth mission, the National Coastal Mission, to the National Action Plan on Climate Change. It aims to address climate change threats to coastal zones, mangroves, corals, and promote better and sustainable use of marine resources.

India is also in the final stage of formulating its blue economy policy which aims to ensure the optimal utilisation of all sectors of the maritime domain – including living and non-living resources, tourism, ocean energy – for sustainable development of coastal areas.

Oceans support life both on and beneath the Earth, sustaining biodiversity and fulfilling essential environmental, ecological, and socio-economic needs. Yet, these vital ecosystem services are increasingly threatened by the multifold crises of climate change, overexploitation, pollution, and geopolitical tensions.

To support the implementation of SDG 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development – UN Ocean Conference, 2025 is being co-hosted by France and Costa Rica. The theme of the Conference is, accelerating action and mobilising all actors to conserve and sustainably use the ocean.

To sum up, unwavering global cooperation and conservation efforts are critical to safeguard ocean health, ensure secure and smooth maritime trade, and build resilient global supply chains.

Post Read Questions

1. How does the UN Ocean Conference 2025 seek to advance the goals of SDG 14 on ocean conservation and sustainable use?
2. The health and sustainable management of our oceans are not merely environmental concerns but fundamental to our planet’s life support systems and global economic stability. Comment.
3. How does ocean warming impact marine biodiversity, and what does the 2023–2025 coral bleaching event reveal about the resilience of coral ecosystems?
4. How are climate change-induced threats — like rising sea levels and coral bleaching — affecting the socio-economic security of India’s coastal communities?

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

Health

Food adulteration and its consequences on health

Of late, a number of cases of “fake paneer” products came to light highlighting a worrying trend of increasing food adulteration in everyday staples and posing severe health risks. The issue also raises questions about food safety mechanisms in India.

— Ritwika Patgiri

Of late, a number of cases of “fake paneer” products came to light highlighting a worrying trend of increasing food adulteration in everyday staples and posing severe health risks. For instance, in early April, reports from Noida found that 47 paneer and khoya products out of 168 food items tested by the Food Safety and Standards Authority of India (FSSAI) were contaminated.



A number of cases of “fake paneer” products came to light highlighting a worrying trend of increasing food adulteration in everyday staples and posing severe health risks.

Fake paneer, also called “analogue paneer” or “synthetic paneer”, mimics the texture and appearance of real paneer but is made from non-dairy ingredients and costs nearly half of the real paneer. However, this is not the only case of food adulteration in India.

According to data recently shared by the Union Minister of State for Health and Family Welfare, Prataprao Jadhav, 22 per cent of food samples tested in Tamil Nadu between 2021 and September 2024 were found to be adulterated. The data collected by food safety authorities across five southern states – Tamil Nadu, Telangana, Kerala, Andhra Pradesh, and Karnataka – also revealed that 15 per cent of the food tested in Telangana and 13 per cent in Kerala were contaminated.

Overall, one in every seven food samples tested in the five states failed to meet food safety standards over the last four years, indicating the systemic nature of food adulteration in the country.

Health problems caused by food adulteration

Food adulteration is a process by which substances are either intentionally added to food items or food gets contaminated due to negligence or poor handling practices. Adulterants could be harmful chemicals or harmless fillers, which can be added at any stage of the production process. For instance, the dilution of milk by farmers or the mixing

of edible oil with mineral oil are examples of food adulteration.

The issue of food adulteration is present in both organised and unorganised sectors. If the adulteration of milk-based sweets by small sweet shops during Diwali is a common local concern, big corporations have also been found involved in food adulteration.

Evidence worldwide suggests that 57 per cent of individuals have had health issues as a result of consuming adulterated food. Food adulteration can cause a range of health issues, including digestive disorders, allergic reactions, nutritional deficiencies, weakened immune system, and chronic diseases like cancer and liver damage.

While some instances of food adulteration, like mixing water with milk, may seem harmless, the larger public health impact tells otherwise. According to the National Family Health Survey (NFHS-5) conducted between 2019 and 2021, 32.1 per cent of Indian children are underweight, 35.5 per cent are stunted (low height for age), and 19.3 per cent are wasted (low weight for height). Around 41 million children in India have stunted growth.

The survey also notes that milk and curd along with pulses and beans are more likely to be consumed daily by a majority of Indians compared to eggs, fish, or meat. Therefore, the dilution of milk has serious health implications, specifically in terms of key nutritional indicators, which remain poor despite the consumption of milk.

Similarly, the dilution of pure honey with sugar syrup is more than just an instance of lowering the quality of food. According to The Lancet data, India has the highest number of people with diabetes estimated at 212 million. Unhealthy food and sedentary lifestyles are the major reasons behind this. Therefore, even seemingly minor adulterations such as adding sugar to honey can have long-term health consequences.

Role of FSSAI

The prevalence of food contamination raises an important question about food safety mechanisms in India. The FSSAI is responsible for regulating and overseeing food safety. Established by the Food Safety and Standards Act, 2006, the FSSAI conducts periodic pan-India surveillance of food products, especially staple food and commodities that are prone to adulteration.

The theme of this year's World Food Safety Day, celebrated on June 7, was "science in action", drawing attention to the use of scientific knowledge in reducing illness, cutting costs, and saving lives. The theme also underlines the responsibility of regulatory bodies like the FSSAI in combating food adulteration through scientific approaches.

The use of genetically modified (GM) ingredients in food items in India can be mentioned here as a case in point. Despite scientific concerns, GM cottonseed oil – derived from Bt cotton, the only GM crop allowed for cultivation in India – is blended with other edible oils. However, this practice raises concerns due to the possible toxicity present in such oils.

To address this, the FSSAI has mandated that any food item containing 5 per cent of GM ingredients should be labelled accordingly. However, quantifying the percentage of GM ingredients in food is challenging and expensive, making the labeling system dependent on self-declaration by manufacturers. This makes FSSAI's role even more crucial in ensuring transparency and protecting consumers' right to know what they are consuming.

Organic food

The case of organic food presents similar challenges. The FSSAI mandates that certified organic food must be free from any residues of insecticides and should be labelled accordingly. However, there's no clear labelling for

However, the lack of clear labeling of such products raises critical questions – who actually has access to “good” organic food and who is more likely to be deceived by “bad” organic food?

Combating food adulteration

Profit maximisation has been found as one of the primary motivations behind food adulteration across organised and unorganised sectors. According to the health ministry records, three of every five companies have been found guilty of misbranding or selling adulterated food, yet many manage to escape without penalties. The low conviction rate has been seen as a major reason behind the persistence of such malpractices. The lack of food analysts and testing laboratories are some other systemic issues behind the low conviction rate.

Post Read Questions

- 1. Why is food adulteration considered a major public health concern in India? What are some of the long-term health effects of consuming adulterated food?**
- 2. What role does the Food Safety and Standards Authority of India (FSSAI) play in ensuring food safety? Why is it important to have different regulatory approaches for the organised and unorganised food sectors?**
- 3. How does the lack of clear labelling for organic and genetically modified (GM) foods impact consumer choices in India? Why is the self-declaration system for GM food labelling problematic?**
- 4. How does food adulteration affect the nutritional status of children in India, as seen in NFHS-5 data?**
- 5. What steps can be taken to improve food testing infrastructure and enforcement in India?**

(Ritwika Patgiri is a doctoral candidate at the Faculty of Economics, South Asian University.)

How microplastics harm the heart

Recent studies conducted globally have indicated a possible link between microplastics and the severity of Cardiovascular diseases (CVDs). But there is a need to conduct future studies to understand the cardiotoxicity of microplastics in the Indian context.

— Ghanshyam Kumar and Dr Bhanu Duggal

Cardiovascular diseases (CVDs) remain one of the leading causes of death globally, and growing evidence suggests that environmental factors may be silently worsening these health risks. Some recent studies have indicated a possible link between the severity of CVDs and microplastics – tiny fragments of plastic that infiltrate the human body through drinking water, everyday food items, fishery products, etc.



Once inside the body, microplastics can accumulate in various organs and enter the circulatory system, potentially causing harmful health effects. (Pixabay/Pexels)

In addition to CVDs, microplastics have been linked to a wide range

of health issues, including gut dysfunction, respiratory complications, kidney and liver damage, reproductive and developmental problems, and even neurological disorders. Let's understand what is microplastic and what are the health risks associated with it?

What is microplastic?

Microplastics are tiny particles of less than five millimetres in size. Their pervasive presence in the air we breathe, the water we drink, and the food we consume has emerged as a serious environmental concern.

Microplastics are broadly classified into primary microplastics – intentionally produced microplastics such as those found in cosmetics – and secondary microplastics – resulting from the decomposition of larger plastic materials.

Polyethylene terephthalate (PET), polystyrene (PS), polypropylene (PP), polyvinyl chloride (PVC), and polyethylene (PE) are among the most commonly used plastics in various applications such as making plastic bottles, disposable cutlery, bags, piping, etc.

These plastics are non-biodegradable and remain in the environment for a long time after their improper disposal. They degrade into smaller particles through physical, chemical, or biological processes and persist in the environment due to their slow degradation rate.

Notably, plastic production has increased significantly during the past few decades, with annual output exceeding 400 million tons. It is estimated to reach more than 1 billion tons by 2060.

How microplastics affect us

Microplastics are now ubiquitous and have been found even in remote uninhabited areas. Its widespread presence exposes all ecosystems – terrestrial as well as aquatic – and adversely affects plants, animals, and humans. Microplastics also act as carriers of other environmental pollutants such as heavy metals, persistent organic pollutants, and various toxic additives like plasticisers and stabilisers used during their manufacturing.

The human body is exposed to microplastics through inhalation, ingestion of contaminated food and water, and dermal contact. Drinking water, and everyday food items such as salts, crop plants, and fishery products have been found to contain microplastics.

Once inside the body, these particles can accumulate in various organs and enter the circulatory system, potentially causing harmful health effects. Microplastics have been found in biological fluids and organs such as semen, breast milk, urine, arteries, brain, liver, lung, heart, and placenta.

Various in vitro studies on different cell lines and in vivo studies on animals (rats, mice, zebrafish) and other human studies have demonstrated the toxicity of microplastics. It can lead to gut dysfunction, respiratory issues, kidney and liver damage, reproductive and developmental problems, neurological disorders, and cardiovascular diseases (CVDs).
Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

Microplastics and heart

According to the World Health Organization (WHO), CVDs are one of the most prevalent non-communicable diseases, accounting for around 27 per cent of total deaths in India in 2016. CVDs comprise various disorders of the heart and blood vessels and include diseases such as hypertension, stroke, myocardial infarction (commonly known as heart attacks), and congenital heart disease.

Heart attack, caused by the disruption of blood flow to the heart muscles, is one of the leading causes of mortality worldwide. These diseases not only cause significant mortality and morbidity but also result in high out-of-pocket medical expenses, loss of employment, mental health issues, and financial distress.

Hence, studying the toxicity of microplastics on cardiovascular health is crucial. The detection of microplastics in the human body can help protect vulnerable patients (high-risk populations), which will help reduce mortality and alleviate healthcare costs for both citizens and the government.

To date, there have been no studies in India on the cardiotoxicity of microplastics in humans. However, recent studies conducted globally have indicated a possible link between microplastics and the severity of CVDs. Microplastics have been shown to cause cardiotoxicity, which refers to damage to the heart muscle or its function, leading to complications such as abnormal heart rhythms (arrhythmias), heart failure, and structural damage to heart tissue.

Microplastics of varying shapes, sizes, and quantities have been detected in various cardiac tissues (including the pericardium, epicardial adipose tissue, myocardium, left atrial appendage, and pericardial adipose tissue) and in arteries (such as the coronary, cerebral, carotid, and aorta). Types of plastics identified include PVC, PET, PE, and PP, which are the most commonly used plastics.

Choked by plastics

Microplastics have also been associated with adverse biological effects, including oxidative stress and inflammation, which can contribute to the development of atherosclerosis. Atherosclerosis is a condition in which plaque – composed of cholesterol, fatty substances, and calcium – accumulates inside the arteries, and leads to the narrowing of the arterial lumen and disrupting blood flow to the heart muscle.

If the plaque ruptures, it can lead to the formation of thrombus (blood clot), which may block the artery entirely,

disrupt blood flow, and subsequently cause cardiac cell injury and death – a condition commonly known as a heart attack (myocardial infarction).

Studies have shown that microplastic concentrations are higher in cardiac patients compared to control groups (non-cardiac patients). The presence of microplastics in the arteries has been linked to an increased risk of major adverse clinical outcomes, including death, heart attacks, heart failure, reduced cardiac function, and stroke during follow-up periods. Additionally, the severity of ischemic stroke has been found to be correlated with microplastic concentration.

Limitations of existing studies for India

However, the lack of suitable representative samples limits the generalisation of existing research findings to the Indian population. Most studies conducted so far have also used small sample sizes. A definitive cause-and-effect (causal) relationship between microplastics and cardiovascular diseases has yet to be established. Microplastics can merely be bystanders, as confounding variables – such as exposure to other environmental pollutants and comorbidities like diabetes and other diseases – can increase the severity of CVDs.

Therefore, future studies need to focus on understanding the cardiotoxicity of microplastics in India by conducting cohort studies across populations with varying levels of exposure to microplastic concentration. Such studies would be essential to establishing a causal relationship in the Indian context.

In 2022, the United Nations Environment Assembly passed a resolution to form an Intergovernmental Negotiating Committee (INC) tasked with developing a legally binding treaty to address plastic pollution. But the consensus has yet to be reached.

Now the upcoming INC-5.2 meeting scheduled for August 2025 offers some hope that a Global Plastic Treaty will be agreed upon – one that takes into account the concerns of stakeholders and advances global efforts to curb the menace of plastic pollution.

In the case of India, the government has taken practical steps to reduce the misuse of plastics, such as banning single-use plastics effectively from July 1, 2022. Implementing the 3Rs – reduce, recycle, reuse – of waste management will significantly help reduce plastic pollution. In addition, encouraging the use of environment-friendly biodegradable bioplastics such as polyhydroxyalkanoates can help. Moreover, increasing public awareness about the toxic effects of plastics and microplastics is vital in reducing their usage and associated health risks.

Post Read Questions

1. What are microplastics, and what are the health risks associated with it?
2. What steps has the government taken to mitigate plastic pollution and its health effects?
3. How can the principles of the 3Rs (Reduce, Reuse, Recycle) be effectively implemented in India to combat plastic waste?
4. What is the role of the United Nations Environment Assembly and the Intergovernmental Negotiating Committee (INC) in addressing global plastic pollution?
5. How could a Global Plastic Treaty contribute to reducing microplastic exposure and its health implications?

(Ghanshyam Kumar has worked as a Research Fellow at AIIMS Rishikesh and Dr. Bhanu Duggal is Professor and Head of the Department of Cardiology at AIIMS Rishikesh.)

UPSC FOCUS

Issue at a Glance

50 Years of Emergency: From causes to constitutional implications

Fifty years ago, on the night of June 25, 1975, the Indira Gandhi government declared Emergency on the grounds of “internal disturbance” – the first and only time this clause was used in independent India. On its 50th anniversary, let’s revisit the constitutional crossroads of this chapter in Indian history.

Written by **Roshni Yadav**

UPSC Issue at a Glance is an initiative by *UPSC Essentials* aimed at streamlining your preparation for the prelims and mains examinations by focusing on current issues making headlines. **Every Thursday**, cover a new topic in a lucid way. This week, we explain to you **how the national emergency of 1975 unfolded, its causes and constitutional lessons**. Let’s get started.



The national emergency of 1975 has been in the news, and aspirants must know about it from both factual and analytical perspectives. (Image credit: Abhishek Mitra, Indian Express Archive)

What is the issue?

The Emergency was imposed exactly 50 years ago on June 25, 1975. The 21-month period that followed was marked by the suspension of civil liberties, curtailment of press freedom, mass arrests, cancellation of elections, and rule by decree. In this article, we break down the historical event in terms of its causes, constitutional provisions, and impact from a broader perspective.

(Relevance: UPSC Syllabus General Studies-II: Constitution of India—features, amendments, significant provisions and basic structure, Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure. UPSC aspirants will also find it useful in Essays, and Current affairs for their Personality tests.)

What will you learn from this article?

1. *What is meant by “the Emergency” in modern Indian political history and what does the Constitution say about emergencies?*
2. *How many types of emergencies are recognised by the Indian Constitution?*
3. *What were the key events that led to the proclamation of the National Emergency in 1975?*
4. *What were the major constitutional implications during and post-1975 National Emergency?*
5. *What are the constitutional lessons from the 1975 national emergency?*

Question 1: What is meant by “the Emergency” in modern Indian political history and what does the Constitution say about emergencies?

In the context of modern Indian Political history the “Emergency” refers to the period from June 25, 1975 to March 21, 1977, during which the government of Prime Minister Indira Gandhi used special provisions in the Constitution to impose sweeping executive and legislative consequences on the country.

However, emergency provisions contained in Part XVIII of the Constitution of India, from Articles 352 to 360, talk about the three different types of emergencies. Notably, these provisions are borrowed from the German Weimar constitution. Let’s understand these legal and constitutional sanctions that the emergency has in India.

Constitutional Provisions related to Emergencies in India

- ◆ Article 352 of the Indian Constitution deals with the “proclamation of emergency”.
- ◆ Article 353 provides provisions about the “Effect of Proclamation of Emergency”.
- ◆ Article 354 talks about the “application of provisions relating to the distribution of revenues while a Proclamation of Emergency is in operation”.
- ◆ Article 355 deals with the “duty of the Union to protect States against external aggression and internal disturbance”.
- ◆ Article 356 provides “provisions in case of failure of constitutional machinery in States”.
- ◆ Article 357 deals with the “Exercise of legislative powers under Proclamation issued under article 356”.
- ◆ Article 358 frees the state of all limitations imposed by Article 19 (“Right to freedom”) as soon as an emergency is imposed.
- ◆ Article 359 provides provision with regard to the “suspension of the enforcement of the rights conferred by Part III during emergencies”.
- ◆ Under Article 360 provisions about the financial emergency are provided.

How many times has an emergency been imposed in India?

Till now, three times an emergency has been imposed in India:

1. The first time the emergency was imposed was on October 26, 1962, on the grounds of war.
2. The second emergency was imposed on December 3, 1971, on the grounds of war.
3. The third-time emergency was proclaimed on June 25, 1975, due to an “internal disturbance.” (Note: This ground of “internal disturbance” was removed by the Constitution (Forty-fourth Amendment) Act, 1978.)

Question 2: How many types of emergencies are recognised by the Indian Constitution?

Various provisions mentioned in Part XVIII of the Constitution provide for three types of emergencies: National Emergency (Articles 352-354, 358-359), President’s rule (Articles 355–357), Financial Emergency (Article 360).

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

National Emergency

Under Article 352 of the Constitution, the President may, on the advice of the Cabinet headed by the Prime Minister, issue a proclamation of emergency if the security of India or any part of the country is threatened by “war or external aggression, or armed rebellion”. (Note: In 1975, instead of armed rebellion, the ground of “internal disturbance” was available to the government to proclaim an emergency.) This type of emergency is popularly referred to as a “national emergency”.

President’s Rule

According to Article 356 (1), if the President, on receipt of a report from the Governor of a State or otherwise, is satisfied that a situation has arisen in which the Government of the State cannot be carried on in accordance with the provisions of this Constitution, the President may by Proclamation—

- (a) assume to himself all or any of the functions of the Government of the State and all or any of the powers vested in or exercisable by the Governor or any body or authority in the State other than the Legislature of the State;
- (b) declare that the powers of the Legislature of the State shall be exercisable by or under the authority of Parliament;
- (c) make such incidental and consequential provisions as appear to the President to be necessary or desirable for giving effect to the objects of the Proclamation, including provisions for suspending in whole or in part the operation of any provisions of this Constitution relating to any body or authority in the State.

Financial Emergency

Article 360 of the Indian Constitution provides for financial emergency. It says, “If the President is satisfied that a situation has arisen whereby the financial stability or credit of India or of any part of the territory thereof is threatened, he may by a Proclamation make a declaration to that effect.”

Question 3: What were the key events that led to the proclamation of the National Emergency in 1975?

Various political and social circumstances in India in 1974 and early 1975 led to the proclamation of the National Emergency. Some of these events were:

- **JP movement:** Vikas Pathak writes in The Indian Express- “Early in 1974, a student movement called Navnirman (Regeneration) began in Gujarat against the Congress government of Chimanbhai Patel, which was seen as corrupt. As the protests became violent, Patel had to resign and President’s Rule was imposed. Navnirman inspired a students’ movement in Bihar against corruption and poor governance, and the ABVP and socialist organisations came together to form the Chhatra Sangharsh Samiti. The students asked Jayaprakash Narayan, a Gandhian and hero of the Quit India Movement, to lead them. He agreed with two conditions — that the movement would be non-violent and pan-Indian, and aim to cleanse the country of corruption and misgovernance. Thereafter, the students’ movement came to be called the “JP movement”.

On June 5, during a speech in Patna’s historic Gandhi Maidan, JP gave a call for “Sampoorna Kranti”, or total revolution. By the end of the year, JP had got letters of support from across India, and he convened a meeting of opposition parties in Delhi.

He travelled across the country in January and February 1975. JP’s rallies invoked the power of the people with the rousing slogan, “Sinhasan khaali karo, ke janata aati hai (Vacate the throne, for the people are coming)”.



Meeting of Opposition leaders Jai Prakash Narayan, Raj Narain, Morarji Desai and LK Advani during the Emergency 1975. (Express Archive)

- **Railway Strike of 1974:** In May 1974, the socialist leader George Fernandes led an unprecedented strike of railway workers that paralysed the Indian Railways for three weeks.
- **Raj Narain verdict:** On June 12, 1975, Justice Jagmohanlal Sinha of Allahabad High Court delivered a historic verdict in a petition filed by Raj Narain, convicting Indira Gandhi of electoral malpractice, and striking down her election from Rae Bareilly.

On appeal, the Supreme Court gave the Prime Minister partial relief — she could attend Parliament but could not vote.



On June 12, 1975, the Allahabad High Court convicted Indira Gandhi of electoral malpractice and invalidated her election from Rae Bareilly. (Express archive photo)

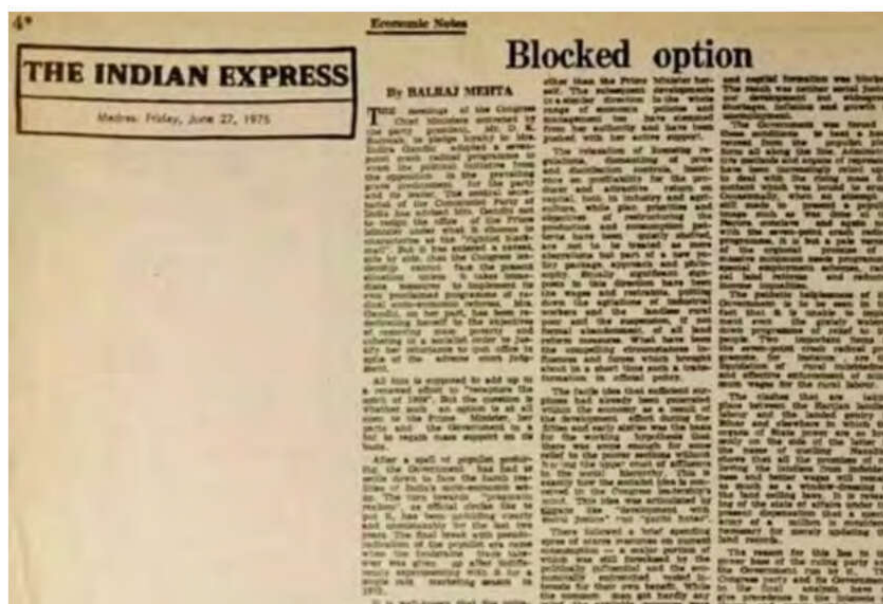
Late in the evening of June 25, 1975, President Fakhruddin Ali Ahmed, acting on the advice of the Prime Minister, issued a proclamation of Emergency under Article 352(1) of the Constitution, which at that time empowered him to do so on grounds of threat to the security of the nation from “war or external aggression” or “internal disturbance”. (Note: The Constitution (Forty-fourth Amendment) Act, 1978 subsequently replaced the words “internal disturbance” with “armed rebellion”).

Question 4: What were the major constitutional implications during and post-1975 National Emergency?

After the national emergency was declared, significant changes occurred in the country since the declaration of emergency converted the federal structure into a de facto unitary one as the Union acquired the right to give any direction to state governments, which, though not suspended, came under the complete control of the Centre. Newspapers were subjected to pre-censorship. UNI and PTI were merged into a state-controlled agency called Samachar. Almost all opposition leaders, including JP, were detained. About 36,000 people were put in jail under the Maintenance of Internal Security Act (MISA).

The national emergency of 1975 brought about numerous changes in various aspects of India's democracy. Some of the major constitutional changes made during the national emergency of 1975 were:

- 38th and 39th Constitutional Amendments:** With the opposition in jail, Parliament passed The Constitution (Thirty-eighth Amendment) Act that barred judicial review of the Emergency, and The Constitution (Thirty-ninth Amendment) Act placed the election of the President, Vice President, Prime Minister, and Speaker beyond the jurisdiction of courts.
- 42nd Constitutional Amendment:** The Constitution (Forty-second Amendment) Act made changes to a range of laws, taking away the judiciary's right to hear election petitions, widening the authority of the Union to encroach on State subjects, gave Parliament unbridled power to amend the Constitution with no judicial review possible, and made any law passed by Parliament to implement any or all directive principles of state policy immune to judicial review.



The blank editorial which The Indian Express published on June 27, 1975, in its first edition after the Emergency was declared late on June 25.

Do you know ?

During the Emergency, Parliament may by law extend the (five-year) term of Lok Sabha one year at a time, make laws on subjects in the State List, and extend the Union's executive powers to the states. The President can modify, with parliamentary approval, constitutional provisions on the allocation of financial resources between the Union and states.

Post-emergency

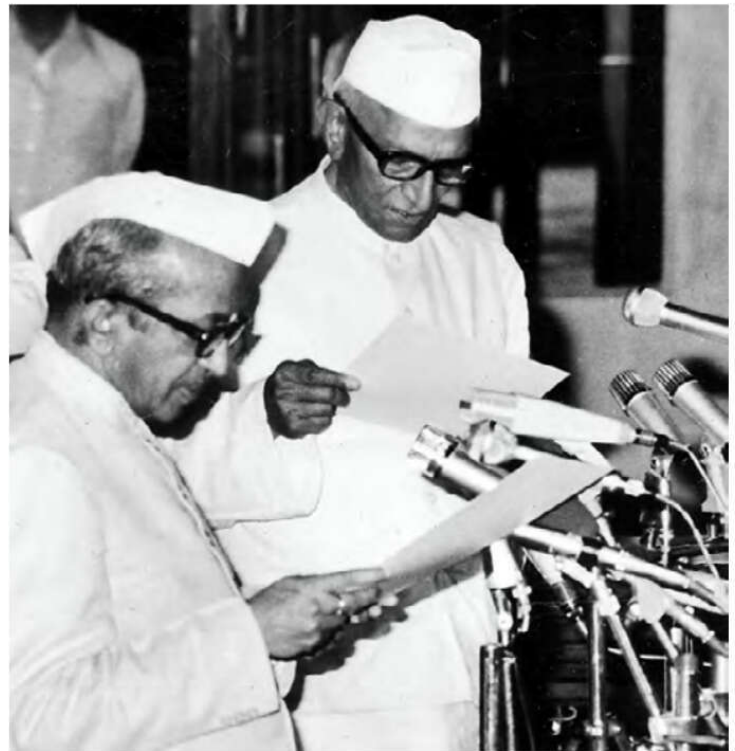
The emergency was lifted early in 1977 and the Janata Party — the product of the merger of the Jana Sangh, Congress (O), the socialists and Bharatiya Lok Dal — came to power, and Morarji Desai became India's first non-Congress PM. From constitutional amendments to the emergence of a coalition government, the aftermath of the national emergency introduced new social forces and led to the decentralization of power. Some of the major constitutional changes post-emergency were:

- **44th Constitutional Amendment:** The Janata government reversed many of the constitutional changes effected by the 42nd Amendment Act of 1976. It did not do away with the provision of the emergency, but made it extremely difficult to impose for the future.

It made judicial review of a proclamation of emergency possible again, and mandated that every proclamation of emergency be laid before both Houses of Parliament within a month of the proclamation. Unless it was approved by both Houses by a special majority — a majority of the total strength of the House and not less than two-thirds of the members present and voting — the proclamation would lapse.

The 44th Amendment removed “internal disturbance” as a ground for the imposition of an emergency, meaning that armed rebellion alone would now be a ground, apart from war and external aggression. However, the 44th Amendment left the words ‘secular’ and ‘socialist’, inserted in the Preamble by the 42nd Amendment, untouched.

- **Shah Commission and its report:** The Shah Commission, constituted by the Janata government to report on the imposition of the Emergency and its adverse effects, submitted a damning report that found the decision to be unilateral, and adversely affecting civil liberties.



Acting President B D Jatti administers the oath of office to PM Morarji Desai on March 24, 1977. (Express Archive)

Question 5. What are the constitutional lessons from the 1975 national emergency?

History offers invaluable lessons on how to keep from repeating the mistakes that led to the lowest points in our past. The imposition of the Emergency is one such event in Indian political history that continues to guide present and future generations, given its implications for democracy and the right of citizens to live with dignity.

The lesson from the 1975 emergency is that to protect democracy, it's necessary to guarantee accountability and rule of law through the independent judiciary, free press, political opposition, and, most importantly, active civil society.

Apurva Vishwanath of The Indian Express writes in “How Indira Gandhi used the Constitution to subvert democracy”- “Democracy is a legal construct that is held together through collective adherence to constitutional requirements that ensure accountability and the rule of law. They are drawn from the functioning of the political Opposition, an independent judiciary, a free press, and a robust civil society.”

Post Read Questions

Prelims

(1) If the President of India exercises his power as provided under Article 356 of the Constitution in respect of a particular State, then (UPSC CSE 2018)

- (a) the Assembly of the State is automatically dissolved.
- (b) the powers of the Legislature of that State shall be exercisable by or under the authority of the Parliament.
- (c) Article 19 is suspended in that State.
- (d) the President can make laws relating to that State.

(2) Which of the following are not necessarily the consequences of the proclamation of the President's rule in a State? (UPSC CSE 2017)

- 1. Dissolution of the State Legislative Assembly
- 2. Removal of the Council of Ministers in the State
- 3. Dissolution of the local bodies

Select the correct answer using the code given below:

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

(3) Which principle among the following was added to the Directive Principles of State Policy by the 42nd Amendment to the Constitution? (UPSC CSE 2017)

- (a) Equal pay for equal work for both men and women
- (b) Participation of workers in the management of industries
- (c) Right to work, education and public assistance
- (d) Securing living wages and human conditions of work to workers.

(4) Consider the following statements: (UPSC CSE 2019)

- 1. The 44th Amendment to the Constitution of India introduced an article placing the election of the Prime Minister beyond judicial review.
- 2. The Supreme Court of India struck down the 99th Amendment to the Constitution of India as being violative of the independence of judiciary.

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

Mains

Under what circumstances can the Financial Emergency be proclaimed by the President of India? What consequences follow when such a declaration remains in force? (UPSC CSE 2018)

Prelims Answer Key

1. (b) 2. (b) 3. (b) 4. (b)

(Sources: Explained: The story of the Emergency, Emergency and its lessons, How Indira Gandhi used the Constitution to subvert democracy, Constitution of India, 49 years of Emergency: Here is what happened over the two years that changed India's history)

Essays Simplified

‘If youth knew, if age could’ — How to balance idealism with realism in an abstract previous year essay topic

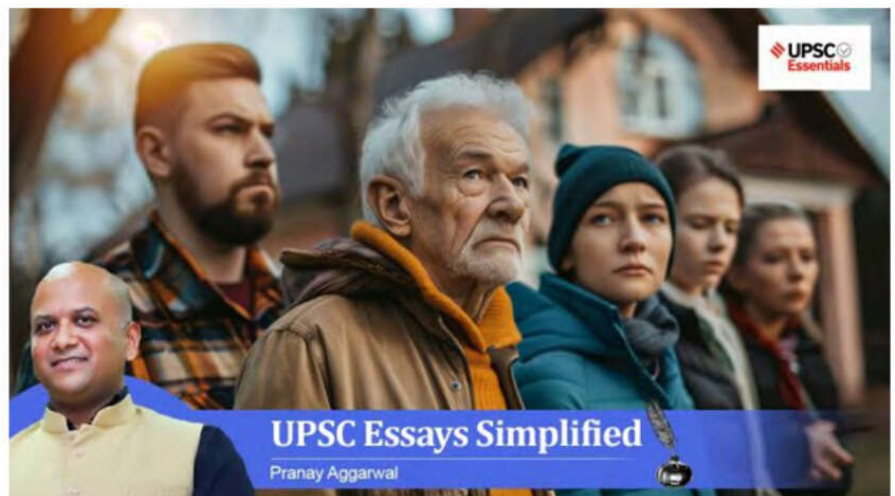
Philosophical topics often risk being vague and challenging to structure or balance. With UPSC Mains 2025 approaching, let’s learn how to write an impactful essay on such abstract topics using a model essay by our expert.

Written by **Manas Srivastava**

Abstract topics, often referred to as philosophical quotes in essay writing, come with their own set of challenges. Even when you have understood the topic, structuring the essay can take a lot of time. This becomes especially tricky when you are unsure how to balance the arguments and avoid vagueness. There is also pressure to start strong right from the introduction.

How do you write an introduction that stands out, a body that keeps the reader engaged, and a conclusion that reflects vision and optimism? How do you ensure smooth transitions between different parts of the essay without losing the core message?

Today, we will take up one such topic from previous year UPSC Main Examination (2002). The approach used in the model essay by our expert can be applied to other essays of a similar nature as well.



How do you write an introduction that stands out, a body that keeps the reader engaged, and a conclusion that reflects vision and optimism? How do you ensure smooth transitions between different parts of the essay without losing the core message?
(Image source: AI generated by Freepik)

If youth knew, if age could

By **Pranay Aggarwal**

There is a **tragicomic irony** to life: When we are young, we brim with energy but lack wisdom; When we are old, we possess insight but are constrained by the debilitating afflictions of body and mind. But, instead of lament the gap between two of life’s most potent forces – vitality and wisdom; what if we could bridge it?

Youth is the season of dreams, rebellion, and endless possibilities. It is when one dares to defy odds and dream of building new worlds. Young people prefer not to wait for permission; they act. The youth create start-ups in garages, lead climate protests, volunteer in remote villages, and challenge orthodoxies. But in this very restlessness lies a blind

spot – lack of experience. How many dreams collapse under the weight of uncalculated risks? How many youthful missteps could be avoided with the right guidance?

If youth is fire, **age** is light. The elderly possess a wealth of experience, forged in the crucible of failures and successes, heartbreaks and comebacks. They understand nuance and the inevitability of failure. The Indian tradition and Hindu lawgivers have emphasized the role of elders in preserving social order. Even today, it is the aged who often counsel patience, advocate compromise, and remind us that life is not a sprint but a marathon.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

(FYI: What stands out about this introduction for a UPSC essay?)

A thought-provoking opening. An abstract topic needs an opening that is engaging right from the beginning. The use of the 'tragicomic irony of life' immediately hooks the reader. The introduction acknowledges the strengths and weaknesses of both youth and age. This logical, balanced approach is expected in UPSC essays and is often rewarding.

Also, a smooth transition within the introduction is as important as in the entire essay. From problems to the qualities of youth, and then to age – the introduction briefs the essay's intent, promising a clear structure and flow right from the beginning. The cherry on the cake is the effective use of metaphors and culture that make the essay stand out.

Aspirants will note that there is a reflective question in the introduction, "what if we could bridge it?" This line is an important tool to engage the examiner and makes her curious to read further. What is striking is that it suggests the essay will explore ideas. Now, let's see what goes in the body of the essay.)

When Generations Don't Talk

Yet, how often do we see these two forces working at cross purposes? The young rue elders for being 'outdated', while the old dismiss the young as 'naïve'. I remember once ignoring my grandfather's advice during a college project. He warned me about stretching too thin. I, in my enthusiasm, brushed it off. A week later, overwhelmed and behind schedule, I realized the wisdom in his quiet counsel. Perhaps, it is the nature of youth – to learn only after stumbling?

Unbridled youth can burn the house down. But disconnected elders can freeze progress, too. We see this globally – youth movements turning aggressive when not heard, and senior leadership failing to grasp digital revolutions.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

When Old and Young Walk Together

History teaches us the power of inter-generational synergy. During India's freedom struggle, we saw the elderly Gandhi guiding a youthful Nehru. One brought moral clarity, the other brought political imagination. In governance, even today, young civil servants are shaped by seasoned mentors, ensuring continuity and innovation coexist. Be it in family or in educational institutions or in politics, the elderly must allow and enable the youth to flourish; while the young must continuously and actively seek the timeless counsel of the elderly. Even in India's start-up ecosystem, the most successful ventures blend youthful founders with wise investors or advisors. *Yuva Shakti* must flourish with the invaluable *Margdarshan* provided by the elderly.

Here is a quick story. During an internship at a policy think tank, a young intern came up with a pretty radical idea to reform rural employment schemes. A senior analyst listened, smiled, and then gently explained how a similar proposal had failed before because of local resistance. Instead of shutting the idea down, they worked together to refine it. That senior analyst's experience didn't crush the intern's idealism—it actually shaped it. That moment taught the intern

something important: wisdom and energy aren't rivals; they're partners.

The real task is to **institutionalize this wisdom-energy fusion**. Families, schools, public service, and civil society must be designed (or redesigned?) as intergenerational spaces. Can we create mentorship programs where retired professionals guide college students? Can Panchayats include youth representatives alongside experienced elders? Institutions must become bridges, not barriers.

The Indic tradition offers a template – at least **a model worth trying**, if not a sure shot answer. The **Guru-Shishya parampara** was not just about passing on knowledge; it is a sacred transmission of wisdom from the experienced to the eager. More than just a mode of education, it is a way of life where the Guru imparts not only knowledge but also values, discipline, and key life lessons. Rooted in mutual trust, reverence, and lifelong learning; it embodies the personal, spiritual and intellectual bond between teacher and disciple. The holiest of the sacred Hindu texts – the Bhagavad Gita, itself is a conversation between a confused Arjuna and a wise Krishna – youth guided by eternal wisdom. Dharma, or righteous action, is best learned when wisdom speaks and youth listens.

(FYI: How is the body of the essay engaging for a UPSC examiner?

An impressive body of the essay must demonstrate maturity, depth, and structure. There should be no attempt to oversimplify. The body avoids one-sidedness and presents both sides clearly. Lucidity is a must, as needed. In such a topic, remaining optimistic and respectful is important. Examples and anecdotes are not just fillers; they are illustrations that make essays memorable and create credibility. Note that formal discussion is mixed with storytelling. Connecting ideas with culture, history, and current scenarios makes the essay relevant to the Indian perspective. After all, you are aiming to serve India. A solution-oriented approach is important because, as a civil servant, UPSC expects you to be both a problem identifier and a problem solver. This should be reflected in the body of the essay as well. Appreciate the intergenerational cooperation along with other progressive elements discussed, rather than just focusing on problems. Remember, engagement is the key. Therefore, storytelling elements help keep the essay lively.)

A Vision for India

Call it destiny or demographic accident, India is poised to benefit from the synergy of youth and age.

With **a median age of 28.4 years**, India at present is a youthful nation. To put things in perspective, the median age is around 37 years in China and in USA, 45 years in Western Europe, and 49 years in Japan. Our large young population endows us with an energetic workforce and a huge domestic market. India will have more than a billion working-age people by 2030, which will spur economic output and drive consumption. While India boasts of a large and young population, we are also witnessing a **surge in the numbers of senior citizens**. The 60 years+ aged population is expected to double, from the current around 10% of the population to over 20% by mid-century.

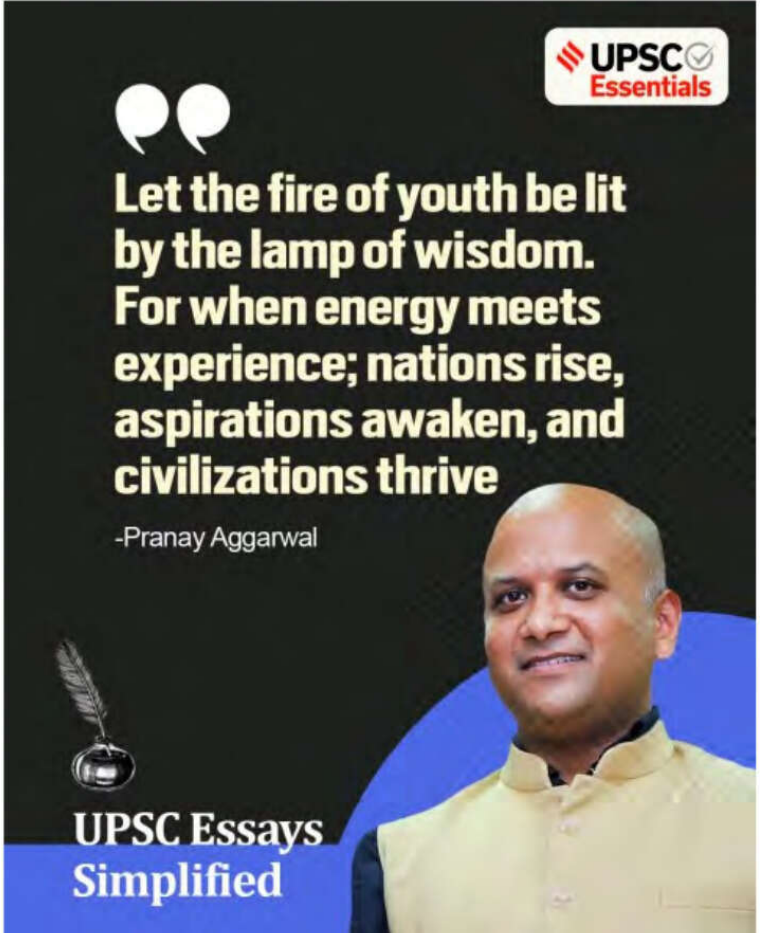
As India enters the Amrit Kaal, we must harness both youth and age to build Shreshtha Bharat. Political consensus, a vibrant civil society, and strong democratic traditions already lay a sound foundation. What we need is a people's movement that channels the dreams of the young and the discernment of the old into national transformation.

If youth knew and age could, the world would be perfect. If it is anything less than that, together, We – the young and the old, can strive for it. Let young hearts seek counsel, and let old minds stay open. Let the fire of youth be lit by the lamp of wisdom. For when energy meets experience; nations rise, aspirations awaken, and civilizations thrive.

(FYI: What makes this conclusion impactful in your UPSC essay paper?)

A conclusion like this demonstrates vision and optimism, and it connects the theme with values. It must be noted that the conclusion is not merely a summary. In fact, it motivates and mobilizes, maintaining an engaging, active, and mature tone. While data adds credibility, it is the solid interpretation that truly adds value. Also, there is no attempt to overload the conclusion with poetic language or philosophical quotes; the use is just enough to remain impactful. What makes the ending smooth is the natural closure, not a hurried one.)

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 Essentials

Let the fire of youth be lit by the lamp of wisdom. For when energy meets experience; nations rise, aspirations awaken, and civilizations thrive

-Pranay Aggarwal

UPSC Essays Simplified

UPSC Ethics Simplified

What does IPL offer beyond entertainment, glamour and money?

Can sports entertain and enlighten? As RCB lifts the trophy, ethicist Nanaditesh Nilay explores what IPL teaches about values for UPSC minds and cricket fans.

Written by **Nanditesh Nilay**

Royal Challengers Bengaluru handed Punjab Kings a 6-run defeat in the Indian Premier League (IPL) 2025 final at the Narendra Modi Stadium in Ahmedabad on Tuesday to win their first IPL trophy, as the league got a new champion in RCB. The Rajat Patidar-led RCB was one notch above another trophy-less side, PBKS, which failed to chase 191 on a tricky surface. This was the news last week from India's favourite sports tournament — cricket's IPL — synonymous with entertainment, money power, and lots of glamour. Wonder why this is relevant for UPSC aspirants?



Nanditesh Nilay, who writes fortnightly for UPSC Essentials, addresses a pressing question: How does the IPL reflect ethics and morality?

World cricket has witnessed many colours since Australian entrepreneur Kerry Packer took cricket out of its white attire and made it colourful by organising the World Cricket Series. In India, the Indian Premier League (IPL), since its inception in 2007, has influenced cricket not only in terms of colours, glamour, corporate mindset, and money, but also in many other ways that have been more meaningful and have generated energy for all stakeholders. It has not been just a story of money, glitz, or colourful cricket uniforms; many aspects of this format have helped maintain the reputation of cricket and sportsmanship.

If we pay attention, we will find that the IPL has taught us all a lot. Along with that, it has influenced the human will to live through leadership skills, social and cultural unity, and the ability to achieve anything — qualities the audience was largely unaware of.

Breaking Limits: How IPL showed us the power of belief and persistence

First of all, many teams proved through their performance — and consistently so — that two hundred runs can be scored in twenty overs, and that it can be chased as well. If fifty runs have to be scored in the last two overs, that too can be achieved. This format of cricket challenged the infinite potential of man to such an extent that all the teams, which until a few years ago considered a target of one hundred seventy to eighty runs safe, no longer found a target of two hundred to two hundred thirty runs to be too much. Even in the final match, the batsman scored more than twenty runs, and the difference between winning and losing was just six runs.

And yes, neither the players changed, nor the rules. The grounds were also not made smaller. Power, balance, and the passion to do anything were seen in this IPL. And the audience, too, had the confidence until the very end that any target could be achieved.

I think this certainly has to do with those team owners who carry a corporate mindset, where in less time, at minimum cost, maximum production must be achieved — and in that process, stakeholders must be kept happy.

In 1955, a model of self-awareness called the Johari Window was developed by Joseph Luft and Harry Ingham. In this model, they discuss the various selves of a human being (open, blind, hidden), and one of these selves is the unknown self. While talking about the unknown self, they asserted that many capabilities exist within every human being, but neither the person themselves nor others are aware of them. That capability remains hidden, and the person is not even aware of it. This format of cricket helped cricketers realise those hidden potentials — and even the two hundred runs scored in just twenty overs sometimes proved to be not enough.



Royal Challengers Bengaluru's Jitesh Sharma, Virat Kohli and Rajat Patidar after winning IPL trophy. (Virat Kohli/Instagram)

From Fixed to Growth: How does IPL inspire values of adaptability and innovation?

The second notable aspect that was evident was that the batsmen started showing the skill of those kinds of shots which are not taught at all in cricketing manuals or coaching. Everyone learned to hit shots with a straight bat, but scoring runs by batting at exactly three hundred and sixty degrees was an unprecedented sight. Be it De Villiers or our Surya Kumar Yadav, the skill of hitting shots behind the wicketkeeper was amazing. That kind of daring and skillful shot-hitting taught us that whatever and how much we know, or are seen doing, is not enough. And if a person decides to experiment daily, then what is impossible? Everything depends on his mindset, and this mindset also motivates him to learn and do something new.

A theory proposed by psychologist Carol Dweck regarding growth mindset and fixed mindset explains how people's beliefs about their abilities and intelligence affect their motivation, learning, and achievement. A fixed mindset is the belief that abilities are innate and unchangeable, while a growth mindset is the belief that a person can acquire abilities through effort and learning. The continuous cricketing shots seen in the 360-degree circle in the IPL are the result of that growth mindset. And those targets of more than two hundred were not only set but also achieved.

Emerging captains, rising standards: How does the IPL cultivate leadership skills in the youth?

The third important aspect that was noticed in this IPL was that many young cricketers became captains of their teams. It was also observed that seniors from other countries, as well as from their own country, were playing in those teams. This use of leadership skills was amazing. Shreyas Iyer was the captain of three different teams and took them to the playoffs. Players like Axar Patel, Rishabh Pant, Shubman Gill, Shreyas Iyer, and Rajat Patidar were in their youth, and they led a format of cricket where players from many countries were playing together in one team. Communicating with all those players, keeping the team united, bearing the pressure of the franchise amidst all kinds of challenges — and on top of that, having an immense desire to win despite not having much experience in captaincy — was remarkable.

There have been some such experiences in clubs in England, but it has not been seen in any format of cricket in any country as popular as the IPL.

More than just a game — Can Cricket be a mirror of moral values?

Sachin Tendulkar, who inspired at least three generations to sit together and watch cricket — can we measure him only by his centuries? No. He brought us together, and we learned to share in his victories and defeats.

Do you remember the gentleman Sudhir from Bihar? For him, sports meant watching cricket, hoisting the Indian flag, and proudly displaying Tendulkar's name painted on his chest.

On 2 April 2011, Tendulkar, watching from the stadium, gestured to Sudhir (who was sitting among the cheering Indian fans) to come into the Indian dressing room and join the team's celebrations. Tendulkar shook Sudhir's hand, hugged him, and even let him hold the World Cup.

This story is about more than just cricket. It is a life lesson in humility, respect, and the ethical values that sports can cultivate in our society — especially in times of moral crisis. It is a story of gratitude, and a reminder that true greatness lies in acknowledging those who stand by you through every high and low.



Sachin Tendulkar invited Sudhir into the dressing room after India won the World Cup in 2011.

This is sportsmanship. This is the magic of sports.

The same dedication, love, and camaraderie for cricket were seen in the IPL as well. The tears of winning and losing made no distinction between the IPL, Test matches, or One Day Internationals. It was unrehearsed and deeply relatable. Cricket won.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

Bengaluru stampede: Joy turned tragic — The cost of celebration

And yes, cricket won, but it would have been a great celebration if those lives had been saved. And more so if the celebration had paused and that sensitivity and urgency had emerged. A player or winning a trophy is not bigger than a human being's life. And values cannot be mere spectators. Do money and the "I" factor loom large over human emotions? A question. A lesson.

POST READ QUESTION

Is sports more than a game — A reflection of ethics and the human spirit? Discuss.

(The writer is the author of 'Being Good and Aaiye, Insaan Banaen', 'Ethikos: Stories Searching Happiness' and 'Kyon'. 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.)

UPSC Expert Talk

Former DGP of Uttarakhand on UPSC exam reforms

“The time gap between the Prelims and Mains exams is too short. Aspirants deserve a reasonable amount of time to prepare effectively for the Mains after clearing the Prelims,” says Ashok Kumar.

Written by **Manas Srivastava**

For UPSC aspirants, it is that time of year when they juggle their preparation between the Prelims and the Mains. With rising difficulty and increasing competition, the exam keeps students engaged year-round. And the hard work doesn't stop at the end of one year. Many aspirants who do not qualify on their first attempt continue the struggle for several more years — often during the prime years of their lives.



The popularity of the UPSC Civil Services exam, among both aspirants and their families, has cemented its place as one of the most coveted competitive exams in the country. And while the exam season brings its own intensity, the broader debate around UPSC reforms continues throughout the year. This year has been no exception.

In today's Expert Talk of UPSC Essentials by *The Indian Express*, **Ashok Kumar, former Director General of Police (DGP)** of Uttarakhand, speaks with Manas Srivastava about issues related to the UPSC exam and the Civil Services of India.

About our Expert: **Ashok Kumar** is a retired 1989 batch Indian Police Service officer of the Uttarakhand cadre, who served as the 11th Director General of Uttarakhand Police. He is currently the Vice-Chancellor of the Sports University of Haryana.

Manas: What do you think drives the immense popularity of Civil Services among Indian youth today? Why is it still seen as such a coveted career?

Ashok Kumar: I believe that the civil service is the only exam in India which changes your status overnight. Civil services continue to hold immense appeal among Indian youth, particularly those from rural backgrounds, because they offer a unique combination of status, authority, and the opportunity to make a difference in the lives of people. For many, especially from modest socio-economic settings, clearing the exam represents a transformative leap, not just in career but also in social standing. The prestige, power, and ability to contribute directly to governance and public

welfare make it an aspirational goal for lakhs of young Indians every year.

The services offer a variety of jobs that can be rated quite high on job satisfaction scale. Aspirants are drawn to this variety, where one can grow continuously and explore multiple domains while staying in public service. The prestige, job security, and lifelong benefits associated with Civil Services remain unmatched in India. The structured career progression and power to influence public policy make it highly desirable even today.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

Manas: When you compare the UPSC exam and the kind of candidates it selected during your time to those it selects today, what are some major changes and continuities you have observed?

Ashok Kumar: There has been a noticeable shift in the geographical and socio-economic background of candidates over the years. In my time, Bihar was a dominant contributor to the list of successful candidates accounting for nearly one-third of the selections. Today, while Bihar still plays a significant role, states like Andhra Pradesh, Maharashtra, Uttar Pradesh, Rajasthan, and more recently, Haryana, have seen a surge in representation.

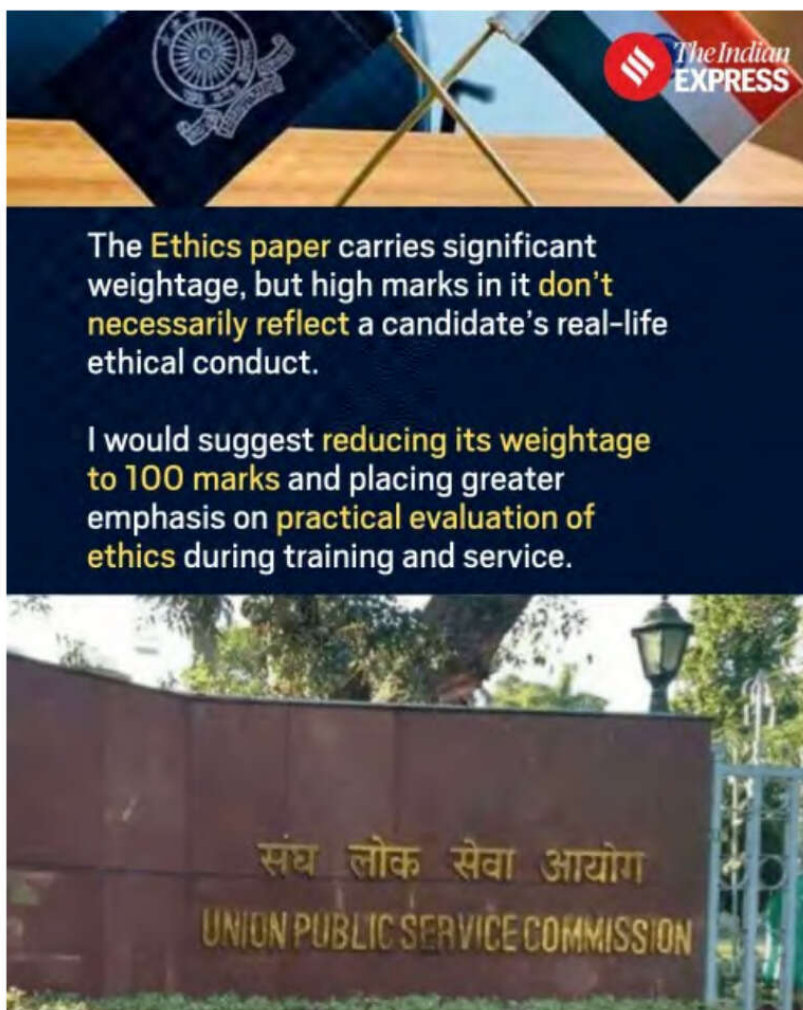
Another major shift is the increasing number of candidates from rural and modest backgrounds. Earlier, the majority of aspirants came from urban, service-class families, many already connected to government employment. Now, the field is more diverse, with greater participation from first-generation learners and rural aspirants, which is a positive development for inclusive governance.

As far as continuity is concerned, the exam remains as tough and uncertain as it was 36 years ago. However, the level of competition has increased, as the number of applicants has grown five-fold while the number of selected candidates has remained more or less the same.

Manas: Do you think the current UPSC exam pattern effectively identifies candidates who are truly suited for a career in Civil Services? If not, what changes or reforms would you recommend?

Ashok Kumar: It is a well-known fact that the current UPSC exam pattern is one of the most rigorous and comprehensive selection processes globally. It is probably the only exam that, in its various stages, tests candidates' intellectual aptitude, general awareness, analytical skills, and ethical reasoning. The demand—especially in the All-India Services—is not just for intellectual capability, but also for leadership, emotional intelligence, resilience, decision-making under pressure, and a strong sense of public service.

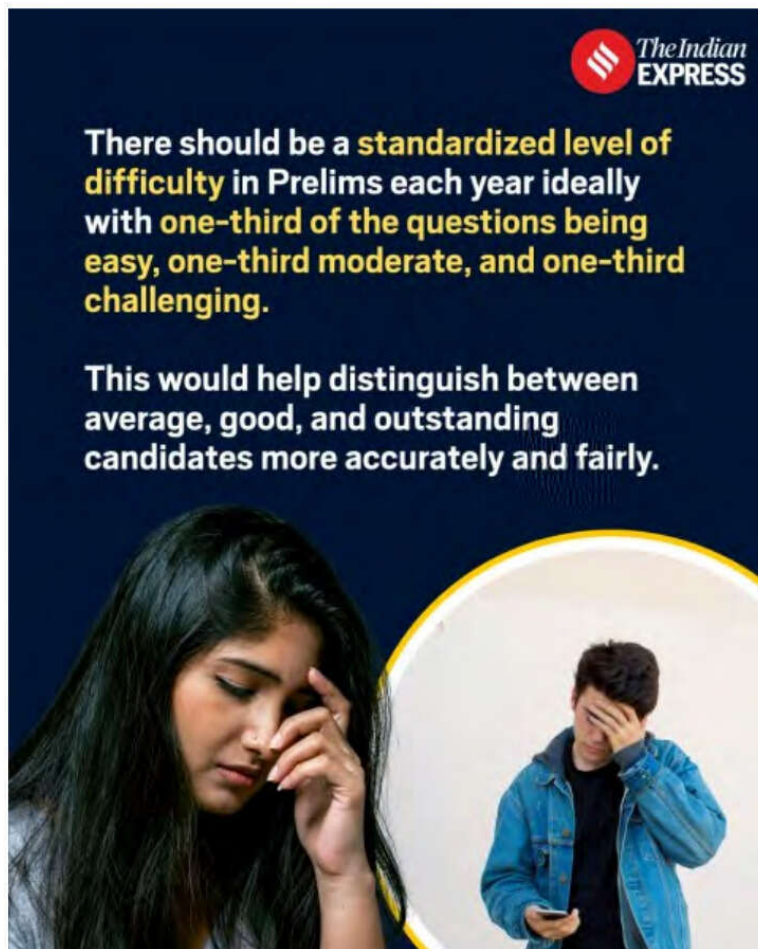
If you ask me, in some respects, the current pattern is an improvement over the older examination format. During our



time, we had to prepare two optional subjects. It made the entire exam process more demanding and increased the element of unpredictability significantly. If we look at the present structure (with common GS papers and the essay carrying 1250 marks), we will find that it brings more uniformity and fairness.

But certain other concerns need to be addressed:

- ♦ The marks obtained in the Preliminary exam should be released—at the very least—after the Mains, so that aspirants have clarity on where they stand. Currently, the official answer key for the Prelims is released by the UPSC almost a year later, which is highly problematic.
- ♦ The time gap between the Prelims and Mains exams is too short. In earlier years, candidates had around five months to prepare; now, the window is significantly narrower. Aspirants deserve a reasonable amount of time to prepare effectively for the Mains after clearing the Prelims.
- ♦ The Ethics paper in the Mains stage of the exam carries significant weightage. However, high marks in it don't necessarily reflect a candidate's real-life ethical conduct. I would suggest reducing its weightage to 100 marks. Instead, greater emphasis should be placed on the practical evaluation of ethics during training and service.
- ♦ The Preliminary examination has become excessively unpredictable. It is concerning that a candidate securing a top 10 rank one year might not have cleared the Prelims multiple times. Such inconsistency creates unnecessary stress and undermines merit. There should be a standardized level of difficulty each year—ideally with one-third of the questions being easy, one-third moderate, and one-third challenging. This would help distinguish between average, good, and outstanding candidates more accurately and fairly. The focus should shift from rote memorization to conceptual understanding and analytical ability, even in objective-type questions.
- ♦ Personality assessment should carry more weight for attributes such as an inclination toward public service and life skills like empathy.



Manas: Back in 2013, the CSAT paper stirred a lot of debate—especially from non-maths and non-science students who found it challenging. What's your take on this change and the continued debate around it?

Ashok Kumar: I believe that the introduction of the CSAT was a step in the right direction. This qualifying paper aims to assess candidates' logical reasoning and analytical abilities. These are essential skills for any civil servant, and therefore, candidates must be tested on them. They are crucial for administrative roles.

Having said that, the difficulty level of the paper must be reasonable and aligned with the exam's qualifying nature. The word 'qualifying' must be emphasized. For instance, when I saw the CSAT paper in 2023, I found the difficulty level comparable to that of the IIT entrance exams. One can't expect a qualifying paper to have such a high level of difficulty.

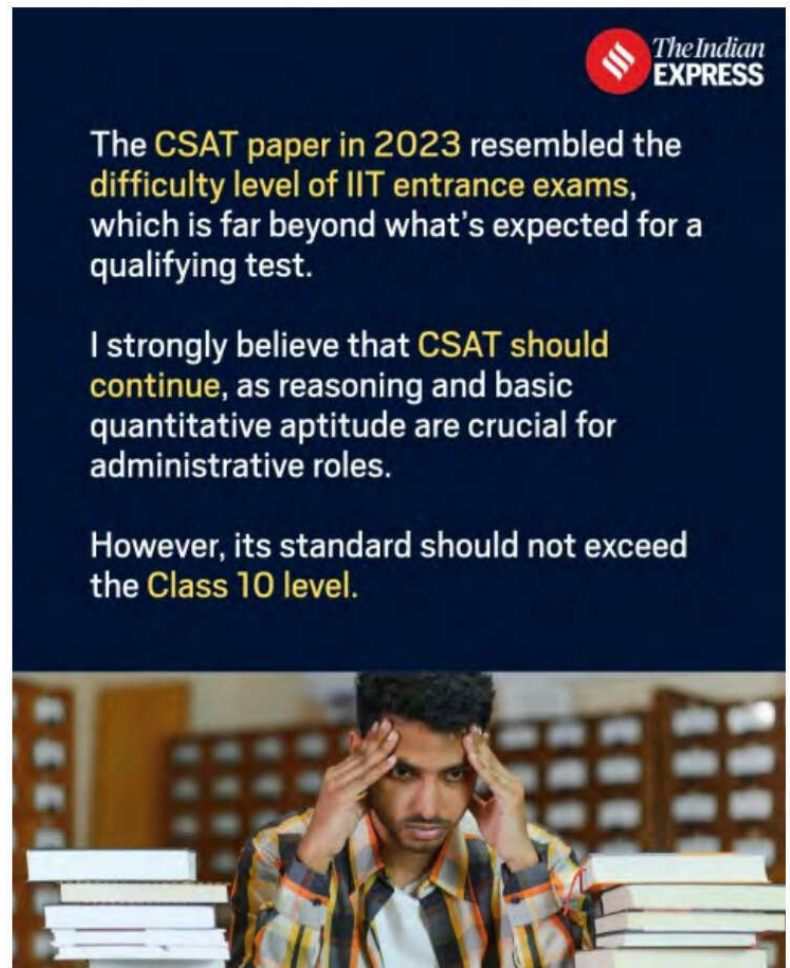
I am of the strong opinion that the CSAT should continue. However, its standard should not exceed the Class 10 level. What should be the goal of the preliminary exam's qualifying paper for civil services? The goal should be to ensure that every civil servant possesses essential cognitive reasoning skills. It should not create an undue hurdle for capable candidates from a non-science background.

Manas: Every year, approximately 10 lakh students appear for the Civil Services Examination. Many others, even if they don't appear, still dream of joining the civil services. What is your advice to them?

Ashok Kumar: Aspirants, or all those who aim for the Civil Services Examination, must know that it is one of the toughest exams in the country. However, it is also one of the most rewarding exams that the youth of this country can pursue. The reason I say this is that it offers young minds a rare opportunity to serve the people and influence policy. If the youth want to bring about real change in society, the civil services are the answer. Thus, it is worth preparing for this career.

In order to succeed, there are no shortcuts. One needs to work both hard and smart. There are a few musts that aspirants should keep in mind:

- ◆ Limit your study resources. Ensure they are the best for your exam preparation. Avoid information overload.
- ◆ Consistency is key. At least 10 to 12 hours of focused study are required every day, especially over two years.
- ◆ Make wise use of available guidance and mentorship. Have a clear thought process.
- ◆ When answering questions in the mains exam and interview, remember to be clear, precise, and to the point.
- ◆ Last but not least: stay patient, persistent, and believe in yourself.



UPSC Current Affairs Pointers

Prelims Tidbits from the month of June

UPSC Current Affairs Pointers aim to help you consolidate your Prelims and Mains preparation. Take a quick look at key current affairs tidbits from June 2, 2025, to June 29, 2025 — curated especially for aspirants preparing for the UPSC, State PSC, and other competitive examinations.

Compiled by: **Khushboo Kumari**

Reports/Indices

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

• State of World Population (SOWP) Report 2025


— **United Nations Population Fund (UNFPA)** has released the 2025 State of World Population (SOWP) Report titled, '*The real fertility crisis: The pursuit of reproductive agency in a changing world*'.

— The report has called for a shift from panic over falling fertility to addressing unmet reproductive goals. SOWP 2025 underlines that millions of individuals are unable to realise their real fertility goals. This is the real crisis, not underpopulation or overpopulation.

— According to the report, one in three adult Indians (36%) face unintended pregnancies, while 30% experience unfulfilled desire for having either more or fewer children. Financial limitations are one of the biggest barriers to reproductive freedom in India.

— The report finds that one in five people globally expect not to have the number of children they desire. Key drivers include the prohibitive cost of parenthood, job insecurity, housing, concerns over the state of the world, and the lack of a suitable partner.

— Replacement-level fertility, commonly defined as 2.1 births per woman, is the rate at which a population size



India (Year 2025)	
Population (Billion)	1.46
Population aged 0-14, per cent	24
Population aged 10-19, per cent	17
Population aged 10-24, per cent	26
Population aged 15-64, per cent	68
Population aged 65 and older, per cent	7
Fertility (Total fertility rate, per woman)	1.9
Life Expectancy (Male)	71
Life Expectancy (Female)	74

Source: UNFPA 2025

remains the same from one generation to the next. In India, the replacement-level fertility is 2.0. But, fertility rate remains high in Bihar (3.0), Meghalaya (2.9), and Uttar Pradesh (2.7).

Do you know the difference between fertility rate and total fertility rate (TFR)? In the 2024 UPSC Prelims, a question was asked on the meaning of the total fertility rate.

• Gender Gap Index 2025

— The 19th edition of the Global Gender Gap Report 2025 was published by the World Economic Forum (WEF), with the global gender gap at 68.8 per cent for 148 countries.

— India has ranked 131 out of 148 countries in the World Economic Forum’s Global Gender Gap Report 2025, slipping two places from its position last year. With a parity score of just 64.1 per cent, India is among the lowest-ranked countries in South Asia. In 2024, India ranked 129.

— It benchmarks the current state and evolution of gender parity across four key dimensions: Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment. The index lies between 0 and 1, with 1 denoting complete parity.

— Iceland retains the world’s most gender-equal economy for the 16th consecutive year, closing 92.6% of the gender gap – the only economy to reach 90% parity- followed by Finland, Norway, the United Kingdom, and New Zealand.

India’s performance across the components of the Global Gender Gap Index				
Components	2025		2024	
	Score (0-1)	Rank	Score (0-1)	Rank
Global Gap Gender Index	0.644	131	0.641	129
Economic Participation and Opportunity	0.407	144	0.398	142
Educational Attainment	0.971	110	0.964	112
Health and survival	0.954	143	0.951	142
Political Empowerment	0.245	69	0.251	65

• SIPRI Report

— The latest Stockholm International Peace Research Institute (SIPRI) yearbook said that India has more nuclear warheads than Pakistan, even as China has over three times more warheads than India has.

— India has 180 nuclear stored warheads as of January 2025, while Pakistan has an estimated 170. China has 600 nuclear warheads as of January 2025, of which 24 are deployed warheads or those placed on missiles or located on bases with operational forces.

— The SIPRI report also said Russia and the US have the largest military stockpile of the nine nuclear forces at 5,459 and 5,177, respectively, including retired warheads.

● **Global Peace Index 2025**

— The 10th edition of the Global Peace Index (GPI) 2025 was released by the Institute for Economics and Peace (IEP). The report covers 163 countries, comprising 99.7 per cent of the world's population.

— The report states that there is a deterioration of global peacefulness by 0.36 per cent, marking the 13th deterioration in peacefulness in the last 17 years, with 74 countries improving and 87 deteriorating in peacefulness.

— Iceland continues to lead and set global standards in maintaining its position as the world's most peaceful country. It is followed by Austria, New Zealand, and Switzerland. Western and Central Asia are the most peaceful regions in the world.

— India ranks **115th** globally with a GPI score of 2.229, a 0.58 per cent improvement in its level of peacefulness over the past year. This marks a gradual upward trajectory from its rankings of 116 in 2024, 126 in 2023, 139 in 2020, and 141 in 2019.

● **Global Terrorism Index 2025**

— The Global Terrorism Index 2025 is released by the **Institute for Economics and Peace (IEP)**.

— According to the Index, "The number of countries experiencing at least one terrorist incident increased from 58 to 66, the most countries affected since 2018." Pakistan is among the countries where terrorist activities have increased since 2007.

— India ranked **14th** with a score of 6.411. Burkina Faso was at the top with a score of 8.581.

● **Global Liveability Index 2025**

— According to the recently released Global Liveability Index 2025 by the Economist Intelligence Unit (EIU), the global average livability score across the 173 cities in the index was the same as last year, at 76.1 out of 100.

— **Copenhagen** (Denmark) has claimed the top spot to become the **world's most liveable city in 2025**, ending Vienna's three-year dominance by achieving perfect scores in stability, education, and infrastructure.

— The Economist Intelligence Unit (EIU)'s Global Liveability Index 2025 assessed 173 cities globally based on 30 indicators divided into several factors like stability, healthcare, culture, environment, education, and infrastructure, to disclose how comfortable these cities are to live in.

— For India, Delhi and Mumbai are jointly placed at 141st, underlining persistent urban challenges such as inadequate public infrastructure, air pollution, and overburdened healthcare.

● **State of Climate in Asia 2024 report**

— According to the World Meteorological Organization (WMO)'s State of Climate in Asia report 2024, Asia experienced its warmest or second warmest year on record in 2024, with its average temperature 1.04 degree Celsius above the last 30-year average.

— The impact of this high rate of warming in 2024 manifested through a range of extreme weather events such as 29 tropical cyclones, prolonged and intense heat waves and extreme rainfall events, including India.

— Glaciers continued to lose mass, as per the report, with 23 out of 24 glaciers in the High Mountain Asia region of central-south Asia spanning the Himalayas, Pamir mountains, Karakoram, and Hindu Kush.

● 2025 Sustainable Development Report (SDR)

— The 10th edition of the Sustainable Development Report (SDR) was published by the Sustainable Development Solution Network's SDG Transformation Center. This year also marks the 10th anniversary of the adoption of the Sustainable Development Goals (SDGs).

— This year's SDG index covers 167 of the 193 UN member states with the focus on "*Financing the SDGs by 2030 and Mid-Century*".

— India, for the first time, breaks into the top 100 of the Sustainable Development Index with the rank of 99 and score of 67.

— According to the report, none of the 17 Global Goals are on track to be fully achieved by 2030, and only 17 per cent of the SDG targets are progressing as planned.

— This year, for the first time streamlined SDG Index (SDGi), which uses 17 headline indicators, one per SDG, to track overall SDG progress, was introduced.

Methodology: The SDG Index score is presented on a scale of 0 to 100 and can be interpreted as a percentage towards optimal performance on the SDGs. The difference between 100 and the country's SDG index indicates the distance that must be overcome to reach the optimum SDG performance.

Rank 2025	Country	Score 2025
1	Finland	87.0
2	Sweden	85.7
3	Denmark	85.3
4	Germany	83.7
5	France	83.1
98	Belize	67
99	India	67
100	Mongolia	66.7
159	Niger	50.3
158	Madagascar	51.0

Do you know what Agenda 2030 is and what the 17 SDGs are? FYI: SDGs are important for any writing, any Mains or Essay answer. Many of the Government of India schemes are targeted to achieve those SDGs.

• WHO Global Tobacco Epidemic Report 2025

- WHO develops the Global Tobacco Epidemic 2025 report with support from Bloomberg Philanthropies. It focuses on six proven WHO MPOWER tobacco control measures to reduce tobacco use.
- The report revealed that the most striking gains have been in graphic health warnings, one of the key measures under the WHO Framework Convention on Tobacco Control (FCTC).
- As per the report, there has been a growing trend to regulate the use of e-cigarettes of ENDS (Electronic Nicotine Delivery Systems). The number of countries regulating or banning ENDS has grown from 122 in 2022 to 133 in 2024, a clear signal of increased attention to these products. However, over 60 countries still lack any regulations on ENDS.
- Of all MPOWER measures, large graphic health warnings on cigarette packages have seen the most progress since 2007 – both in terms of the number of countries and population covered by a best-practice policy.
- India was presented the ‘O’ category award for promoting tobacco cessation. Among the other countries that received the award were Mauritius, Mexico, Montenegro, the Philippines and Ukraine.

Economy

• Repo rate, Cash Reserve Ratio

- The Reserve Bank of India’s six-member Monetary Policy Committee (MPC) has slashed the repo rate by a bigger-than-expected 50 basis points to 5.50 per cent, marking the third consecutive reduction since February 2025.
- The central bank also cut the cash reserve ratio of banks by 100 basis points to 3 per cent, releasing Rs 2.5 lakh crore of lendable resources to the banking system.
- With this, the MPC has changed its policy stance from ‘accommodative’ to ‘neutral’ in a bid to support economic growth.
- This RBI’s rate cut decision is expected to stimulate borrowing and investment, leading to a higher growth rate.
- **Cash Reserve Ratio (CRR):** The CRR is the percentage of a bank’s total deposits that is required to maintain in liquid cash with the RBI as a reserve. The CRR percentage is determined by the RBI from time to time.
- **Repo rate:** The interest rate that the RBI charges when commercial banks borrow money from it is called the repo rate. It is used by the banks to meet their short-term funding needs.

(Just FYI: MPC and these key monetary instruments of the RBI are important. In 2017, a question in Prelims was on MPC.)

• RVNL in talks with Russia’s Rosatom

- Rail Vikas Nigam Ltd (RVNL), a public sector undertaking (PSU) of the Ministry of Railways, is in discussion with Russia’s state-owned atomic energy company Rosatom to build Small Modular Reactors (SMRs) to fulfill the energy requirements of its four ongoing mega projects.

— The projects include Rishikesh-Karnaprayag line, Bhanupali-Bilaspur railway line, Yavatmal-Nanded railway line and Indore-Budni Railway line.

— SMRs are advanced nuclear reactors with a power capacity of up to 300 MW per unit and require less area for installation.

FYI: In the Union Budget 2025, the Indian government announced a Nuclear Energy Mission for research & development of Small Modular Reactors (SMRs).

● **Copper**

— India's copper cathode imports declined 34 per cent year-on-year in 2024-25 (FY25), largely due to a three-month supply disruption triggered by a quality control order (QCO).

— In India, copper is classified as a **critical mineral** given limited domestic production and high demand in conventional and emerging technologies. It is also considered a bellwether of economic activity due to its extensive application across various sectors.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

Art and Culture

● **Kheer Bhawani festival**

— Several devotees offer prayers during the annual mela at the Mata Kheer Bhawani temple in Tullamulla in Ganderbal district on 3rd June.

— Kheer Bhawani temple is dedicated to the goddess Ragnya Devi. It is situated 30 km from Srinagar city, and is one of the most sacred pilgrimage sites for Kashmiri Hindus.

— The temple gets its name from kheer, or milk and rice pudding, that pilgrims pour into the spring inside the temple complex as an offering to the goddess.

— Every year, a mela or festival is held at the temple. The festival, known as Mela Kheerbhawani, is the largest gathering of Hindus in Kashmir after the annual Amarnath Yatra.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

Polity

● **Justice Hema Committee**

— The Kerala police dropped 35 sexual assault cases which were booked after the Justice Hema Committee report was released by the Kerala government on August 19, 2024.

— In the wake of the abduction and sexual assault of a leading Malayalam film actress, in which prominent Malayalam film actor Dileep was accused, the Kerala government formed the Justice Hema Committee in July 2017 to investigate sexual harassment and gender inequality in the industry.

— This was the first such committee formed by any state in the country. After speaking to multiple women and men in the industry on various issues, the Committee submitted its report to the Chief Minister in December 2019.

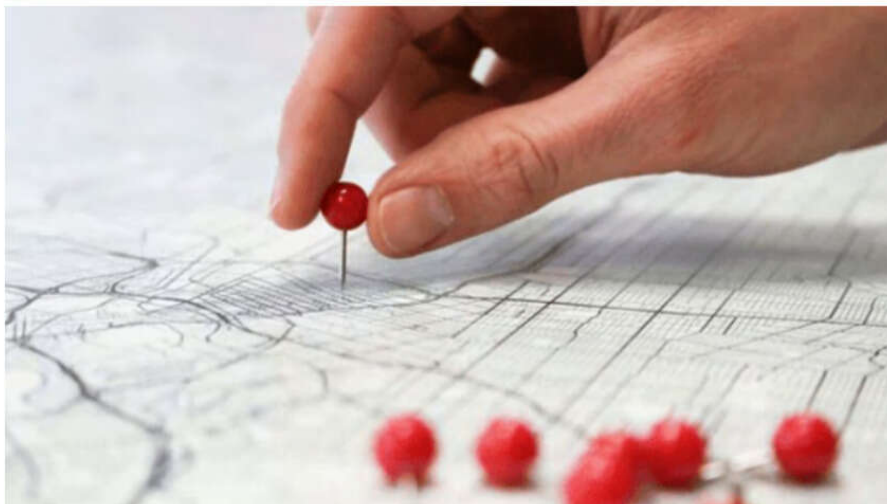
— The report found that a culture of sexual harassment pervaded the Malayalam film industry. The Committee reported the existence of casting couch (wherein powerful men demand sexual favours from women in return for

opportunities in films), frequent suggestive and vulgar comments made by men at the workplace, and drunk male co-actors forcing themselves into rooms of women, among other things.

• DIGIPIN

— The Indian government has launched a new digital address system called DIGIPIN that aims to enable the precise identification of locations in the country.

— DIGIPIN is a unique ten-character alphanumeric code that can be generated for any property that is approximately 4 by 4 square meters on Indian land. This means that unique DIGIPINs can be generated for nearly all types of properties, including in urban locations and rural areas across different maritime zones.



DIGIPIN is a unique ten-character alphanumeric code. (Image: Unsplash)

— The Department of Posts has developed the underlying technology of DIGIPIN in collaboration with Indian Institute of Technology (IIT) Hyderabad and the National Remote Sensing Centre, which works under the aegis of the Indian Space Research Organisation (ISRO).

— Each DIGIPIN is encoded with the geographic coordinates of that property so it does not store any personal information. The DIGIPIN will not replace the traditional six-digit PIN system. Instead, it is intended to act as an extra layer of precision built on top of existing postal addresses.

• CROPIC

— The Ministry of Agriculture and Farmers Welfare plans to launch CROPIC, a study to gather crop information using field photographs and AI-based models.

— CROPIC stands for Collection of Real Time Observations & Photo of Crops. According to the plan, crops will be photographed four-five times during their cycle, and the pictures will be analysed to assess their health and potential mid-season losses.

— The CROPIC mobile app has been developed by the Union Ministry of Agriculture and Farmers' Welfare. The CROPIC model will use an AI-based cloud platform for photo analysis and information extraction, and a web-based dashboard for visualisation.

• Census 2027

— The government has formally announced that the 16th Census of India will take place in two phases, with the reference dates set as March 1, 2027, for most of the country and October 1, 2026, for snow-bound and remote regions. This Census will include the first nationwide caste enumeration since 1931.

— The Census process is carried out in two broad phases: the House-listing and Housing Census, followed by the

Population Enumeration.

— In the House-listing phase, every structure in the country is visited to record the characteristics of buildings and households. Enumerators collect data on the head of the household, the number of members, on the use of the building (residential, commercial, etc.), the materials used in its construction, the number of rooms, ownership status, sources of water and electricity, the type of toilet, fuel used for cooking, and the availability of assets like TV, phone, vehicle, etc.

— The Population Census is conducted after the housing census. It focuses on individual data: name, age, sex, date of birth, relationship to the head of household, marital status, education, occupation, religion, caste/tribe, disability status, and migration history.

— The 2027 Census will be the first digital census in India's history, with the use of mobile apps, online self-enumeration, and near-real-time monitoring.

• Tribal welfare schemes

— The Ministry of Tribal Affairs has rolled out a large-scale outreach campaign for the implementation of its welfare schemes in over 500 districts of the country, aiming to cover 1 lakh tribal dominated villages and habitations.

— It aimed at doorstep delivery of two key flagship schemes – **Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN)**, launched in 2023, and **Dharti Aaba Janjatiya Gram Utkarsh Abhiyan**, which was launched in 2024.

— The outreach is also part of the Centre's ongoing year-long celebration of the Janjatiya Gaurav Varsh. The Centre began this celebration on November 15, 2024, the birth anniversary of Birsa Munda.

— PM-JANMAN was launched with a focus on particularly vulnerable tribal groups, and the Dharti Aaba scheme was launched as an umbrella initiative aimed at the implementation of welfare measures, with the convergence of 17 line ministries.

• Special Intensive Revision in Bihar

— Paving the way for a nationwide exercise, the Election Commission announced Tuesday (24th June) a "special intensive revision" of the electoral roll in poll-bound Bihar, where all existing electors who were not on the rolls in 2003 will have to again provide documentation proving their eligibility.

— Article 324(1) of the Constitution gives the ECI the power of "superintendence, direction and control of the preparation of the electoral rolls for, and the conduct of"

WHAT WILL SERVE AS PROOF OF CITIZENSHIP

In addition to the enumeration form, electors added to the rolls after 2003 will have to provide the following to prove their citizenship.

■ Those born in India before July 1, 1987 will have to submit any document from the specified list to establish their date of birth and/or place of birth;

■ Those born in India between July 1, 1987 and December 2, 2004, will have to submit an additional document establishing one parent's date and/or

place of birth; and

■ Those born in India after December 2, 2004, will have to submit documents establishing date and/or place of birth of both parents.

These categories are based on the requirements for acquisition of citizenship in the Citizenship Act, 1955

INDIANS BORN ABROAD will have to submit proof of birth registration by an Indian Mission abroad; and

CITIZENS BY NATURALISATION will have to submit their certificate for the registration of citizenship.

Documents for proof of citizenship.

elections to Parliament and state legislatures.

— Under Section 21(3) of The Representation of the People Act, 1950, the ECI “may at any time... direct a special revision of the electoral roll for any constituency or part of a constituency in such manner as it may think fit”.

— Summary revisions take place every year, and a special summary revision is carried out before each Lok Sabha and state Assembly election. Intensive revisions have been carried out in 1952-56, 1957, 1961, 1965, 1966, 1983-84, 1987-89, 1992, 1993, 1995, 2002, 2003, and 2004.

— In Bihar, those added to the roll after January 1, 2003 — the year of the last intensive revision — will additionally have to provide proof of citizenship. (Those already on the electoral roll before the cut-off date would be presumed to be citizens, unless Electoral Registration Officers receive any input to the contrary).

— Electors will also have the option of downloading their forms from the ECI’s website or ECINET app, and submitting them online. Electors whose enumeration forms are not received by July 25 will be deleted from the roll. Deletions can be contested from August 1 to September 1.

● **Article 370**

— Chief Justice of India B R Gavai on Saturday (28th June) said the Supreme Court upheld the abrogation of Article 370, which gave special status to Jammu and Kashmir, “so that the country is governed by only one Constitution”, as envisioned by Dr B R Ambedkar.

— The CJI was in Nagpur for the inauguration of a ‘Constitution Preamble Park’ and unveiling of Ambedkar’s statue at a law college

— The CJI was part of the five-judge Constitution bench of the Supreme Court, led by then CJI D Y Chandrachud, that, in December 2023, upheld the Centre’s decision to abrogate Article 370.

● **National Turmeric Board**

— Union Home Minister and Minister of Cooperation Shri Amit Shah inaugurated the headquarters of the National Turmeric Board in Nizamabad, Telangana, on 29th June.

— The Centre has established the National Turmeric Board (NTB) in January this year. The government has set a target of achieving one billion dollars in turmeric exports by 2030.

India is the largest producer, consumer, and exporter of turmeric in the world, with most of the product coming from Telangana, Maharashtra and Meghalaya. India has more than 62% share of world trade.

(Source: PIB)

International

● **India’s first-ever polar research vehicle (PRV)**

— On 3rd June, Kolkata-based Garden Reach Shipbuilders and Engineers Limited (GRSE), a Government of India undertaking, signed an MoU with Norwegian firm Kongsberg to co-design and build India’s first-ever polar research vehicle (PRV) indigenously.

— A PRV is a ship that serves as a platform for research in the polar regions (areas surrounding the North and South Poles). It can also help scientists undertake research in the ocean realm.

— India currently operates three research base stations in the polar regions — Bharati and Maitri in Antarctica, and Himadri in the Arctic region.



Union Minister Sarbananda Sonowal (centre) attends the MoU signing ceremony in Oslo, Norway, on Tuesday (PTI)

(Just FYI: Do you know why there is an increase in research interests in the

Arctic region? Are there any treaties governing these regions? Arctic and Antarctica have been the interest of UPSC. Questions have been asked in Prelims and Mains from this area.)

● **MERCOSUR**

— Paraguay President Santiago Peña Palacios is on a three-day state visit to India.

— India has signed a preferential trade arrangement with the South American trading bloc MERCOSUR, comprising Argentina, Brazil, Paraguay, and Uruguay. It became operational with effect from 1st June, 2009.

— **MERCOSUR** was formed in 1991 with the objective of free movement of goods, services, capital, and people, and became a customs union in January 1995.

— It follows the role model of the European Union. It is the third largest integrated market after the European Union (EU) and North American Free Trade Agreement (NAFTA).

● **Operation Spider's Web**

— Ukraine, on June 1, announced that it had successfully undertaken a stealth operation inside Russian enemy lines. The operation, titled Operation Spider's Web, reportedly took 18 months to plan and was executed using 117 drones.

— Several sources have said that first-person view (FPV) drones were used. The FPV drones were first smuggled to Russia, where they were placed in “mobile wooden houses”. They were hidden under the roofs of houses, which were remotely opened, and the drones then flew to hit their targets.

— First-person view means that a person piloting a drone can see what the drone sees, through a camera attached to its body. The live video can be seen through specialised goggles, or on smartphones and other kinds of screens, and the drone can be manoeuvred remotely.

— All major defence powers have unmanned aerial vehicles in their arsenal, be it Israel's “kamikaze” HAROP drones or Iran's Shahed drones.

● **International Institute of Administrative Sciences**

- India won the Presidency of the International Institute of Administrative Sciences (IIAS) for the 2025–2028 term.
- IIAS is a Federation of 31 Member Countries, 20 National Sections and 15 Academic Research Centres jointly collaborating for scientific research on public administration. It is not a formally affiliated body of the United Nations.
- India has been represented by the Department of Administrative Reforms and Public Grievances since 1998.

● **Operation Rising Lion**

- Israel launched a military operation against Iran, giving it the codename of Operation Rising Lion.
- In retaliation, Iran launched Operation True Promise 3.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBawMGQ1>

● **Fuselage of the Rafale fighter aircraft**

- India is set to become the first nation other than France where the fuselage of the Rafale fighter aircraft will be manufactured.
- Under a partnership between France's Dassault Aviation and Tata Advanced Systems (TASL), the latter will set up a "cutting-edge" production facility in Hyderabad for the manufacture of key structural sections of the Rafale, including the lateral shells of the rear fuselage, the complete rear section, the central fuselage, and the front section.
- The first fuselage sections are expected to roll off the **Hyderabad** assembly line in the financial year 2027-28, with the facility expected to deliver up to two complete fuselages per month.
- The Indian Air Force already operates 36 Rafales. In April this year, as part of the Rs 63,000-crore deal inked between India and France, the Indian Navy will induct 26 Rafale Marine jets by 2030.
- Rafale is a 4.5th-generation fighter aircraft designed and built by Dassault Aviation.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

● **MSC Irina**

- MSC IRINA, the world's largest container ship by capacity, docked at Vizhinjam International Seaport, which was commissioned last month. This is India's first deepwater transshipment port which was commissioned by Prime Minister Narendra Modi last month.
- The port is managed by Adani Ports and SEZ Private Limited under a design, build, finance, operate and transfer (DBFOT) model.
- A transshipment port includes terminals, where cargo containers are shifted from one vessel to another before they reach their final destination. Countries with robust global trade networks tend to use such ports to process large amounts of international cargo efficiently.
- The Vizhinjam port in the Arabian Sea is India's strategic response to over-reliance on foreign ports for transshipment cargo.

Advantages offered by the Vizhinjam port

(a) The Vizhinjam port's proximity to the congested east-west international shipping lane just 10 nautical miles away puts it in a prime location to become a major transshipment hub for the Indian subcontinent.

(b) Vizhinjam's biggest advantage is its natural depth of 18 to 20 metres only a kilometre away from the shore—deep enough for the world's largest cargo vessels to dock without dredging, a costly and environmentally disruptive process used to deepen shallow ports.

(c) Unlike most Indian ports, Vizhinjam experiences minimal sand movement along the coast (littoral drift), which reduces maintenance costs.



Built at a cost of around Rs 8,900 crore under public-private partnership (PPP) mode, the Vizhinjam transshipment port is operated by the Adani Group, with the Kerala government holding the majority stake. (Photo Credit: X/PortOfVizhinjam)

● G7 Summit

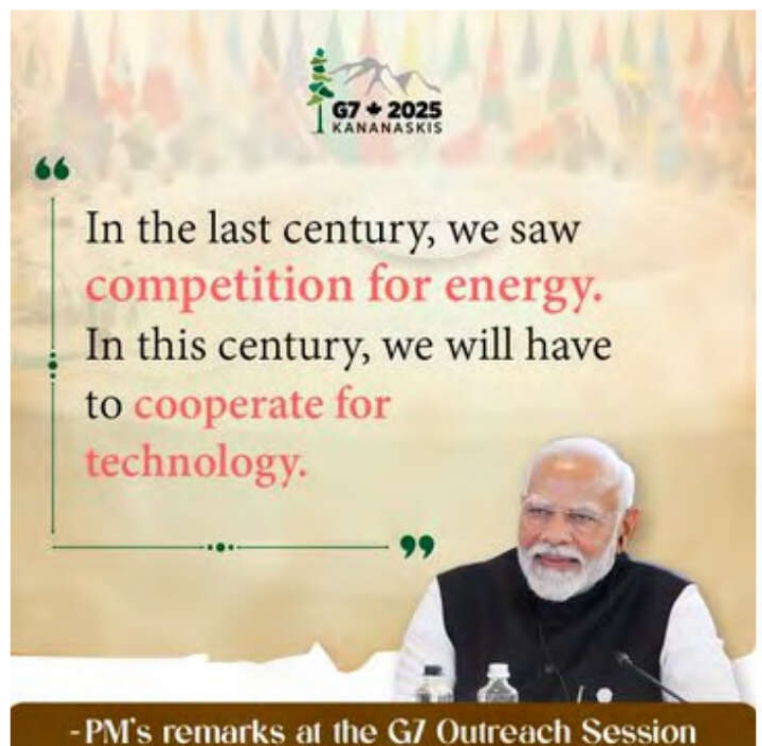
— The 2025 G7 Leaders' Summit was held in Kananaskis, Alberta, from June 15 to 17, 2025.

— Leaders of the Group of Seven countries meeting in Canada signed a joint statement calling for de-escalation of fighting between Israel and Iran while reaffirming that Iran cannot be allowed to have a nuclear bomb.

— PM Modi described his meeting with Canadian PM Mark Carney as “fruitful”, stating that the two countries agreed to deepen cooperation in key areas such as trade, energy, space, critical minerals, fertilisers and more. The two leaders “agreed to take calibrated steps to restore stability to the relationship” and decided to restore High Commissioners to each other's capitals.

— The Group of 7 (G7) is an informal group of seven countries that consists of the United States, Canada, France, Germany, Italy, Japan, and the United Kingdom. Together, these countries represent 40% of global GDP and 10% of the world's population.

What are the guest countries or outreach partners at the G7 summit?



● **Operation Sindhu**

— India has launched ‘Operation Sindhu’ to evacuate Indian nationals from Iran as fears of an all-out Israeli-American military strike on Iran increased.

Other Important past rescue operations launched by India

Operation Ajay: In October 2023, as the Israel-Hamas war escalated and countries scrambled to bring home their people trapped in the fighting or looking for a way out of the war zone, India launched Operation Ajay to repatriate its citizens from Israel and Palestine.

Operation Kaveri: In April 27, 2023, India launched Operation Kaveri to evacuate its nationals stuck in Sudan, where an intense conflict had broken out between the Sudanese Armed Forces and the Rapid Support Forces (RSF), rival factions of the country’s military government.

Operation Ganga: In 2022, when war broke out between Russia and Ukraine, the government of India had launched Operation Ganga to bring back Indians stranded in Ukraine.

● **Falcon 2000 planes**

— French military aircraft and business jet maker Dassault Aviation will manufacture its best-selling business executive jet—the Falcon 2000—at Nagpur in partnership with the Anil Ambani-led Reliance Group company Reliance Aerostructure Ltd (RAL).

— Dassault Aviation will manufacture Falcon 2000 jets outside of France for the first time in its storied history.

— This would be the first-ever instance of a foreign aircraft manufacturer setting up a final assembly line (FAL) in India for civilian aircraft.

— Airbus, in partnership with the Tata group, will also set up an FAL, but it will be for manufacturing helicopters.

● **International conventions in the news after the Air India plane crash**

Chicago Convention

— The Convention on International Civil Aviation, better known as the Chicago Convention, was signed in 1944 as World War II was drawing to a close.

— The Convention’s technical standards are overseen by the International Civil Aviation Organisation (ICAO), a UN agency based in Montreal. All 193 member countries—including India, the United States, and the United Kingdom—have agreed to follow its rules.

— One of the most important of these is Annex 13, which lays out the international protocols for investigating aircraft accidents and serious incidents. Chapter 5 of Annex 13 outlines the core responsibilities for conducting such investigations. It clarifies that the goal is not to assign blame or liability, but to improve aviation safety by uncovering causes and preventing future accidents.

— According to Chapter 5, the responsibility to investigate an aircraft accident lies with the ‘State of Occurrence’ — the country where the accident took place. In addition, other countries connected to the aircraft have a formal right to participate.

— These include the ‘State of Registry’ (where the aircraft is registered), the ‘State of the Operator’ (which operated the flight), the ‘State of Design’, and the ‘State of Manufacture’ (of the aircraft in question).

Montreal Convention 1999, or MC99

— The Tata Group, which owns the airlines, announced Rs 1 crore compensation to each of the kin of the victims. Air India will have to pay a compensation of around Rs 1.5 crore, as per the Montreal Convention treaty.

— The Montreal Convention 1999, or MC99, is formally known as the Convention for the Unification of Certain Rules for International Carriage by Air. It was finalised under the aegis of the International Civil Aviation Organization (ICAO).

— It provides a comprehensive and unified framework for the international carriage of passengers, baggage, and cargo by air, introducing several elements to balance the interests of travelers and the shippers of cargo and the aviation industry. India signed the Montreal Convention on Civil Aviation in 2009 to become its 91st member.

— As per the Montreal Convention treaty, Air India will have to pay a compensation of around Rs 1.5 crore each to the kin of victims of the plane crash. Air India will get adequate compensation for the lost aircraft from insurance companies.

— Compensation is calculated using Special Drawing Rights (SDRs), which stood at 128,821 SDRs (approximately USD 1.33 per SDR) as of October 2024. The actual payout will depend on the coverage purchased by Air India.

● **International Potato Center (CIP)**

— The Union Cabinet approved a proposal on Wednesday (June 25) to set up a regional wing of the Peru-based International Potato Center (CIP). The proposed CIP-South Asia Regional Center (CSARC) will come up at Singna in Agra district.

— The CSARC will focus on the development of new varieties that will be climate resilient, disease-free, and suitable for processing. It will bring global science expertise, an extensive global innovation network, and global genetic resources.

— The entire project costs Rs 171 crore, with India contributing Rs 111.5 crore and the remaining Rs 60 crore funded by the CIP. The UP government has provided 10 hectares of land for it.

— CIP is a premier research-for-development organisation with a focus on the potato, sweet potato, Andean roots and tubers. It was founded in 1971 and is headquartered in Lima, Peru. In 2017, it set up its first Asia centre in China.

— The proposed CSARC will be the second major international agricultural research institution to set up operations in India. In 2017, the Agriculture Ministry supported the establishment of a regional centre of the Philippines-based International Rice Research Institute (IRRI). The IRRI-SARC is established in Varanasi.

— As of now, at least two different centres of the Indian Council of Agricultural Research (ICAR) work on tuber crops. While the Shimla-based ICAR-CPRI (Central Potato Research Institute) is working on potato, the Thiruvananthapuram-based ICAR-CTCRI (Central Tuber Crops Research Institute) is working on sweetpotato.

About Potato

— The potato crop is native to the Peruvian-Bolivian Andes in Latin America, and was spread across the globe by the

Spaniards and the Portuguese who colonised the continent. Potatoes reached India in the 17th century.

— The potato is the third most available food crop in the world, after rice and wheat, while sweet potato is in the 6th position after maize and cassava.

China is the top potato producer and consumer in the world, followed by India. In 2020, China's production was recorded at 78.24 million tonnes, while India produced 51.30 million tonnes.

— In India, Uttar Pradesh (15 million tonnes), West Bengal (15 million tonnes) and Bihar (9 million tonnes) were the top three potato producers in 2020-21.

— Potato is a tuber that is are stem modified into an underground structure. The presence of an eye (node) in a potato indicates that the underground plant parts are modified stems.

• **SCO Defence Ministers meet**

— Defence Ministers of the Shanghai Cooperation Organisation, meeting in Qingdao in China, failed to issue a joint statement on Thursday (26th June) after Defence Minister Rajnath Singh declined to sign the draft statement which omitted a reference to the April 22 Pahalgam terror attack in J&K.

— The SCO is a grouping of 10 countries, including India, China, Russia, Pakistan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Iran, and Belarus. The roots of the SCO lie in the “Shanghai Five” formed in 1996, consisting of China, Russia, Kazakhstan, Kyrgyzstan and Tajikistan.

— The organisation has two permanent bodies: the Secretariat in Beijing, China and the Regional Anti-Terrorist Structure (RATS) in Tashkent. RATS assists members in the preparation and staging of counter-terrorism exercises, analyses key intelligence information coming in from the member states, and shares information on terrorist movements and drug trafficking.

Defence

• **ASW-SWC Arnala**

— The Indian Navy will induct nine to 10 warships in the coming months, with the first of these—the **Anti-Submarine Warfare Shallow-Water Craft (ASW-SWC) Arnala**—is scheduled for commissioning on 18 June at the Naval Dockyard in Visakhapatnam.

— It was designed and constructed by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata, under a Public-Private Partnership with L&T Shipbuilders.

— Named after the historic Arnala Fort in Vasai, Maharashtra, Arnala is equipped for a range of anti-submarine warfare operations, including subsurface surveillance, search-and-rescue missions, and low-intensity maritime tasks. It is the largest Indian naval warship to be propelled by a diesel-engine–waterjet combination.

• **Stealth frigate Tamal**

— The Navy is set to commission its latest stealth multi-role frigate Tamal on July 1 at Russia's Kaliningrad, making it the eighth in the series of Krivak class frigates inducted from Russia over the past two decades.

— It will join the ‘Sword Arm’ of the Navy, the Western Fleet, under the Western Naval Command. Also, it is the second ship of the Tushil Class — the upgraded versions of their predecessors, Talwar and Teg classes.

● **B-2 Spirit bomber**

- The B-2 Spirit bomber was used by the USA to carry out a precision airstrike on Iran’s nuclear infrastructure.
- The B-2 Spirit is one of the most sophisticated and secretive aircraft ever built. Developed by Northrop Grumman during the Cold War, the bomber was designed for deep-penetration missions in contested airspace.
- Only 21 were produced after the collapse of the Soviet Union, with each unit costing an estimated \$2.1 billion.
- The B-2’s combination of stealth, range, and payload makes it uniquely suited to hit heavily fortified, high-value targets — especially those buried deep underground.
- The B-2 has a range of over 6,000 nautical miles (11,000 km) without refuelling, enabling it to conduct long-range missions from the continental United States.
- Its total payload exceeds 40,000 pounds (18,144 kg) and includes both conventional and nuclear weapons.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

● **GBU-57 Massive Ordnance Penetrator, or MOP**

- In a major military escalation, the United States deployed its B-2 Spirit stealth bombers on Saturday (21st June) to carry out precision airstrikes on Iran’s nuclear infrastructure.
- The bombers were reportedly armed with the GBU-57A/B Massive Ordnance Penetrator (MOP), a 30,000-pound (13,600-kilogram) bunker-buster bomb designed specifically to destroy hardened underground facilities like Fordow.
- The MOP measures about 20.5 feet in length and 31.5 inches in diameter and weighs about 13,000 kgs, according to the US Air Force.
- The bomb is a “bunker buster”—a type of munition capable of penetrating and hitting targets secured in underground facilities. The MOP is widely believed to be the most powerful non-nuclear weapon.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

● **Passage Exercise**

- The Indian Navy’s stealth frigate INS Tabar, a submarine, and P-8I maritime patrol aircraft participated in a passage exercise (PASSEX) with the United Kingdom’s Carrier Strike Group in the North Arabian Sea on June 9 and 10.
- The joint exercise demonstrates the deepening cooperation between the Indian Navy and the Royal Navy, showcasing a shared commitment to maritime security and robust bilateral ties.

● **Nomadic Elephant**

- The 17th edition of India-Mongolia Joint Military Exercise NOMADIC ELEPHANT is being conducted in Ulaanbaatar, Mongolia, from 31st May to 13th June 2025.
- It is an annual event conducted alternately in India and Mongolia. The 2024 edition was conducted at Umroi, Meghalaya.

Environment

• New Ramsar sites

— On the eve of World Environment Day, Khichan in Phalodi and Menar in Udaipur have been designated as Ramsar sites, taking the total tally to 91. Both are located in Rajasthan.

— The Menar Wetland Complex is a freshwater monsoon wetland complex formed by three ponds, Braham talab, Dhand talab, and Kheroda talab, and agricultural land that connects the latter two.

— Khichan Wetland, located in the northern Thar Desert, comprises two water bodies, Ratri nadi (river) and Vijaysagar talab (pond), riparian habitat, and scrub land. This desert ecosystem supports drought-resistant plant species that provide habitat for over 150 species of birds.

— The Ramsar Convention is an intergovernmental treaty signed in 1971 in Ramsar, Iran. It encourages the protection and conservation of wetlands worldwide by designating them as such. Ramsar sites are also known as wetlands of international importance.



India has 91 Ramsar sites. (Photo: X/@byadavbjp)

• Sindoor Plant

— On the occasion of World Environment Day (June 5), Prime Minister Narendra Modi planted a sapling of the sindoor plant at his residence in New Delhi. The Gujarat government has also decided to come up with a memorial, which will be called 'Sindoor Van' (forest), dedicated to Operation Sindoor.

— The sindoor plant is commonly known as Bixa orellana. It is also called 'Annatto' in English. It is a small tree or shrub with bright green leaves and pink flowers. The seeds of this plant are covered with a red-orange coating.

• Greater Flamingo sanctuary at Dhanushkodi

— On the occasion of World Environment Day, the Tamil Nadu government has officially declared a Greater Flamingo sanctuary at Dhanushkodi in Ramanathapuram district.

— It aims to preserve a critical stopover point along the Central Asian Flyway for thousands of migratory wetland birds.

• Environmental Toxicology

— According to the study commissioned by the Brihanmumbai Municipal Corporation (BMC), shows that the level of toxicology indicators at the Deonar landfill is up to four times the permissible limits prescribed by the Central Pollution Control Board (CPCB).

— The Deonar dumping ground at Mankhurd-Shivaji Nagar in Mumbai's eastern suburbs is the oldest waste dump in the country. It has been operational since 1927, a time when this area had very little human habitation.

— The study analysed the levels of Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and Total Dissolved Solids (TDS) — all crucial indicators of environmental toxicology.

— BOD indicates the amount of dissolved oxygen required by microorganisms to break down organic matter present in a water sample; COD refers to the amount of oxygen required to chemically oxidise organic matter; TDS refers to the total concentration of all dissolved substances, including inorganic salts, minerals, and organic matter.

● **Wildlife Protection Act to declare the wild boars as Vermin**

— The Union government has rejected Kerala's demand to recognise wild boars as vermin under the Wildlife Protection Act. The Center is also not in favour of the state's demand to remove monkeys (bonnet macaque) from Schedule I to Schedule II.

— Section 11 of the 1972 Act regulates the hunting of wild animals. As per clause (1)(A) of the section, the Chief Wildlife Warden (CWLW) of a state may — if satisfied that a wild animal specified in Schedule I (mammals) has become dangerous to human life or disabled or diseased beyond recovery — permit hunting or killing of such animal.

— As per section 62 of the Wildlife Protection Act, the Union Government can notify any wild animal in Schedule II of the Act (which protects it from hunting), as vermin for a period of time in an area/state.

— An animal is declared vermin when it poses a threat to life and crops. Once declared as vermin, wild boar would lose its protection from hunting, thus enabling the state and citizens to cull the wild boar population to protect against the menace the species poses to life and livelihood.

● **Eurasian Otter**

— For three decades, the Eurasian otter, once an integral part of Kashmir's aquatic ecosystem, was thought to be extinct in the Valley. However, a rare sighting of the semi-aquatic mammal has now been reported in south Kashmir.

— The otter, which has been globally classified as 'near threatened' by the International Union for Conservation of Nature (IUCN), was spotted in the Lidder River in Srigufwara, south Kashmir.



Eurasian Otter (Source: Thinkstockimages)

Lidder River

The Lidder River is a tributary of the Jhelum River, which originates from the Kolahoi Glacier, located in the upper reaches of the Pir Panjal range in Jammu and Kashmir. The Jhelum River (252 km) originates from a spring at Verinag near the Pir Panjal and flows through Wular Lake in Srinagar before entering Pakistan. It joins the Chenab near a place called Jhang in Pakistan.

— The Eurasian otter, locally known as Vuder, was an integral part of Kashmir's aquatic ecosystem and was abundantly found in the water bodies.

— Over the last three decades, it was not spotted in the water bodies of the Valley, and it was thought to be extinct in Kashmir. The reason for the sudden decline is attributed to increased water pollution and hunting of the mammal for its fur.

— The Eurasian otter (*Lutra lutra*) is one of the three otter species found in India, alongside the Smooth-coated Otter (*Lutrogale perspicillata*) and the small-clawed otter (*Aonyx cinereus*).

● King Cobra

— A king cobra brought to Bhopal's Van Vihar zoo from Karnataka's Mangalore zoo in exchange for a tiger died in its enclosure on June 18.

— The king cobra, the world's longest venomous snake, can grow to 15 feet in length.

— It prefers humid, dark forests with thick undergrowth, cool swamps, and bamboo patches across diverse habitats — from highland evergreen and semi-evergreen forests to estuarine mangroves with high rainfall.



The king cobra has so far been considered a monotypic genus, which means the most venomous snake all over the world was thought to be a single species under the genus Ophiophagus. (Express Photo)

— In India, the king cobra's range includes the Western Ghats, the North Indian terai belt, Northeast India, the mangrove coastlines of West Bengal and Odisha, Andaman and Nicobar, and parts of the Eastern Ghats.

— The King Cobra (*Ophiophagus hannah*) is placed under the "vulnerable" category by the International Union for Conservation of Nature (IUCN). (Ophio means snake, phagus stands for eating).

— New research by a wildlife biologist has found that the king cobra has four different lineages which are geographically separate and are found in the Western Ghats, Indo-Chinese region, Indo-Malayan region and Luzon in the Philippines.

● Bonn Climate Change Conference

— The annual Bonn Climate Change Conference began in Bonn, Germany. It will continue from June 16 to June 26.

— It is an annual mid-year meeting that takes place under the United Nations Framework Convention on Climate Change (UNFCCC) — an international agreement, signed in 1992, that has provided a basis for climate negotiations.

— The conference is formally known as the Sessions of the UNFCCC Subsidiary Bodies (SBs). Along with the annual Conference of the Parties (COP), it is the only other regular climate summit hosted by the UNFCCC.

— It is attended by the members of SBs — essentially committees that assist UNFCCC's governing bodies in

implementing and reviewing climate change agreements.

— The meeting is led by the SBs of the UNFCCC. There are two permanent SBs of the UNFCCC, the Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA).

— SBI assists UNFCCC governing bodies in the assessment and review of the implementation of their decisions. It also facilitates discussions on financial and technical support to developing countries which are party to the UNFCCC.

— SBSTA advises governing bodies on scientific knowledge related to climate change. “It serves as the ‘link’ between scientific advisors at the IPCC and policymakers serving in party delegations at the COPs.”

● Oarfish

— A rare oarfish, ominously dubbed the ‘doomsday fish’ in Japanese folklore, was recently caught off the Tamil Nadu coast.

— Oarfish (*Regalecus glesne*) is the world’s longest bony fish, which can reach lengths of up to 36 feet (11 meters). They typically inhabit the mesopelagic zone, dwelling 660 to 3,300 feet beneath the ocean’s surface, where sunlight barely penetrates.

— The silvery, ribbon-like fish with its distinctive red crest-like dorsal fin is rarely seen by humans due to its deep-water habitat. They are thin and slow due to their lack of muscles and generally swim vertically in the ocean.



Oarfish is rarely seen by humans due to its deep-water habitat. (Source: Instagram/The Ocean and X/@chinchat09)

— The ‘doomsday fish’ reputation stems from ancient Japanese folklore, where oarfish are called ‘ryugu no tsukai,’ meaning ‘messenger from the sea god’s palace.’

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

● Green India Mission (GIM)

— The Centre, on June 17, released a revised roadmap for the National Mission for Green India, also known as the Green India Mission (GIM).

— In addition to the core objectives of increasing and restoring forest and green cover, the mission will focus on restoration in the Aravalli ranges, Western Ghats, Himalayas and mangroves.

— GIM was rolled out in 2014 as one of the eight missions under India’s National Action Plan on Climate Change (NAPCC). Its core aim is to combat climate change by increasing forest and tree cover, and the ecological restoration of degraded ecosystems and forests.

Science and Technology

● **Fusarium graminearum**

— The United States (US) has charged two Chinese nationals with smuggling a toxic fungus into the country, called **Fusarium graminearum**.

— The fungus is known to cause head blight in crops such as wheat, barley and oats — a disease that significantly affects the yield of the crops.

— It affects the kernel development of various grains, thereby reducing the yield. It can also cause ear rot or stalk rot in maize crops. Once infected, the fungus continues to spread as the crop matures. It is known to survive in plant tissue residues like small grain stems and roots and infect new plants.

— The fungus is also known to produce **mycotoxins** — secondary metabolites (end products of biochemical processes) that are of significance to the fungal growth but may be harmful to humans. One of the mycotoxins called **deoxynivalenol or DON** can lead to vomiting in humans and animals.

● **ASKAP J1832-0911**

— Scientists have discovered a mysterious object ASKAP J1832-0911 in the Milky Way, around 15,000 light years away from Earth.

— First discovered by NASA's Chandra X-ray Observatory, ASKAP J1832-0911 belongs to a class of objects called "long period radio transients" (also known as LPT), which emit intense radio waves over tens of minutes.

— Discovered in 2022, LPTs are cosmic bodies that emit radio pulses every few minutes or hours. In the last few years, astronomers have come across 10 LPTs, but say that ASKAP J1832-0911 is unlike any other.

● **Weight loss drug Wegovy**

— Danish pharma giant Novo Nordisk launched its weight loss drug Wegovy as a once-a-week injection in India. This adds to the option of weight loss drugs, with Eli Lilly's injectable Mounjaro now also available in the country.

— Wegovy is made of semaglutide, a GLP-1A receptor agonist, which mimics the naturally occurring hormone GLP-1, responsible for regulating blood sugar, reducing appetite, and slowing down gastric emptying.

— Semaglutide belongs to a new class of medicines called GLP-1 (glucagon-like peptide-1) receptor agonists. It is prescribed for the management of type 2 diabetes and obesity.

— The weight loss drugs mimic certain naturally-occurring gut hormones called incretins (GLP-1 is one such incretin) produced in the small intestine, and are hence also known as incretin mimickers.

● **Axiom-4 Mission**

— The Axiom-4 Mission, with India's Shubhanshu Shukla and three other astronauts on board, roared into space at noon on Wednesday (25th June, 2025). He is the designated pilot for the Crew Dragon spacecraft.

— With this, Shukla became the second Indian to travel to space, more than 40 years after Rakesh Sharma travelled on a Soviet mission in 1984.

— There are three other astronauts on the mission: Peggy Whitson from America as commander of the mission, Slawosz Uznanski-Wisniewski from Poland, and Tibor Kapu of Hungary.

— The Axiom-4 mission is being operated and managed by Axiom Space, a private US space company. The Falcon 9 rocket and the Dragon spacecraft used in the mission have come from SpaceX, the world's largest private space corporation.

— On Thursday (26th June), the SpaceX Dragon spacecraft docked with the International Space Station (ISS). Docking is a process by which two spacecraft are joined in space.

— The ISS orbits Earth at an altitude of more than 400 km, and the procedure of docking takes place while both the space station and the approaching vehicle are travelling at speeds of around 27,000 km/h.

— To date, only four countries — the US, Russia (and the erstwhile Soviet Union), China, and most recently, India — have demonstrated the capability to carry out space docking.



Shubhanshu Shukla (second from left) with (from left) Hungary's Tibor Kapu, US's Peggy Whitson and Poland's Slawosz Uznanski-Wisniewski aboard the SpaceX Dragon spacecraft on Wednesday. (@SpaceX via PTI)

● Black box

— In what may be among the worst aviation disasters in India, an Air India Boeing 787 Dreamliner (VT-ANB) crashed soon after taking off from Sardar Vallabhbhai Patel International Airport in Ahmedabad on June 12.

— The cause of the crash is unclear at this stage. On June 13, one of the black boxes was recovered from the Ahmedabad crash site. Generally, an aircraft consists of two such boxes - the **Flight Data Recorder (FDR)** and the **Cockpit Voice Recorder (CVR)**.

— A black box is simply a flight recorder, with origins in the early 1950s. In 1963, following two fatal aviation disasters, Australia became the first country to make flight recorders a mandatory legal requirement.

— The film runs continuously in a box that is constructed to prevent any light from entering it, lending it the name “black box”. The name has endured, even as the outer box of the recorder has **always been orange** – a bright colour that makes it easier to identify the metal case.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

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.)

● Lee Jae-myung

— Lee Jae-myung, the leader of South Korea's liberal Democratic Party, has won the presidential snap election.

— He is the country's 14th president and will serve a single five-year term, as mandated by the South Korean constitution.

● **Ahilya Bai Holkar**

— Ahilya Bai Holkar was born on May 31, 1725, in Chondi village of Maharashtra. She ruled Malwa territory (a major part of which is now in Madhya Pradesh) from 1767 to 1795. The Holkar dynasty under the Maratha Empire achieved its peak during her tenure.

— Rooted in the civilisational ethos of samajik samrasta — a philosophical vision that aims to foster an equitable and dignified society — her policies addressed disadvantaged groups, specifically the Bhils, Gonds, and Dalits.



The 18th-Century Maratha queen Devi Ahilyabai Holkar is seeing a revival in Madhya Pradesh. (Wikimedia Commons)

— She nominated Tukoji Holkar, a trustworthy soldier who had previously served under her father-in-law Malhar Rao Holkar, as head of her army.

— During her reign, numerous religious places were renovated, including Somnath, Varanasi, Trambak, Gaya, Pushkar, Vrindavan, Nathdwara, Haridwar, Badrinath, and Kedarnath.

— The Madhya Pradesh government led a nine-month-long celebration from September 2024 to May 31, 2025, leading to the 300th birth anniversary.

● **S Mahendra Dev**

— Economist S Mahendra Dev has been appointed as the Chairman of the Economic Advisory Council to the Prime Minister (EAC-PM).

— Dev is an expert in the fields of agriculture and rural economy, and also serves as the editor of the Economic and Political Weekly.

— The Economic Advisory Council to the Prime Minister (EAC-PM) is an independent body constituted to give advice on economic and related issues to the Government of India, specifically to the Prime Minister.



S Mahendra Dev. (Photo: www.axisbank.com)

● **Lieutenant Commander Yashaswi Solankee**

— On May 9, Lieutenant Commander Yashaswi Solankee (27) became the first woman officer to be appointed as an Aide-de-Camp (ADC) to the President of India.

— The President has five ADCs — three from the Army, and one each from the Navy and Air Force — none of them have been a woman officer so far.

— The President's ADC serves as the bridge to the First Citizen — liaising her appointments and call-ons, being present with her at all presidential ceremonies and events, facilitating communication with various branches of the government and military.

● **Amitabh Kant**

— Amitabh Kant has stepped down as India's G20 Sherpa, ending a 45-year career in government service.

— Kant served as NITI Aayog's longest-tenured CEO, holding the post for over six years from February 2016 to June 2022, before being appointed India's G20 Sherpa in July 2022, succeeding Union Commerce Minister Piyush Goyal.

● **Blaise Metreweli**

— For the first time in its 116-year-old male-coded history, Britain's Secret Intelligence Service, or MI6, will be led by a woman, Blaise Metreweli. She qualifies to be the 18th Chief in the organisation.

— The first chief of the SIS, Sir Mansfield Cumming, frequently signed his directives with the letter C, giving birth to a codename that remains in use till date.

— Referred to as 'C', the Chief possesses operational responsibility for MI6, and is accountable to the Foreign Secretary, according to the government release.

— 'C' is also a part of the Joint Intelligence Committee, alongside heads of other departments and senior government officials. It receives intelligence reports, analyses ongoing situations and advises the prime minister

MI6: Military Intelligence Section 6, officially the Secret Intelligence Service (SIS), is the UK's foreign intelligence agency, tasked with the collection, analysis, and dissemination of foreign intelligence, as well as conducting espionage activities outside British territory.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

● **Parag Jain**

— The government appointed Parag Jain as the new chief of the Research and Analysis Wing (R&AW), India's external intelligence agency. Jain, a 1989-batch IPS officer of the Punjab cadre, succeeds Ravi Sinha, who retires on June 30.

— Jain was serving as the head of the Aviation Research Centre (ARC), the technical wing of R&AW, before his elevation.

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.)

• **Mt Etna**

— Italy's Mount Etna, the largest volcano in Europe, produced an explosive eruption on 2nd June, sending a huge cloud of ash, smoke and rock fragments several kilometres into the sky.

— Mount Etna, sometimes referred to simply as Etna, is an active volcano on the east coast of Sicily, the largest island in the Mediterranean Sea, lying just off the toe of the Italian "boot". Etna's peak is the highest in Italy south of the Alps, and it is the largest of Europe's active volcanoes.

— Etna's summit has five craters, which are responsible for most of the volcano's eruptions. "Flank" eruptions also occur at the 300-odd vents of varying sizes along the slopes of the mountain.

— Etna has been a World Heritage Site since 2013, and according to UNESCO, the volcano's eruptive history can be traced back 500,000 years. At least 2,700 years of this activity have been documented.

• **Mount Lewotobi Laki-laki**

— Mount Lewotobi Laki-laki, located in south-central Indonesia, erupted on Tuesday (17th June), sending massive columns of ash high into the sky. It is located in Indonesia's East Nusa Tenggara province.

— According to Volcano World, Lewotobi is a stratovolcano with a recorded history of at least 19 eruptions between 1675 and 1991. A stratovolcano is a massive volcano made of layers of lava, ash, and other components.

• **Chenab bridge**

— Prime Minister Narendra Modi on 6th June flagged off the Vande Bharat train service between Katra in the Jammu region and Srinagar in Kashmir.

— The train will pass over the world's highest rail bridge over the Chenab river, and the country's first cable-stayed bridge at Anji Khad, as well as the long tunnel between Khari and Sumber.

— It is the highest arch bridge in the world, with a deck height of 359 meters from the riverbed — making it 35 meters taller than Paris's iconic Eiffel Tower.

— Connecting the Kashmir Valley with the rest of the country, the bridge forms a critical part of the Udhampur-Srinagar-Baramulla Rail Link (USBRL) project, which is being developed at a cost of Rs 35,000 crore.

— The Chenab railway bridge is a steel-and-concrete marvel spanning 1,315 meters across the river gorge. It consists of a 530-meter-long approach bridge and a 785-meter-long deck arch bridge (the part of the bridge on which vehicles run).

About USBRL

The USBRL is one of the most ambitious railway projects undertaken in independent India. Stretching 272 kilometres through the rugged Himalayas, the project has been built at a cost of Rs 43,780 crore. The 272-km USBRL is broadly divided into three parts: the 25-km Udampur-Katra stretch, 111-km Katra-Banihal and 136-km Banihal-Baramulla. It also includes 36 tunnels that span 119 kilometres and 943 bridges that knit together valleys, ridges and mountain passes.

• Metropole Hotel Complex

— Last week, the Ministry of Home Affairs temporarily allotted Nainital's Metropole Hotel Complex — classified as enemy property — to the state government for use as a parking facility.

— The hotel was built in 1880 and owned by the Raja of Mahmudabad. This is where Mohammad Ali Jinnah and his wife Rattanbai honeymooned in 1918.

— The design of its roof came to be known as Nainital-pattern-roofing, which the British then used in many buildings across India.

— After Mohammad Amir Ahmed Khan, the Raja of Mahmudabad, moved to Pakistan post Partition, his considerable properties in north India, including the 11-acre Nainital hotel, were declared enemy property.

— Pandit Rahul Sanskrityayan, who was an exceptional scholar with proficiency in almost 11 languages, stayed there and wrote his famous work, Kumaun.

Enemy Property

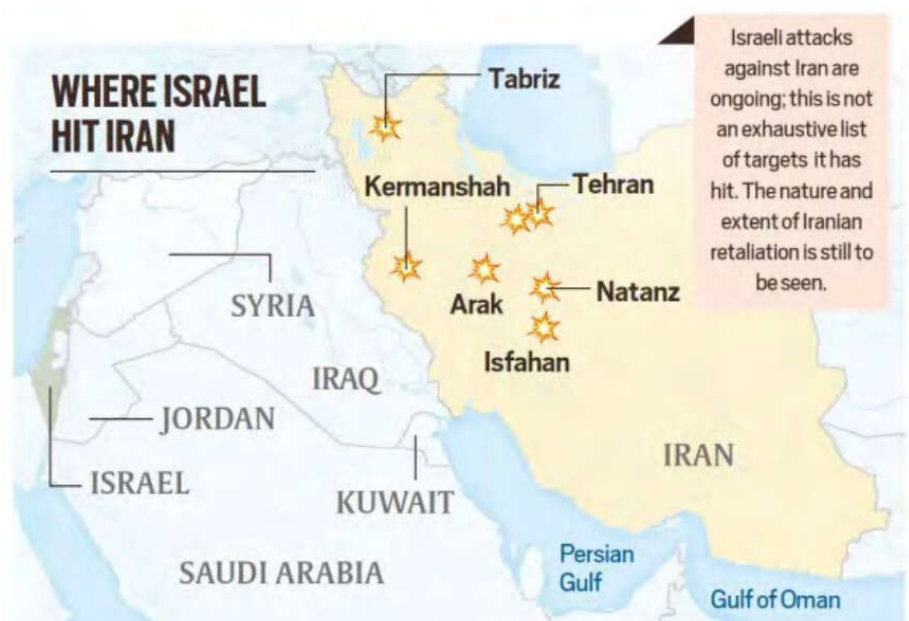
Enemy property are the assets (movable and immovable) that were left behind in India by individuals who migrated to countries designated as "enemy nations" during times of conflict.

Under the Enemy Property Act of 1968, properties designated as enemy properties remain permanently vested with the Custodian of Enemy Property, meaning they cannot be inherited or transferred.

• Israel attacks Iran

— In what is its most ambitious military operation in recent years, Israel launched a series of air strikes against Iran, targeting nuclear sites, missile facilities and other military infrastructure.

— The Natanz nuclear facility has been attacked. Located roughly 135 miles southeast of Tehran, Natanz is Iran's primary uranium enrichment site. Partially built underground to withstand airstrikes, the facility houses cascades of centrifuges used to enrich uranium more efficiently. Iran has also



These are the important places that you should know about.

been tunnelling into a nearby mountain known as Kūh-e Kolang Gaz Lā (**Pickax Mountain**) — an effort seen as an attempt to fortify and expand the site.

— **Isfahan Nuclear Technology Centre:** Roughly 215 miles southeast of Tehran, Isfahan is a hub of nuclear research and development. It hosts three Chinese-built research reactors and employs thousands of Iranian scientists. The site plays a crucial role in training and infrastructure for Iran's atomic programme.

— **Arak Heavy Water Reactor:** Located 155 miles southwest of Tehran, Arak is designed to use heavy water as a coolant, a process that can produce plutonium as a byproduct. While Iran has not pursued plutonium-based weapons, Arak theoretically offers a second pathway to a nuclear bomb. As part of the 2015 nuclear deal with world powers, Iran agreed to redesign Arak to reduce proliferation risks.

● **Strait of Hormoz**

— Iran's Parliament has approved the closing of the Strait of Hormuz, though the final decision will be taken by the Supreme National Security Council.

— The Strait of Hormuz lies between Oman and Iran, connecting the Gulf of Oman with the Persian Gulf, and the Arabian Sea beyond. (A strait is a narrow water body connecting two larger bodies of water.)

— The strait is about 33 kilometres wide at the narrowest point, though shipping traffic passes through a narrower traffic separation scheme (TSS), which consists of a 3-kilometre-wide channel each for inbound and outbound traffic.

— Because of its geographic location, there is no sea route alternative to the Strait of Hormuz. So if the passage of ships through the strait were to be disrupted, it would have ramifications for oil and LNG trade worldwide, and prices would shoot up.

● **Coastline of India**

— The length of India's coastline used to be 7,516 km, something that was ascertained in the 1970s. But this coastline has now been measured to be 11,098 km, an increase of 3,582 km, or nearly 48%. The main reason for such a big difference is in the scale of data used for measurement.

— The earlier measurement was based on data that were of the scale of 1:4,500,000 (one to forty-five lakh), or smaller. However, the recent exercise calculated the length of the coastline using data that had a scale of 1:250,000 (one to 2.5 lakh).

— Higher resolution data can capture the coastline, its bends and curves, in more intricate details. In low-resolution data, these details get smoothened out, and appear as straight lines. The loss of bends and curves would shorten the length.

Awards

● **Sahitya Akademi Yuva Puraskar**

— The Sahitya Akademi on June 18, 2025, announced the names of 23 writers for its 'Yuva Puraskar'. No award is given in the Dogri language this year.

— The awardees include Advait Kottary in English, Parvati Tirkey in Hindi, Neha Rubab in Urdu, Latshmihar for Tamil and Prasad Suri for Telugu.

● **Sahitya Akademi Bal Puraskar**

— The Akademi announced the names of 24 authors for its Bal Sahitya Puraskar.

— In English, Nitin Kushalappa MP won the award. Similarly, for Hindi and Urdu, the award was given to Sushil Shukla and Ghazanfar Iqbal, respectively.

About Sahitya Akademi

— The Sahitya Akademi was established by Jawaharlal Nehru, who was also its first chairperson, and was 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*.

Join FREE Telegram Channel <https://t.me/+jUYKq0AFHBAwMGQ1>

● **World's Best School Prize 2025**

— A Zilla Parishad (ZP) school in Pune district's Jalindarnagar village has been shortlisted among global finalists for the World's Best School Prize 2025 in the category of Community Collaboration in education.

— Three other Indian schools – one each from Karnataka, Haryana, and Uttar Pradesh – have also been shortlisted under various categories for the award organised by UK-based international education platform T4 Education.

— Among the school's innovative approaches is the 'Vishay Mitra' (subject friend) initiative. This is a peer-learning model, where senior students mentor juniors, helping clarify doubts in a comfortable, student-led setting.

● **2025 Bloomberg Philanthropies Awards for Global Tobacco Control**

— India is among the six countries that received 2025 Bloomberg Philanthropies Awards for Global Tobacco Control for prioritizing tobacco cessation approaches to reach a significant number of tobacco users in the country.

— The National Tobacco Control Cell of the Ministry of Health and Family Welfare, Government of India, was presented with the award at the World Conference on Tobacco Control held in Dublin, Ireland.

— India was presented the 'O' category award for promoting tobacco cessation. The 'O' is the MPOWER policy package of the World Health Organisation (WHO) that stands for 'Offer help to quit tobacco use.'

— The WHO Global Tobacco Epidemic 2025 report, developed with support from Bloomberg Philanthropies, was also launched on the occasion.

— Report reveals that the most striking gains have been in graphic health warnings, one of the key measures under the WHO Framework Convention on Tobacco Control (FCTC), that make the harms of tobacco impossible to ignore.

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.)

● **UEFA Champions League**

— Paris Saint-Germain (PSG) won the Champions League for the first time after defeating Inter Milan in the finals by 5-0.

— Luis Enrique, who won the 2015 Champions League with Barcelona, became the seventh coach to win the trophy with two different teams, in the footsteps of greats Carlo Ancelotti, Pep Guardiola and Jose Mourinho.

● **IPL 2025**

— Royal Challengers Bengaluru beat Punjab Kings by 6 runs to win their first IPL trophy in the 18th season.

— Mumbai Indians batter and India T20I captain **Suryakumar Yadav** was named the ‘Most Valuable Player’ (Player of the tournament) of the Indian Premier League 2025 season.

— Both Mumbai Indians and Chennai Super Kings are two of the most successful sides in the history of IPL, having won five titles each.



Virat Kohli after RCB won the IPL 2025 trophy. (Sportzpics)

● **French Open 2025**

— Wimbledon, French Open, US Open, and Australian Open are the most prestigious events on the annual tennis calendar, bestowed with the moniker of “Grand Slam”, a term that has been in use for almost a century.

Winners of the French Open 2025

Category	Winners	Runner up
Women’s Singles	Coco Gauff (American)	Aryna Sabalenka (Belarusian)
Men’s Singles	Carlos Alcaraz (Spanish)	Jannik Sinner (Italian)
Women’s Double	Sara Errani and Jasmine Paolini	Kazakh Anna Danilina and Aleksandra Krunić
Men’s Double	Marcel Granollers and Horacio Zeballos	Joe Salisbury and Neal Skupski
Mixed Double	Sara Errani and Andrea Vavassori	Taylor Townsend and Evan King

• World Test Championship

— South Africa claimed its first International Cricket Council (ICC) trophy in 27 years after beating Australia by five wickets in the World Test Championship (WTC) final at Lord's.

— The World Test Championship points table is independent of the ICC Test rankings.

— **Point system:** Each series has 120 points. Accordingly, in a two-match series, 60 points is awarded for a win, 30 points for a tie, and 20 points for a draw. No point is awarded for a defeat.



South Africa's captain Temba Bavuma holds the winner's trophy and celebrates with teammates after their win in the World Test Championship final against Australia at Lord's cricket ground in London, Saturday, June 14, 2025. (AP Photo/Kirsty Wigglesworth)

- In a three-match series, 40 points are awarded for a win, 20 points for a tie, and 13 points for a draw.
- In a four-match series, 30 points are awarded for a win, 15 points for a tie, and 10 points for a draw.
- In a five-match series, 24 points are awarded for a win, 12 points for a tie, and 8 points for a draw.

Join FREE Whatsapp Channel <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

• Paris Diamond League 2025

— Indian javelin throw ace Neeraj Chopra won the Paris Diamond League 2025 with a throw of 88.16m.

— Germany's Julian Weber finished second with the throw of 87.88m.

• 2025 ISSF World Cup, Munich

— India team won a total of four medals – two gold and two bronze – which saw them end in third spot at the overall standings behind the People's Republic of China and Norway.

Winner	Category	Medal
Suruchi Singh	Women's 10m air pistol	Gold Medal
Arya Borse/Arjun Babuta	10m air rifle mixed team	Gold Medal
Sift Kaur Samra	Women's 50m rifle 3 positions	Bronze Medal
Elavenil Valarivan	Women's 10m air rifle	Bronze Medal

● **FIDE World Rapid Team Championship**

— Team MGD1, with Indian Grandmasters Arjun Erigaisi as their star player and N Srinath as the non-playing captain, won the FIDE World Rapid Team Championship 2025 in London on 21st June, 2025.

— A Pune-based chess management firm, Team MGD1 became the first Indian team to achieve this feat in the tournament's brief three-year history.

— The FIDE World Rapid and Blitz Team Championships 2025 is an event open to any team around the globe that meets the official requirements. According to FIDE, the teams can be made of club members, members of different federations or any other chess players.

— Each team must have at least six and no more than nine players. The teams also have to include at least one female player and one recreational player who is defined as “one who never achieved FIDE Standard, Rapid or Blitz Rating of 2000 Elo points (or unrated) up to and including the March 2025 rating lists.

— The total prize fund is €500,000, with €310,000 allocated to the rapid event and €190,000 to the blitz event.



Atharvaa Tayade and his teammates celebrate their win at the FIDE World Rapid and Blitz Team Championship. (Rafal Oleksiewicz via FIDE)

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

With reference to the geographical indication (GI) tag, consider the following statements:

1. A GI tag helps preserve traditional knowledge, cultural heritage, and the livelihoods of its local practitioners.
2. GI tags are transferable and can be licensed like trademarks.
3. A GI can be or become a generic name for a product.

How many of the statements given above are correct?

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

QUESTION 2

Which of the following states has launched a project to boost the income of farmers by promoting the cultivation of Queen Pineapple?

- (a) Meghalaya
- (b) Tamil Nadu
- (c) Sikkim
- (d) Tripura

QUESTION 3

The semaglutide and tirzepatide medicines are used for the treatment of:

- (a) Cancer
- (b) HIV

- (c) Type-2 diabetes and obesity
- (d) Tuberculosis

QUESTION 4

The term “Docking” with reference to the space refers to:

- (a) Where two spacecraft are parked at different positions in space.
- (b) When a spacecraft changes its position to prevent collision with other spacecraft.
- (c) Where two spacecraft moving at extremely high speeds but not relative to each other, are aligned in a precise orbit and joined together.
- (d) When two spacecraft are launched together in the same orbit with different purposes.

QUESTION 5

Consider the following projects:

1. A tunnel at Pir ki Gali
2. Sadhna tunnel
3. Stretch from Zaznar to Shopian
4. Resurfacing of the Trehgam-Chamkote road

The above mentioned projects have been approved for:

- (a) Himachal Pradesh
- (b) Jammu and Kashmir
- (c) Uttarakhand
- (d) Arunachal Pradesh

QUESTION 6

With reference to the Banakacherla reservoir plan, consider the following statements:

1. This is the first step to enhance the Polavaram Right Main Canal's capacity.
2. The Banakacherla reservoir project is meant to transform Andhra Pradesh's drought-prone Rayalaseema region into a fertile land.

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 7

Which of the following decisions were taken during the Emergency of 1975?

1. The federal structure was converted into a de facto unitary one.
2. Almost all opposition leaders were detained.
3. Fundamental rights, including the freedom of speech and expression guaranteed under Article 19(1)(a), were curtailed.
4. Newspapers were subjected to pre-censorship.

Select the correct answer using the codes given below:

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

QUESTION 8

With reference to the International Atomic Energy Agency (IAEA), consider the following statements:

1. It was created in 1957 in response to the deep fears and expectations generated by the discoveries and diverse uses of nuclear technology.

2. In 2005, the Norwegian Nobel Committee awarded the Nobel Peace Prize to the International Atomic Energy Agency.

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 Ambubachi Mela, which is held during the monsoon, takes place in:

- (a) Assam
- (b) Maharashtra
- (c) Karnataka
- (d) Kerala

QUESTION 10

With reference to the "bunker buster" MOP, consider the following statements:

1. It is designed to attack deeply-buried facilities and hardened bunkers and tunnels.
2. It is meant to destroy targets in well-protected facilities.
3. It is heavy and can only be dropped using the B-2 Spirit stealth bomber.

How many of the statements given above are correct?

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

QUESTION 11

Which of the following straits lies between Oman and Iran, connecting the Gulf of Oman to the Persian Gulf and, beyond that, to the Arabian Sea?

- (a) Strait of Hormuz
- (b) Strait of Malacca
- (c) Strait of Sicily
- (d) Strait of Gibraltar

QUESTION 12

‘Gwada Negative’, recently seen in news, refers to:

- (a) term used during an unsuccessful start of a space mission
- (b) an international clause for ceasefire
- (c) a new foul in the game of chess
- (d) a new blood group

QUESTION 13

Consider the following:

1. Agro-Meteorological Advisory Services (AAS)
2. Multi-Hazard Early Warning Systems (MHEWS)
3. Air Quality Early Warning System (AQEWS)

Which of the above given systems/services are related to the India Meteorological Department (IMD) ?

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

QUESTION 14

With reference to Union Government’s recent announcements, consider the following statements:

1. Bihar is set to become one of the first states in India to establish a nuclear power plant.
2. The Centre cleared a proposal to set up the South Asia regional centre of the Peru-based International Potato Center (CIP) in Mohali district of Punjab.

Which of the statements given above is/are true?

- (a) Only 1
- (b) Only 2

- (c) Both 1 and 2
- (d) Neither 1 nor 2

QUESTION 15

With reference to NATO Summit 2025, consider the following statements:

1. Nato allies (the member nations) made the ambitious 5% GDP defence spending target which would be achieved entirely through core defence spending and weapons.
2. Spain announced it would not adhere to NATO’s defence spending target.

Which of the above given statements is/are true?

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

QUESTION 16

With reference to the Nuclear Non-Proliferation Treaty, consider the following statements:

1. It is aimed at preventing the spread of nuclear weapons and technology, and promoting cooperation in the peaceful uses of nuclear energy.
2. The treaty came into force in 1980.
3. The treaty defines a nuclear state as one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967.
4. India and Pakistan are signatories to the Treaty on the Non-Proliferation of Nuclear Weapons.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

QUESTION 17

Consider the following states/Union Territories:

1. Andaman and Nicobar Islands
2. Gujarat
3. Tamil Nadu
4. Andhra Pradesh

What is the correct chronological order of these states/U.Ts in terms of length of coastline from low to high?

- (a) 1—2—3—4
- (b) 4—3—2—1
- (c) 3—4—1—2
- (d) 4—3—1—2

QUESTION 18

With reference to the Prime Minister Gram Sadak Yojana (PMGSY), consider the following statements:

1. The first phase of the PMGSY was launched in 2000 to improve rural infrastructure through road construction.
2. It is a Centrally Sponsored Scheme.
3. The government has requested states to affix QR codes on all maintenance information display boards for roads constructed under the PMGSY.
4. A mobile-cum-web-based e-MARG (electronic Maintenance of Rural Roads) system is used for managing and monitoring rural road maintenance.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

QUESTION 19

With reference to the INS Arnala, consider the following statements:

1. It is the first of India's Anti-Submarine Warfare Shallow Water Craft (ASW-SWC).
2. It has been commissioned into the Western Naval Command of the Indian Navy.
3. It is named after the historic Fort off Vasai in Maharashtra.

How many of the statements given above are correct?

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

QUESTION 20

With reference to the Cobra Snake, consider the following statements:

1. It is the world's longest venomous snake.
2. It prefers humid, dark forests with thick undergrowth, cool swamps, and bamboo patches across diverse habitats, from highland evergreen and semi-evergreen forests.
3. In India, the king cobra's range includes central India and the Northwest Himalayas.

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 21

The drug 'Lenacapavir' was in the news. It is used for:

- (a) Tuberculosis prevention
- (b) Hepatitis C prevention
- (c) Malaria prevention
- (d) HIV prevention

QUESTION 22

With reference to the International Yoga Day, consider the following statements:

1. India introduced a resolution in the UN General Assembly to recognise June 21 as International Yoga Day.
2. The theme for International Yoga Day 2025 is 'Yoga for One Earth, One Health'.

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 23

Consider the following countries:

1. Brunei
2. Laos
3. Myanmar
4. Timor-Leste

Which of the countries given above are member states of the ASEAN grouping?

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

QUESTION 24

With reference to the Small Satellite Launch Vehicle (SSLV), consider the following statements:

1. It is a cost-effective vehicle, capable of carrying up to 500 kg payload to low-Earth orbit.
2. IN-SPACe, an independent, autonomous agency under the Department of Space, has won a bid to commercialise the SSLV — the smallest rocket developed by ISRO.
3. It requires minimal launch infrastructure requirements.

How many of the statements given above are correct?

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

QUESTION 25

With reference to the mule account, consider the following statements:

1. It is a bank account used by criminals to launder illicit funds.
2. According to the National Crime Records Bureau (NCRB) data, a significant challenge in preventing financial fraud is the use of money mule accounts.

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 26

Consider the following statements about the Eurasian otter:

1. It has been globally classified as 'near threatened' by the International Union for Conservation of Nature.
2. Recently, it was spotted in the Lidder River in Srigufwara, south Kashmir.
3. It is a semi-aquatic mammal.
4. It is a herbivorous mammal that feeds on fruits and aquatic plants.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

QUESTION 27

With reference to the critical speeds of an aircraft during the take-off phase, consider the following pairs:

1. V_r – It is known as take-off decision speed.
2. V_1 – It is the rotation speed or lift-off speed.
3. V_2 – It is the take-off safety speed.

How many of the pairs given above are correctly matched?

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

QUESTION 28

With reference to the liquid oxygen, consider the following statements:

1. It is a critical component in rocket propulsion which allows the combustion of the main fuel.
2. Oxygen attains a liquid state at very high temperatures well above 180 degree Celsius.
3. Recently, the launch of PSLV-C61 was delayed due to a leak of liquid oxygen.

How many of the statements given above are correct?

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

QUESTION 29

Consider the following statements about the Collection of Real Time Observations & Photo of Crops (CROPIC):

1. It will assist in creating a rich directory of crop signatures and lead to the automation of loss assessment.
2. All crops notified under PMFBY will be covered under CROPIC.

3. It is a pilot study for the research and development of suitable photo-analytic models.

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 30

Consider the following statements:

1. If a spacecraft travels in a curved trajectory upon reaching a certain altitude and velocity, it requires more fuel and energy to expend to counteract the force of gravity.
2. If a spacecraft travels to its destination in a straight trajectory, it would require less fuel.

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 31

Consider the following statements:

Statement I: Indian pulses and oilseeds growers faced all-time-high imports during 2024-25 (April-March).

Statement II: In the case of pulses, the imports are highest in the last decade.

Statement III: In terms of value, the vegetable oil imports almost tripled from 2013-14 to 2022-23.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
- (b) Both Statement II and Statement III are correct but only one of them explains Statement I
- (c) Only one of the Statements II and III is correct

and that explains Statement I

(d) Neither Statement II nor Statement III is correct

QUESTION 32

With reference to the swarm drones, consider the following statements:

1. They are autonomous or semi-autonomous UAVs that operate in coordinated groups.
2. They communicate via wireless networks and adjust in real time to achieve shared objectives.
3. They are more resilient than traditional drones due to in-built redundancy — even if one drone is intercepted, others can continue on the mission.

How many of the statements given above are correct?

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

QUESTION 33

Which of the following is a key passage through which 20–25 per cent of global oil supply transits, as well as a critical corridor for LNG shipments from Qatar and the UAE?

- (a) Strait of Hormuz
- (b) Bab-el-Mandeb
- (c) Strait of Gallipoli
- (d) Bosphorus Strait

QUESTION 34

Despite the government's efforts to diversify the state's crop mix, which of the following states has once again recorded high area under paddy cultivation?

- (a) Kerala
- (b) Haryana
- (c) Punjab
- (d) Madhya Pradesh

QUESTION 35

Consider the following statements:

1. The phenomenon, Aurora Borealis, usually occurs when charged particles, mainly electrons and protons, from the sun interact with gases in Earth's upper atmosphere.
2. The planet's magnetic field redirects these particles towards the magnetic north pole.
3. Geomagnetic storms can redirect the Aurora Borealis beyond its usual range.

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 36

Consider the following statements:

1. Bairabi-Sairang rail project connects three states of North-East India.
2. It will connect Mizoram's capital for the first time with the Indian Railways network.

Which of the above given statements is/are true?

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

QUESTION 37

India recently said that it is currently in the process of ratifying the Biodiversity Beyond National Jurisdiction (BBNJ) agreement. This agreement is also known as:

- (a) Rotterdam Convention Treaty
- (b) Antarctic Treaty System
- (c) Global Environment Facility
- (d) None of the above

QUESTION 38

Operation Rising Lion is recently seen in news with relation to:

- (a) Iran-Israel Conflict
- (b) Baloch insurgency
- (c) Bangladesh political turmoil
- (d) Syrian Civil War

QUESTION 39

Natanz, Fordo, Isfahan and Arak are:

- (a) Important mountain peaks in the Middle East
- (b) Most popular cities of Israel's tech hub
- (c) UNESCO's World Heritage sites in Central Asia
- (d) Iran's key nuclear facility

QUESTION 40

With reference to The Global Gender Gap 2025, consider the following statements:

1. It assesses gender equality across four dimensions – Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment.
2. India's position in the Global Gender Gap Report 2025 has deteriorated from 2024.

Which of the statements given above is/are true?

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

QUESTION 41

With reference to the railways in Jammu and Kashmir, consider the following statements:

1. The first railway line in the former princely state of Jammu and Kashmir was built by the British in 1897.
2. The first railway line was built over a distance of 40-45 km between Jammu and Rawalpindi.

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 42

Consider the following statements:

1. This volcano is the highest in Italy south of the Alps, and it is the largest of Europe's active volcanoes.
2. It has five craters, which are responsible for most of the volcano's eruptions. "Flank" eruptions also occur at the 300-odd vents of varying sizes along the slopes of the mountain.
3. It has been a World Heritage Site since 2013.

The statements given above refer to:

- (a) Hawaii Volcanoes National Park
- (b) Volcanoes of Kamchatka
- (c) Stromboli
- (d) Mount Etna

QUESTION 43

With reference to the Delimitation, consider the following statements:

1. Delimitation is mandated under Articles 81 and 82 of the Constitution of India.
2. The 42nd Amendment to the Constitution, passed during the Emergency, froze the total number of Parliamentary and state Assembly seats until the 2001 Census.
3. The Delimitation Commission would be headed by a retired Supreme Court judge and would have a Chief Election Commissioner and State Election Commissioner as members.

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 44

Which of the languages is/are the official language of Ladakh under the Ladakh Official Languages Regulation, 2025?

- 1. English
- 2. Urdu
- 3. Purgi
- 4. Balti
- 5. Ladakhi
- 6. Hindi

Select the correct answer using the codes given below:

- (a) 2, 3, 4 and 5
- (b) 1, 2, 3 and 5
- (c) 1, 2, 3 and 6
- (d) 2, 4 and 5 only

QUESTION 45

Recently, on the eve of World Environment Day, Khichan and Menar have been designated as Ramsar sites. These sites are located in:

- (a) Karnataka
- (b) Tamil Nadu
- (c) Rajasthan
- (d) Uttarakhand

QUESTION 46

With reference to vitamin B, consider the following statements:

- 1. These are often praised for boosting energy, supporting brain function, and maintaining healthy skin and metabolism.
- 2. B12 (thiamine) aids nerve function and energy metabolism; a deficiency can lead to fatigue or, in severe cases, nerve damage.
- 3. B1 (cobalamin) is necessary for red blood cell

formation and nerve health.

How many of the statements given above are correct?

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

QUESTION 47

Which of the following countries has launched 'Operation Spider Web', a covert drone attack?

- (a) Turkey
- (b) Syria
- (c) Ukraine
- (d) Lebanon

QUESTION 48

Consider the following statements about the 'Valley of Flowers':

- 1. It is located within the Nanda Devi Biosphere Reserve.
- 2. It is a UNESCO World Heritage Site.
- 3. This region is populated by a local tribe called the Bhotiyas.
- 4. The region encompasses a unique transition zone between the mountain ranges of the Zaskar and Great Himalaya.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

QUESTION 49

The theme of the World Environment Day 2025 was:

- (a) Only One Earth

- (b) Our Land Our Future. We are
#GenerationRestoration
(c) #BeatPlasticPollution
(d) Solutions to plastic pollution

QUESTION 50

Consider the following statements:

1. Freedom Flotilla Coalition is an international movement which works towards “ending the illegal Israeli blockade of Gaza”.

2. Madleen, recently seen in the news, is an aircraft that intends to deliver humanitarian aid to the besieged Gaza Strip.

Which of the above given statements is/are true?

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

Answer Key

1. (a)	2. (d)	3. (c)	4. (c)	5. (b)	6. (c)	7. (d)	8. (c)	9. (a)	10. (c)
11. (a)	12. (d)	13. (d)	14. (a)	15. (c)	16. (b)	17. (b)	18. (d)	19. (b)	20. (a)
21. (d)	22. (c)	23. (b)	24. (b)	25. (c)	26. (c)	27. (a)	28. (a)	29. (d)	30. (d)
31. (a)	32. (c)	33. (a)	34. (c)	35. (d)	36. (b)	37. (d)	38. (a)	39. (d)	40. (b)
41. (a)	42. (d)	43. (d)	44. (c)	45. (c)	46. (a)	47. (c)	48. (d)	49. (c)	50. (a)

Detailed Explanations:

For a detailed explanation, visit indianexpress.com/section/upsc-current-affairs/ . Click on the UPSC Quiz tab and explore weekly current affairs quizzes from June 2025.

Correction in June 2025 Issue Magazine

**Question No. 30
(Magazine)**

With reference to the Asiatic lions, consider the following statements:

1. It is slightly smaller than the African lion.
2. The habitat of the Asiatic lions is Dry deciduous forest.
3. Categorised as ‘critically endangered’ under the IUCN Red List.
4. They have colonised new areas in the last five years.

How many of the statements given above are correct?

- (a) Only one , (b) Only two, (c) Only three, (d) All Four

Correct answer: (c) – Statement 3 is incorrect.

Asiatic Lions are listed as Vulnerable on IUCN Red List .