COMPLETE EDITION

CURRENT AFFAIRS MAY 2026

GS PAPER 1 + 2 + 3 · ALL FIVE PARTS EACH

GS Paper 1 — Indian Society, Women & Polity

14 Pages · 10 MCQs

Women & Men in India 2025 Report · Gen Z & Democracy · Women's Safety & POCSO · Patriarchy & Public Health · Intercaste Marriages

GS Paper 2 — Polity, Governance, IR & Social Sector

50 Pages · 40 MCQs

10th Schedule · PAI 2.0 · Jan Suraksha · DPI@2047 · NEET Crisis · Medical Tourism · RTE Act · School Education · Strategic Autonomy · India-Nordic & NPT · India-Italy & UAE · IMEC · CAA Rules · Ordinance Power · Sedition Law · MTP Act · Schemes & International Orgs

GS Paper 3 — Economy, Energy, Environment & Science

33 Pages · 35 MCQs

AI Financial Inclusion · Orange Economy & TFP · Rupee Depreciation & Capital Flight · Energy Security & Iran War · EV Grid & Bioenergy · Dual-Use Satellites · Cyber Warfare · Make in India Defence · Sand & Sustainability · COP31 & AERB · IBCA & Asiatic Lions · Species in News · Mission Drishti & Shukrayaan · Hantavirus & Ebola · AI Agents · Defence & Military Exercises

97	~125	97	3	5+
TOPICS COVERED	MCQS WITH EXPLANATIONS	CONTENT PAGES	GS PAPERS COMPLETE	CROSS-LINKED TOPICS

WHAT'S INSIDE

Prelims MCQs · Mains Analysis · Way Forward · Data Boxes · Comparison Tables · Case Studies · Species Compendium · Defence Technologies · IR Summits · Cross-Reference Guide

◆ This edition includes a Cross-Reference Guide (next page) linking overlapping topics across GS Papers ◆

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GS PAPER 1

Indian Society

SUBIndian Society

TOPICS COVERED IN THIS SECTION

- Women & Men in India 2025
- Gen Z & Democracy
- Section 69A IT Act
- Women's Safety
- POCSO Act
- SHE Teams
- Patriarchy & Public Health
- ASHA Workers
- Intercaste Marriages
- Special Marriage Act
- Shakti Vahini Case
- Dr Ambedkar Scheme

14 PAGES | **5** TOPICS | **10** MCQS

UPSC GS·1

CURRENT AFFAIRS MAGAZINE · MAY 2026 EDITION

P1
Indian Society & Women

PART ONE OF FIVE

Indian Society, Women & Democracy

GS·1 INDIAN SOCIETY WOMEN POLITY

SALIENT FEATURES OF INDIAN SOCIETY | GS·1 · MAINS

Women and Men in India 2025 Report

The 27th edition released by MoSPI in Bhubaneswar — institutionalized since 1995, covering 50 gender-disaggregated indicators across population, health, education, economic participation and violence.

KEY DATA & STATISTICS AT A GLANCE

30.2
Female GER in Higher Education (2022–23) — surpassed male GER of 28.9

14.4%
Literacy gap still persists between men & women (age 7+)

88
MMR (2021–23) — down from 254 in 2004–06 (per 1 lakh live births)

102.5%
Rise in women in managerial positions (2017–25), outpacing men at 73.8%

24.3
Mean age at marriage for women (2023) — reflecting delayed marriages

1.7%
Women who underwent cervical cancer screening during NFHS-5 — critically low

917
Sex Ratio at Birth (per 1000 boys), 2021–23 — up from 904 in 2017–19

+8.4pp
Rise in Rural Female LFPR within just 3 years; total 45.9% (2022–25)

✓ SIGNS OF PROGRESS

- **Educational Parity:** Gender parity achieved across all school levels; Female GER in higher education now leads at 30.2 vs male 28.9

✗ PERSISTENT GAPS

- **Health Screening:** Only 1.7% cervical cancer screening; breast cancer screening also critically low

First time female GER surpasses male in higher education

- **Economic Breakthrough:** Women entering leadership faster than men — 102.54% rise in managerial roles
- **Health Gains:** MMR declined from 254 → 88; sustained fall in infant mortality
- **Delayed Marriage:** Mean marriage age at 24.3 — enabling longer career windows
- **Rural LFPR Surge:** Rural females rose 37.5% → 45.9% in 3 years

Urban-rural divide in awareness and access

- **Literacy Gap:** 14.4 percentage-point gap remains for age 7+ — older generations most affected
- **Unpaid Care Work:** Women spend disproportionately more time on domestic unpaid activities
- **Digital Vulnerability:** Limited digital literacy = higher cybercrime exposure; complaint rates remain low
- **Structural Barriers:** Senior leadership and political representation remain male-dominated

WAY FORWARD

- → **Targeted Screening Campaigns:** Rural cervical and breast cancer awareness, especially ASHAs and Anganwadi workers
- → **Adult Literacy for Older Women:** Prioritize 14.4% gap through Saakshar Bharat 2.0-type programmes
- → **Digital Literacy:** Integrate cyber safety in PM e-Vidya and Skill India; set up dedicated cybercrime help desks
- → **Evidence-Based Policy:** Use 50 indicators and metadata for gender-responsive local governance planning

CONCLUSION — India has made measurable strides in female education, workforce participation, and reduced maternal mortality — yet deep structural inequalities in health screening, literacy, and digital access persist. Policy must be data-driven, locally tailored, and sustained.

PRELIMS PRACTICE

Q.01

With reference to the 'Women and Men in India 2025' report, consider the following statements:

1. Female Gross Enrolment Ratio in higher education has now surpassed the male GER for the first time.

2. The Maternal Mortality Ratio has declined to below 100 as of 2021–23.

3. Rural female Labour Force Participation Rate has decreased over the past three years.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q.02

Which of the following is NOT highlighted as a 'Persistent Inequality' in the Women and Men in India 2025 report?

(a) Low cervical cancer screening rates among women

(b) 14.4 percentage point literacy gap between men and women

(c) Declining female representation in managerial roles

(d) Disproportionate burden of unpaid care work on women

Q.03

The 'Women and Men in India' report is published by which of the following?

(a) Ministry of Women and Child Development

(b) NITI Aayog

(c) Ministry of Statistics and Programme Implementation (MoSPI)

(d) National Commission for Women

Gen Z and Democracy

Context: Central Government used Section 69A of the IT Act to block the 'Cockroach Janta Party' — a satirical online movement by a 30-year-old student that gained 2 crore followers in days, riding Gen Z anger over NEET leaks and unemployment.

Key Concept: Gen Z (born 1997–2012) engages with democratic institutions through digital-first, networked participation — unlike earlier generations shaped by physical grassroots mobilization. The CJP episode is a lens to examine tensions between online activism, state power, and democratic institutions.

SOCIAL MEDIA STRENGTHENS DEMOCRACY

- **Democratization of Dissent:** Bypasses traditional media gatekeepers; marginalised youth get a voice
- **Low-Cost Mobilization:** Ideas can scale nationally without financial backing
- **Governance Accountability:** Exposes corruption and policy failures in real-time
- **Creative Engagement:** Satire, memes, and visual storytelling simplify policy for mass audiences
- **Global Solidarity:** Connects local grievances with international human rights frameworks

CHALLENGES TO DEMOCRACY

- **Virtual-Ground Disconnect:** 2 crore Instagram followers yet no offices or grassroots volunteers — artificial momentum
  CJP example
- **Disinformation Loops:** Algorithm-driven outrage spreads panic before facts are verified
  NEET leak panic
- **Foreign Influence Risk:** External actors can exploit domestic grievances
  CJP's rapid expansion raised cross-border influence suspicions
- **State Overreaction:** Emergency censorship via Section 69A without public hearings
- **Political Polarization:** Meme culture simplifies complex issues into hostile binaries

SECTION 69A OF IT ACT — WHAT YOU MUST KNOW

KEY LEGAL CONTEXT

Section 69A	IT Act, 2000 — empowers Central Government to block online content in interests of sovereignty, security, public order, or preventing cognizable offences. Orders are issued confidentially.
Shreya Singhal	Supreme Court (2015) struck down Section 66A as unconstitutional but upheld Section 69A as having procedural safeguards
Criticism	Blocking orders are not disclosed to users; no pre-decisional hearing is required; satire is often misclassified as a security threat

WAY FORWARD

→ **Protect Digital Satire:** Treat online humor as legitimate democratic expression protected under Article 19(1)(a)

→ **Reform Section 69A:** Mandate transparent public hearings before blocking; publish blocking orders with reasons

→ **Youth Advisory Councils:** Non-partisan youth assemblies in legislatures to channel Gen Z concerns into policy

→ **AI Fact-Checking Collaboration:** Differentiate domestic satire from foreign bot networks

→ **Political Recruitment Reform:** Reduce dynastic and financial barriers for young digital creators to contest elections

CONCLUSION — The CJP episode reveals a widening chasm between Gen Z and traditional democratic institutions. India urgently needs inclusive, transparent, and digitally responsive governance — treating online dissent as a democratic resource, not a security threat.

PRELIMS PRACTICE

Q.04

Consider the following statements about Section 69A of the Information Technology Act, 2000:
1. It empowers the Central Government to block online content on grounds of national security and public order.
2. The Supreme Court declared Section 69A unconstitutional in the Shreya Singhal case.
3. Blocking orders under Section 69A are issued confidentially and need not be disclosed to affected parties.
Which of the statements given above is/are correct?

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q.05

Which of the following best describes the concept of 'Virtual-Ground Disconnect' in the context of Gen Z political mobilization?

(a) The inability of youth to access the internet in rural areas

(b) Massive online popularity without corresponding real-world organizational structures

(c) The decline of physical voter turnout among digital-native generations

(d) Digital exclusion of marginalized communities from political participation

The Road to Women's Safety

Context: A high-profile POCSO case against a Union Minister's son in Telangana became a litmus test for judicial impartiality and institutional response to gender-based violence.

DATA ON WOMEN'S SAFETY

3.4%
Rise in registered crimes against women — 22,066 (2022) → 24,495 (2024), per NCRB

73
Individuals against whom legal action was initiated for coordinated online trolling recently

40
Men approached an undercover officer in 1 session at a city junction (safety audit finding)

SHE
SHE Teams — Telangana Police's dedicated undercover units for public safety operations

DUAL THREAT LANDSCAPE

ONLINE SPACE RISKS

- **AI-Powered Attacks:** Bots enable large-scale sexualized smear campaigns
- **Organised Trolling:** Coordinated groups threaten and spread disinformation to silence women
- **Anonymity Shield:** Hidden identities let offenders evade cybercrime prosecution
- **Mental Harm:** Digital harassment damages career prospects and mental health

OFFLINE SPACE RISKS

- **Casual Sexism:** Stalking, remarks, harassment in public spaces remain normalized
- **Domestic Violence:** Persistent threat at home, often underreported
- **Workplace Hostility:** Sexist cultures weaken women's authority
- **Power Imbalance:** Influential accused obstruct access to justice

INITIATIVES — TELANGANA MODEL

'Stand With Her'

Launched by CM (March 2026) — mainstream conversations on sexism; engage men as allies

Special Investigation Teams

SITs constituted to probe digital smear campaigns and blind items targeting women in official positions

Technical Policing

Telangana Police uses UAPA and stringent laws to unmask anonymous online abusers

SHE Teams

Expanded dedicated undercover units providing immediate assistance and identifying molesters

WAY FORWARD

→ **Uniform Legal Enforcement:** Equal treatment regardless of accused's social standing; fast-track POCSO cases

→ **Digital Literacy & Protection:** Strengthen laws against digital smear while protecting free expression

→ **Mandatory Gender Sensitivity:** Training for police, judiciary, and public institutions

→ **AI-Based Cyber Tracing:** Invest in AI tools to detect bot-driven harassment networks rapidly

PRELIMS PRACTICE

Q.06

POCSO Act, 2012 protects children from sexual offences. Which of the following statements about the Act is/ are correct?

1. It defines a child as anyone below 18 years of age.

2. It mandates Special Courts for trial of offences under the Act.

3. It contains gender-neutral provisions applicable to both boys and girls.

(a) 1 and 2 only

(b) 2 only

(c) 1, 2 and 3

(d) 1 and 3 only

Patriarchy, Public Health & Power

Why Women Must Lead India's Health Governance — entrenched patriarchal structures continue to hinder gender equity; sex ratio at birth remains at 917 per 1,000 boys.

WOMEN'S HEALTH — KEY NUMBERS

917
Sex Ratio at Birth (girls per 1000 boys) — vs natural ~950. Persistent sex-selective practices

~60%
Women of reproductive age suffer from anaemia; ~40% have sub-optimal BMI

97
Maternal Mortality Ratio (per 1 lakh live births, 2018–20)

23%
Women aged 20–24 married before 18 — high-risk teenage pregnancies

PATRIARCHY AS HIDDEN DISEASE IN PUBLIC HEALTH

Reproductive Reductionism

Women's healthcare narrowed to reproductive roles; lifelong health needs ignored

Panch Pati System

Elected women representatives undermined by male relatives in local health governance

Centralized Policy

Excessive centralization limits gender-sensitive local inputs in healthcare planning

Male Child Preference

Patriarchal attitudes weaken PCPNDT Act enforcement; skewed SRB persists

WOMEN AS INVISIBLE PILLARS — THE PARADOX

India's frontline health system runs on women — ASHAs, Anganwadi workers, ANMs, and nurses form the backbone. Yet they are paid as 'honorary' workers, denied formal employment status, fair wages, and social security. The MoHFW's senior policymaking remains overwhelmingly male-dominated.

STRUCTURAL BARRIERS TO ACCESS

- **Facility Gaps:** Shortage of female doctors and medicines in PHCs
- **Transport Barriers:** Distance and unsafe travel delay care
- **Financial Dependence:** No independent banking access limits decisions
- **PMMVY Gaps:** Excludes mothers below 19; inadequate wage compensation

STATE-LEVEL INEQUALITY

- **Kerala:** Lowest barriers to healthcare access — model state
- **Gujarat:** Leads in gender inequality in physical health status
- **North-East States:** Better female autonomy and health outcomes generally
- **BIMARU States:** High MMR, child marriage, anaemia burden concentrated here

WAY FORWARD

→ **Reserved Leadership:** Reservations for women in senior MoHFW policymaking positions

→ **Formalize Frontline Workers:** ASHA and Anganwadi workers deserve formal employment status, minimum wage, and social security

→ **Decentralized Planning:** Restore participatory local health planning led by women at village level

→ **Dignified Infrastructure:** Functional toilets, delivery rooms, and gender-sensitive facilities in every PHC

→ **Universal PMMVY:** Expand to all mothers; increase compensation to actual wage loss amount

CONCLUSION — India's healthcare transformation requires dismantling patriarchal power structures at every level — from the village anganwadi to the ministry boardroom. Women must lead governance, policymaking, and resource management as equal citizens, not just reproductive vessels.

PRELIMS PRACTICE

Q.07

With reference to the Pradhan Mantri Matru Vandana Yojana (PMMVY), which of the following statements is/ are correct?

1. It is a conditional cash transfer scheme for pregnant and lactating mothers.

2. The benefit is currently restricted to the first living child of a family.

3. It is implemented under the Ministry of Labour and Employment.

(a) 1 and 2 only

(b) 1 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q.08

The 'Panch Pati' phenomenon, often cited in the context of local governance in India, refers to:

(a) A traditional five-village council system in Rajasthan

(b) A scheme linking five government schemes for women's empowerment

(c) Male relatives (especially husbands) exercising de facto control over elected women representatives

(d) The five-tier panchayati raj structure in Andhra Pradesh

Intercaste Marriages and the Unfinished Law

Reports of honour killings and coerced annulment of intercaste marriages in Gujarat — coinciding with Dalit History Month — highlight the persistent gap between constitutional guarantees and ground reality.

KEY DATA & STATISTICS

5–6%
Share of intercaste marriages in total marriages — despite 75 years of independence

₹2.5L
Financial incentive under Dr Ambedkar Scheme for intercaste couples with a Dalit partner

2018
SC (Shakti Vahini case) declared Khap Panchayat interference in consensual adult marriages illegal

30 days
Public notice requirement under Special Marriage Act — which critics say tips off hostile families

LEGAL FRAMEWORK

ARTICLE 21

Right to Marry

SC recognizes Right to Marry as part of Right to Life and Liberty (Art 21)

SMA, 1954

Special Marriage Act

Enables marriage between any two Indians regardless of religion or caste, without conversion

HMA, 1955

Hindu Marriage Act

Does not prohibit intercaste marriages between Hindus (incl. Sikhs, Jains, Buddhists)

SC/ST Act, 1989

Atrocities Act

Legal shield against violence/harassment when one partner is Dalit or Tribal

DRIVERS OF RISE

- **Higher Education:** Universities forge relationships beyond caste boundaries
- **Economic Independence:** Urban migration reduces traditional family control
- **Digital Connectivity:** Social media enables contact outside caste matchmaking
- **Judicial Awareness:** SC protections embolden couples to seek legal help
- **Ambedkarite Influence:** Anti-caste movements frame intercaste marriage as social revolution

PERSISTENT CHALLENGES

- **Caste Endogamy:** Reciprocal Sata Pratha exchange systems reinforce caste boundaries through violence
- **Police Apathy:** Law enforcement prioritizes community norms over constitutional rights
- **Patriarchal Honor:** Women treated as carriers of caste purity
- **Organized Moral Policing:** Extremist networks coerce couples into separation
- **SMA Notice Risk:** 30-day public notice provision endangers couples before legal protection begins

WAY FORWARD

→ **Repeal Notice Requirement:** Amend Special Marriage Act to remove 30-day public notice — it endangers couples

→ **Neutral Policing:** Enforce Shakti Vahini SC ruling strictly; action against officers who side with family pressure

→ **Textbook Reform:** Normalize intercaste marriage as social integration in school curricula

→ **Suo Motu Courts:** Proactive judicial intervention against community coercion and honour killings

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CONCLUSION — Intercaste marriage reflects the unfinished battle between constitutional freedoms and entrenched caste patriarchy. Only 5–6% intercaste marriages after 75 years of independence — a damning figure that demands transformative legal, educational, and social action.

PRELIMS PRACTICE

Q.09

Consider the following statements about the Special Marriage Act, 1954:

1. It allows marriage between persons of different religions or castes without religious conversion.

2. It requires a 30-day public notice before solemnization of marriage.

3. It applies only to Hindus and Muslims, not to persons of other faiths.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q.10

In the context of the 'Shakti Vahini v. Union of India' (2018) judgment, which of the following is correct?

(a) The Supreme Court upheld the constitutional validity of Khap Panchayats as traditional dispute resolution bodies

(b) The court ruled that parents have the right to object to intercaste marriages under personal law

(c) The court declared Khap Panchayat interference in consensual adult marriages illegal and directed states to prevent honour killings

(d) The court directed states to criminalize intercaste marriages to preserve cultural traditions

GS PAPER 2

Polity & Governance

SUBPolity & Governance

TOPICS COVERED IN THIS SECTION

10th Schedule · PAI 2.0 · Jan Suraksha · DPI@2047 · Data Governance · NEET Crisis · Medical Tourism · RTE Act · NEP 2020 · Fathers in Reproductive Health · Strategic Autonomy · India-Nordic · NPT Review · India-Italy · India-UAE · IMEC · CAA Rules 2026 · Ordinance Power · Sedition Law · MTP Act · VB-GRAMG Act · OPEC+ · Kimberley Process · IORA · Padma Awards · BHAVYA

50 PAGES | **15** TOPICS | **40** MCQS

UPSC GS·2
CURRENT AFFAIRS MAGAZINE · MAY 2026 EDITION

P1
Polity & Governance

PART ONE OF FIVE · GS PAPER 2

Polity, Local Bodies, Governance & Digital Infrastructure

GS·2 | POLITY | GOVERNANCE | SCHEMES

POLITY — CONSTITUTIONAL PROVISIONS | GS·2 · PRELIMS · MAINS

The Debate Over the 10th Schedule

The AAP–BJP merger dispute exposed structural weaknesses in India's Anti-Defection Law. The Subhash Desai (2023) ruling reaffirmed that legislative wings cannot function independently of their parent political organisations — reigniting calls for reform.

10TH SCHEDULE — QUICK REFERENCE

Added by	52nd Constitutional Amendment Act, 1985 (Rajiv Gandhi)
Purpose	Combat "Aaya Ram Gaya Ram" culture of opportunistic defections
Strengthened by	91st Amendment (2003) — raised merger threshold to 2/3, deleted 1/3 split provision
Disqualification grounds	Voluntarily giving up party membership OR voting against party whip
Merger exception	Para 4: Not applicable if 2/3 of legislative members agree to merge
Deciding authority	Speaker/Chairman — acts as tribunal (Kihoto Hollohan case, 1992)
Judicial review	Allowed — Speaker's decision is subject to HC/SC review
Nominated members	Have 6 months to join a party without disqualification
Independent members	Disqualified if they join any party after election

SUCCESSES & FAILURES

WHAT WORKED

- **Government Stability:** Reduced horse-trading; fewer mid-term collapses
- **Party Discipline:** Mandatory whip system strengthened legislative cohesion
- **Democratic Accountability:** Legislators held accountable to electoral mandate
- **Judicial Oversight:** Courts empowered to check biased Speaker actions

WHAT FAILED

- **Speaker Bias:** Presiding officers linked to ruling parties delay or dismiss petitions
- **Wholesale Defection:** Two-thirds rule enables mass defections — penalises individual but permits organised group defections
- **No Time Limit:** No statutory deadline; petitions can remain pending for years

Key case 2023	Subhash Desai v. Principal Secretary — legislative wing ≠ organisational party

- **Conscience Erosion:** Strict whips prevent legislators from voting their constituency's interests

THE SUBHASH DESAI JUDGMENT (2023) — KEY TAKEAWAY

What the SC held: In the Maharashtra political crisis, the Supreme Court clarified that the legislative party (MLAs/MPs) and the organisational party (party constitution, party president, executive) are distinct entities. A legislative wing cannot independently claim to be the "original party" for purposes of Para 4 merger. The real political party is the one recognised by the Election Commission — not the faction that controls the legislature. This ruling narrows the merger loophole significantly.

WAY FORWARD

- → **Independent Tribunal:** Transfer disqualification powers from Speaker to independent tribunal or Election Commission — remove conflict of interest
- → **Statutory Time Limit:** Convert SC's 3-month disposal recommendation into a binding statutory requirement
- → **Limit the Whip:** Restrict mandatory whip to confidence motions and money bills only — allow free voting on other issues
- → **Close Merger Loophole:** Reassess the 2/3 rule to prevent organisational takeovers engineered against party leadership
- → **Define "Original Party":** Enact statutory definition aligned with Subhash Desai ruling — ECI recognition as determinative

PRELIMS PRACTICE

Q.01

Consider the following statements about the Tenth Schedule of the Indian Constitution:
1. It was inserted by the 52nd Constitutional Amendment Act, 1985.
2. A member is disqualified if they voluntarily give up membership of their political party.
3. The Speaker's decision on disqualification is final and not subject to judicial review.
Which of the statements given above is/are correct?

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

Q.02

The "merger exception" under Para 4 of the Tenth Schedule (after the 91st Amendment, 2003) requires:

(a) At least one-third of the legislative party to agree to merge with another party

(b) Simple majority of the legislative party to agree to merge

(c) At least two-thirds of the legislative party members to agree to the merger

(d) Unanimous consent of all legislative party members

Q.03

The Subhash Desai v. Principal Secretary (2023) judgment is significant because it:

(a) Transferred the power of disqualification from the Speaker to the Election Commission permanently

(b) Held that the 10th Schedule is unconstitutional as it violates the right to free speech

(c) Clarified that the legislative wing of a party cannot act independently of the original political party for merger purposes

(d) Allowed the Shiv Sena faction to claim the original party symbol based on legislative strength

LOCAL BODIES — PANCHAYATI RAJ

GS·2 · PRELIMS · MAINS

Panchayat Advancement Index (PAI) 2.0 Report

India's first data-driven framework for assessing over 2.5 lakh Gram Panchayats — 97.3% participation across 33 States/UTs (up from 80.79% in v1.0) using 150 indicators and 230 data points across 9 LSDG themes.

KEY DATA — PAI 2.0 AT A GLANCE

2,59,867

Gram Panchayats assessed across 33 States/UTs — 97.3% participation rate

3,635

Front Runner (Grade A) Panchayats by composite score — top performers

1,18,824

Performer (Grade B) Panchayats — largest segment at ~45.72% of total

150

Indicators in v2.0 (rationalised from 516 in v1.0) for sharper, actionable focus

9 LSDG THEMES — LOCALISATION OF SDGS

THEME 1 **Poverty Free & Enhanced Livelihoods**	THEME 2 **Healthy Panchayat**	THEME 3 **Child-Friendly Panchayat**
THEME 4 **Water Sufficient Panchayat**	THEME 5 **Clean & Green Panchayat**	THEME 6 **Self-Sufficient Infrastructure**
THEME 7 **Socially Just & Socially Secured**	THEME 8 **Good Governance Panchayat**	THEME 9 **Women Friendly Panchayat**

SUCCESS STORIES

- **Evidence-Based Planning:** Top GPs use PAI scores to strengthen Gram Panchayat Development Plans (GPDPs)
- **Learning Hubs:** Front Runner GPs evolve into peer-learning centres — promoting exposure visits
- **Gram Sabha Validation:** Enhances administrative transparency and citizen participation
- **Real-Time Dashboards:** Automatic data integration from Union Ministries reduces reporting burden
- **Theme Successes:** 3,313 GPs achieved A+ in Livelihoods; Health Outcomes showed strong gains

PERSISTENT CHALLENGES

- **Regional Imbalance:** Bihar — thousands in Aspirant category, very few Front Runners
  Manipur & Meghalaya have many Grade D Beginners
- **Digital Barriers:** Remote GPs in Arunachal & Nagaland struggle with data reporting
  Many remain in Grades C & D due to reporting difficulties
- **Infrastructure Deficit:** UP still has 6,100+ Beginner-category Panchayats
- **Resource Dependency:** Heavy reliance on state grants restricts autonomous development
- **Not on board:** West Bengal; Delhi & Chandigarh excluded (lack GPs)

WAY FORWARD

- → **Targeted Resourcing:** Use PAI scores to direct additional funds toward 1,23,719 Aspirant-category Panchayats
- → **Capacity Building:** Specialised training for elected representatives in Beginner-category GPs for data-based governance
- → **Link Awards to PAI:** National Panchayat Awards directly linked to PAI performance scores
- → **Scheme Alignment:** Enable Union Ministries to use PAI 2.0 for evaluating schemes and shaping rural policy

→ **Vernacular Portal:** Multilingual support to help traditional local bodies overcome language barriers

PRELIMS PRACTICE

Q.04

Consider the following statements about the Panchayat Advancement Index (PAI) 2.0:
1. It assesses Gram Panchayat performance using 150 indicators across nine themes aligned with Localisation of SDGs.
2. PAI 2.0 covers all 36 States and Union Territories of India without exception.
3. The largest segment of Gram Panchayats falls in the Performer (Grade B) category.
Which of the statements given above is/are correct?

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

Q.05

The constitutional basis for decentralisation to Panchayati Raj Institutions is found in which amendment?

(a) 42nd Constitutional Amendment Act, 1976
(b) 52nd Constitutional Amendment Act, 1985
(c) 73rd Constitutional Amendment Act, 1992
(d) 86th Constitutional Amendment Act, 2002

GOVERNMENT SCHEMES — SOCIAL SECURITY | GS·2 · PRELIMS · MAINS

11 Years of Jan Suraksha Schemes

Launched May 9, 2015 — India's trio of universal social security schemes covering 94.56 crore enrolments across life insurance, accident insurance, and old-age pension for unorganised sector workers.

PMJJBY

Pradhan Mantri Jeevan Jyoti Bima Yojana

Nature	Life Insurance — ₹2 lakh (death for any reason)
Eligibility	18–50 years; bank/post office A/c holders
Premium	

PMSBY

Pradhan Mantri Suraksha Bima Yojana

Nature	Accident Insurance — ₹2L death/total disability; ₹1L partial
Eligibility	18–70 years; bank/post office A/c holders

APY

Atal Pension Yojana

Nature	Guaranteed pension ₹1,000–₹5,000/month after age 60
Eligibility	18–40 years; non-income-tax payers; bank A/c
Benefits	Guaranteed to subscriber → spouse → corpus to nominee

	₹436/year (~₹2/day, auto-debit)
Coverage	Death from any cause — natural or accidental

Premium	₹20/year (extremely low — <₹2/month)
Coverage	Accidental death or disability only — not natural death

Manager	PFRDA (Pension Fund Regulatory & Development Authority)

Key Distinction (UPSC Trap): PMJJBY covers death from any reason (including natural causes); PMSBY covers only accidental death/disability. A common exam error — and a real-world claim rejection trap when natural deaths are filed under PMSBY.

ACHIEVEMENTS (11 YEARS)

- **Scale:** 94.56 crore cumulative enrolments — near-universal coverage of working-age adults
- **Gender Inclusion:** High female participation; deepened financial autonomy for women
- **PMJDY Integration:** Linked to Jan Dhan ecosystem — automatic enrolment for account holders
- **APY Growth:** Expanding pension footprint for unorganised sector elderly
- **Digital Claims:** Simplified claims process via Jan Suraksha Portal

CHALLENGES

- **Premium Lapse:** Insufficient account balance causes automatic coverage lapse
- **Rural Awareness Gap:** Claim procedures unknown in remote areas; families miss deadlines
- **Inflation Erosion:** ₹2 lakh sum assured offers diminishing real value over 11 years
- **Informal Volatility:** Irregular incomes make APY contributions difficult for daily-wage workers
- **Low Literacy:** PMSBY claims rejected when natural deaths reported under accidental coverage

WAY FORWARD

→ **Enhance Sum Assured:** Periodically revise ₹2 lakh cover under PMJJBY and PMSBY to match inflation

→ **Integrated Product:** Develop unified life + accident + pension product to simplify enrolment for unorganised workers

→ **Last-Mile Literacy:** Expand ASHA/Banking Correspondent outreach in Aspirational Districts for claim awareness

→ **APY Incentives:** Rewards for subscribers maintaining uninterrupted contributions over long periods

PRELIMS PRACTICE

Q.06

With reference to the Pradhan Mantri Suraksha Bima Yojana (PMSBY), consider the following:
1. It provides life insurance cover of ₹2 lakh for death from any cause.
2. The annual premium is ₹20, making it one of the most affordable insurance schemes in the world.

3. The maximum age of eligibility for enrolment is 70 years.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q.07

Atal Pension Yojana (APY) is regulated and managed by:

(a) Insurance Regulatory and Development Authority of India (IRDAI)

(b) Reserve Bank of India (RBI)

(c) Pension Fund Regulatory and Development Authority (PFRDA)

(d) Ministry of Labour and Employment

GOVERNANCE — DATA & DIGITAL INFRASTRUCTURE GS·2 · MAINS

Crisis of Data Governance and Data Standardisation in India

Fragmented, non-standardised databases across ministries create policy inefficiencies, fiscal leakages, and poor interoperability — limiting evidence-based governance and costing India an estimated 4–7% annual fiscal leakage plus ~2.5% of potential GDP (OECD estimate).

KEY DATA — COST OF POOR DATA GOVERNANCE

4–7%
Annual fiscal leakage from inefficient data management and duplicate entries in welfare schemes

2.5%
Of GDP — potential economic gain from improving data sharing (OECD estimate)

17.1M
Ineligible beneficiaries deleted from PM-KISAN alone — saving hundreds of crores

2 + 8

Missing + outdated indicators India submitted for Global Innovation Index 2024 — perception cost

THE FIVE CORE PROBLEMS

1. **Lack of Interoperability**

   Ministries operate in data silos with inconsistent definitions for regions, time periods, and indicators. NITI Aayog flagged regional definition inconsistencies across departments.

2. **Abundance Without Usability**

   Large data volumes exist but remain unusable for policymaking. MPs seeking basic information find it unavailable in standardised formats.

3. **Fragmented Health Tracking**

   Childhood TB data maintained separately in HMIS and other registries — divergent estimates create policy uncertainty.

4. **Outdated Methodologies**

   India submitted outdated indicators for Global Innovation Index 2024 — missing data affects international rankings unfairly.

5. **Inefficient Welfare Delivery**

   Duplicate records cause leakages — bogus LPG connections, fake ration cards caused substantial losses before Aadhaar-seeding corrected them.

KEY INITIATIVES TAKEN SO FAR

National Data Governance Framework Policy (NDGFP)

Transforming data ecosystem; enabling non-personal data access for research and innovation

India Data Management Office (IDMO)

Proposed central body to enforce common standards and protocols across Ministries — needs more authority

National Data & Analytics Platform (NDAP)

NITI Aayog initiative making datasets user-friendly, interoperable, and easy to analyse

Data Governance Quality Index (DGQI)

Tool to assess data readiness and governance quality of Ministries and Departments

WAY FORWARD

- → **Empower IDMO:** Grant IDMO legal authority to audit compliance and resolve inter-ministerial data disputes
- → **National Statistical Standards Manual:** Harmonise definitions with UN System of National Accounts globally

→ **Scale Data.gov.in:** Centralised real-time district-level data repository accessible to all stakeholders

→ **Link DGQI to Performance:** Tie NITI Aayog's DGQI scores to ministry performance reviews and budget incentives

CONCLUSION — Data standardisation is the invisible backbone of effective governance. India's 4–7% fiscal leakage from data failures, and 2.5% lost GDP potential, represent a massive governance dividend waiting to be unlocked through a unified, accountable data ecosystem.

PRELIMS PRACTICE

Q.08

Consider the following statements about India's data governance ecosystem:

1. The India Data Management Office (IDMO) is a statutory body established by an Act of Parliament.

2. The National Data and Analytics Platform (NDAP) is an initiative of NITI Aayog.

3. The Data Governance Quality Index (DGQI) assesses data readiness of Ministries and Departments.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

GOVERNANCE — DIGITAL PUBLIC INFRASTRUCTURE

GS·2 · GS·3 · MAINS

NITI Aayog Launches DPI@2047 Roadmap

Developed by NITI Frontier Tech Hub, EkStep Foundation, and Deloitte — DPI@2047 envisions transforming India's Digital Public Infrastructure from welfare delivery platforms into engines of prosperity, capability, and market access for a $30 trillion economy.

Phase 1: DPI 2.0 (2025–2035)

THEME: REALISING ASPIRATIONS

Core Goal: Empower livelihoods at scale for capable citizens

Focus: Beyond foundational inclusion → drive productivity & opportunity

Sectors: MSMEs, agriculture, education, healthcare via specialised rails

Aim: Establishing mass inclusion for a high-income society

Phase 2: DPI 3.0 (2035–2047)

THEME: ACHIEVING PROSPERITY

Core Goal: Compounding effect via grassroots innovation

Focus: Sustained, high-value local economic growth everywhere

Aim: Transitioning India to Viksit Bharat — Developed India

Outcome: $30 trillion economy with $18,000 per capita income

CHALLENGES TO DPI SCALING

STRUCTURAL BOTTLENECKS

High transaction costs, language barriers, fragmented data, and limited trust in digital systems constrain organic growth

FRAGMENTED ECOSYSTEM

Insufficient local entrepreneurial networks restrict DPI benefits from reaching the last mile — digital infrastructure without economic rails

IMPLEMENTATION SINKS

Digital solutions created without genuine market demand — supply-side push without demand-side pull wastes public investment

PLATFORM DEPENDENCY

Traditional platforms exclude MSMEs from broader value chains — need for ONDC-style open, interoperable alternatives

NITI AAYOG'S FIVE RECOMMENDATIONS

1. **Decentralised State-Led Execution**
   States and districts must lead implementation — context-specific solutions over uniform Central mandates
2. **Iterative 2-Year Transformation Cycles**
   Begin with MSMEs and agriculture; build feedback loops; scale what works — avoid big-bang implementation
3. **District-Level Demand Aggregation**
   Aggregate local demand to support digital entrepreneurs and grassroots innovation — DPI must follow demand, not precede it
4. **AI–DPI Convergence**
   Use AI assistants for personalised, vernacular guidance — bridge the language and literacy barriers that limit DPI adoption
5. **Neutral Global Body**
   Establish international institution to promote India's DPI model — position India's stack (UPI, ONDC, DigiLocker) as global digital public good

India's DPI Stack — What UPSC Must Know:
India's DPI is built on three foundational layers: (1) **Identity** — Aadhaar (1.4B biometric IDs); (2) **Payments** — UPI ($3T+ annual transactions); (3) **Data Exchange** — Account Aggregator framework, DigiLocker. DPI@2047 proposes adding productivity rails for agriculture (AgriStack), health (ABHA), education (APAAR), and MSME (Udyam). India's DPI model is increasingly being adopted by other nations — positioning India as a global digital governance leader.

PRELIMS PRACTICE

Q.09

Which of the following correctly describes India's foundational Digital Public Infrastructure (DPI) stack?
1. Aadhaar provides the identity layer for biometric authentication.

2. UPI (Unified Payments Interface) operates on the payments layer.
3. DigiLocker and Account Aggregator framework operate on the data exchange layer.
Select the correct answer using the code below:

(a) 1 only

(b) 1 and 2 only

(c) 1, 2 and 3

(d) 2 and 3 only

Q.10

DPI@2047, developed by NITI Frontier Tech Hub, envisions India achieving which of the following by 2047?

(a) A $20 trillion economy with 100% internet penetration in rural areas

(b) Complete elimination of the informal economy through digital integration

(c) A $30 trillion economy with $18,000 per capita income, transitioning India to Viksit Bharat

(d) A $15 trillion economy with universal basic digital income for all citizens

UPSC GS·2
CURRENT AFFAIRS MAGAZINE · MAY 2026 EDITION

P2
Governance & Social Sector

PART TWO OF FIVE · GS PAPER 2

Governance, Health, Education & Social Sector Services

GS·2 | HEALTH | EDUCATION | GOVERNANCE

GOVERNANCE — EXAMINATION & INSTITUTIONAL CREDIBILITY | GS·2 · MAINS

NEET 2026 Paper Leak: A Crisis of Examination Governance

Systemic failures by the National Testing Agency (NTA) — recurring paper leaks, rank inflation, administrative lapses — triggered nationwide distrust and Supreme Court intervention, exposing the fragility of India's centralised examination architecture.

CONTEXT & SCALE OF THE CRISIS

24L+
Students appear for NEET-UG annually — world's largest single-day medical entrance examination

100K+
MBBS seats across India — competition ratio means every leaked paper affects lakhs of honest aspirants

2018
Year NTA was established to conduct NEET, JEE, CUET — replacing CBSE as exam body

₹1 Cr
Maximum fine under Public Examinations (Prevention of Unfair Means) Act, 2024 for organised leaks

ROOT CAUSES OF THE CRISIS

1 **Obsolete Pen-and-Paper Model**

Physical question papers create multiple leak windows — printing, transport, storage, and distribution. K. Radhakrishnan Committee identified PPT as a major structural vulnerability.

2 **Administrative Instability at NTA**

Prolonged interim leadership arrangements weakened decision-making and institutional accountability within the NTA.

3 **Logistical Vulnerabilities Across Vast Geography**

Securing examination materials across 14,000+ centres in every corner of India is operationally near-impossible under current frameworks.

4 **Insufficient CBT Infrastructure**

Lack of Computer-Based Testing centres — especially in Tier-2/3 cities — restricts transition to more secure digital examination formats.

5 **Social Media Amplification**

WhatsApp and Telegram enable near-instantaneous nationwide spread of leaked material — making post-leak containment impossible.

TWO-TRACK REFORM FRAMEWORK

LEGAL TRACK — PUBLIC EXAMS ACT, 2024

- **3–10 years imprisonment** for organised paper leaks
- **₹1 crore fine** for service providers involved in leaks
- **Non-bailable offences** — leak-related crimes cognizable and non-bailable
- **NTA Restructuring:** Zero-tolerance policy with high-sensitivity surveillance equipment mandated
- **Debarring:** Exam centres and service providers liable for debarment

K. RADHAKRISHNAN COMMITTEE REFORMS

- **Transition to CBT:** Shift from pen-and-paper to Computer-Based Testing as primary mode
- **Digital Paper Delivery:** Encrypted papers sent digitally; printed locally just before exam
- **Multi-Stage Exams:** Conduct NEET in multiple sessions/stages like JEE-Main to reduce single-point failure
- **Biometric + AI Surveillance:** Aadhaar authentication; AI anomaly detection for malpractice
- **Forensic Audits:** Regular third-party audits of software, storage, and personnel

Implications Beyond Examinations: The NEET crisis is not just about one exam — it is a systemic governance failure. Every leaked paper displaces a deserving rural or economically disadvantaged student who cannot afford coaching. Long-term, leak beneficiaries in medical seats compromise healthcare quality. The Supreme Court's frequent intervention (Katta Taraka Rama Rao, Priya Gupta cases) signals that administrative failure has crossed into judicial territory.

WAY FORWARD

→ **Full-Scale NTA Overhaul:** Transform into professional body with independent domain experts, dedicated security wing, and fixed leadership tenure

→ **Accelerate CBT Infrastructure:** PPP model to create computer centres in every district headquarter within 3 years

→ **Implement Radhakrishnan Report:** Digitally encrypted question paper delivery; multi-stage NEET on the JEE-Main model

→ **Transparent Grievance Mechanism:** Real-time candidate grievance portal with 48-hour response SLA

PRELIMS PRACTICE

Q.01

The Public Examinations (Prevention of Unfair Means) Act, 2024 provides for which of the following?
1. Imprisonment of 3–10 years for persons involved in organised paper leaks.
2. Fines of up to ₹1 crore for service providers involved in leaks.
3. Making offences related to leaks bailable and compoundable to reduce judicial burden.
Which of the statements given above is/are correct?

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

Q.02

Which committee's recommendations primarily focused on transitioning NEET from pen-and-paper to Computer-Based Testing?

(a) Kasturirangan Committee
(b) Yashpal Committee
(c) K. Radhakrishnan Committee
(d) Kothari Commission

SOCIAL SECTOR — HEALTH SERVICES GS·2 · MAINS

Medical and Wellness Tourism in India

India ranks 10th globally as a medical destination and 12th in wellness tourism. Market size: USD 8.7 billion (2025), projected USD 16.2 billion by 2030. ~5,07,244 foreign nationals visited India for medical treatment in 2025 — 5.5% of all foreign tourist arrivals.

KEY DATA — INDIA'S MEDICAL VALUE TRAVEL (MVT)

$8.7B
Market size 2025 — projected $16.2B by 2030; strong CAGR driven by AYUSH and advanced surgery

10th
Global ranking as medical destination; 12th in wellness tourism market globally

5,07,244
Foreign nationals visited India for medical treatment in 2025 — 5.5% of all FTAs

1/10th
Cost of equivalent treatment in USA/UK — India's primary competitive advantage in MVT

MEDICAL TOURISM STRENGTHS

- **Cost Competitiveness:** High-quality surgeries at 1/10th the cost of Western countries
  Cardiac surgery: $5,000 in India vs $50,000+ in USA
- **Accredited Infrastructure:** NABH and JCI-accredited hospitals across metros
- **Expert Workforce:** Large pool of English-speaking doctors meeting WHO norms
- **No Waiting Periods:** Immediate access vs months-long queues in UK/Canada NHS
- **Top Source Markets:** Bangladesh (leading), Iraq, Uzbekistan, Somalia — mostly South Asia and MENA

WELLNESS TOURISM STRENGTHS

- **Birthplace of Yoga & Ayurveda:** Unmatched global credibility in holistic healing traditions
- **AYUSH Ecosystem:** Institutional support through Ministry of Ayush; e-Medical and AYUSH visas (July 2023)
- **Preventive Focus:** Growing global interest in wellness — Kerala and Rishikesh as marquee destinations
- **Government Push:** Budget 2026-27: 5 Integrated Healthcare Complexes combining medical, research, AYUSH
- **WHO GTMC:** WHO Global Traditional Medicine Centre in Jamnagar validates AYUSH globally

KEY CHALLENGES

REGIONAL CONCENTRATION
MVT concentrated in South and West India — Chennai, Mumbai, Bangalore, Hyderabad. Northeast and Central India largely unserved.

INFORMAL FACILITATORS
Unregulated medical tourism agents/brokers mislead patients on treatment quality and costs — no licensing framework

INSURANCE GAP
International insurers do not reimburse Ayurveda treatments — limits wellness tourism's high-spending segment

PERCEPTION OF STANDARDS

Traditional medicine lacks scientific validation recognized globally — WHO GTMC work is addressing this gap

WAY FORWARD

- → **Heal in India Campaign:** Position as premier integrated healthcare destination — combine allopathy with AYUSH under one brand
- → **Airport MVT Facilitation:** Medical Value Travel concierge services and lounges at major international airports
- → **Regulate Intermediaries:** License and monitor medical tourism facilitators — create accountability framework
- → **AYUSH Validation:** Fast-track WHO GTMC clinical trials to build international evidence base for traditional therapies
- → **Tier-2 Expansion:** Incentivise NABH-accredited hospitals in Tier-2 cities — Pune, Chandigarh, Kochi, Bhubaneswar

PRELIMS PRACTICE

Q.03

Consider the following statements about Medical Tourism in India:
1. India ranks among the top 10 global medical destinations with market size of approximately USD 8.7 billion in 2025.
2. The e-Medical Visa and AYUSH Visa were introduced to facilitate medical tourists visiting India.
3. NABH stands for National Accreditation Board for Hospitals and Healthcare Providers.
Which of the statements given above is/are correct?

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

SOCIAL SECTOR — EDUCATION GS·2 · PRELIMS · MAINS

The RTE Act and the Idea of Social Inclusion

The Supreme Court ruled that private schools cannot delay or refuse admission to students allotted under the RTE Act based on eligibility disputes — reaffirming Section 12(1)(c)'s 25% EWS reservation as a non-negotiable constitutional commitment.

RTE ACT 2009 — KEY FEATURES AT A GLANCE

Universal Access

6–14

Free & compulsory education for all children — GER exceeds 100% at primary level (UDISE+ 2024–25)

25% Reservation

Sec 12(1)(c)

Private unaided schools must admit EWS/disadvantaged children at entry level (Class 1 or Pre-school)

PTR Standard

30:1

Mandated Pupil-Teacher Ratio for primary. National PTR: 26:1 (UDISE+ 2024–25) — better than mandate

No Screening

Sec 13

Prohibits screening tests or interviews for admission — prevents discrimination at entry level

Infrastructure

99.3%

Schools with functional drinking water (DoSEL 2025). Girls' toilet coverage also dramatically improved.

Constitutional Basis

Art 21-A

86th Amendment (2002) made education a Fundamental Right — RTE Act (2009) operationalises it

ACHIEVEMENTS

- **Social Integration:** Shared classrooms reduce socio-economic barriers
  Integrated environments improve cross-income interactions
- **Improved Transition Rates:** Higher retention beyond primary levels compared to pre-RTE period
- **Infrastructure Growth:** Functional girls' toilets, drinking water, electricity expanded nationwide
- **Teacher Professionalization:** Mandatory NCTE-qualified teachers improved standards
- **Near-Universal Access:** GER exceeds 90% at both primary and upper-primary stages

PERSISTENT CHALLENGES

- **Reimbursement Arrears:** States owe large pending liabilities to private schools — strains 25% implementation
  Large pending liabilities in several states
- **Low Seat-Fill Rates:** Complex online applications reduce EWS family participation
- **Learning Gaps:** Access improved but learning outcomes remain weak — ASER findings
- **Documentation Barriers:** Income/caste certificate requirements block eligible children
- **Private School Resistance:** Delays in admissions — now addressed by SC ruling

WAY FORWARD

→ **DBT Reimbursement:** Direct Benefit Transfer for timely school payments — end arrears crisis

→ **NIPUN Bharat:** Expand Foundational Literacy and Numeracy initiatives — access without learning is incomplete RTE

→ **Documentation Simplification:** Self-declaration-based EWS admission — reduce certificate barriers

→ **NCPCR Oversight:** Strengthen grievance redressal through National Commission for Protection of Child Rights

PRELIMS PRACTICE

Q.04

With reference to the Right of Children to Free and Compulsory Education (RTE) Act, 2009, consider the following:

1. It was enacted to operationalise the Fundamental Right under Article 21-A inserted by the 86th Constitutional Amendment.

2. Section 12(1)(c) requires all government schools to reserve 25% seats for children from EWS and disadvantaged groups.

3. The Act prohibits screening procedures or interviews for admission of children.

Which of the statements given above is/are correct?

(a) 2 and 3 only

(b) 1 and 3 only

(c) 1 and 2 only

(d) 1, 2 and 3

Q.05

The constitutional basis for making elementary education a Fundamental Right in India is:

(a) Article 45 of the Constitution (Directive Principle)

(b) Article 21 (Right to Life) interpreted by the Supreme Court to include right to education

(c) Article 21-A inserted by the 86th Constitutional Amendment Act, 2002

(d) Article 41 (Right to work, education and public assistance)

NITI Aayog Report on India's School Education System

A decade-long analysis (2014–15 to 2024–25) using UDISE+, PARAKH, NAS, and ASER data — providing a temporal roadmap for Viksit Bharat @2047. India's school system: 14.71 lakh schools, 24.69 crore students, 1.01 crore teachers.

INDIA'S SCHOOL SYSTEM — SCALE & STATUS (2024-25)

14.71L
Schools — world's largest school system; transitioning from expansion to consolidation phase

68.1%
Government schools of all schools — serving 49.2% of students; private schools serve 50.8%

58.4%
Gross Enrolment Ratio at Higher Secondary (Class 11–12) — sharp fall from near-100% at primary

5+3+3+4
NEP 2020's new school structure — Foundational, Preparatory, Middle, Secondary — replaces 10+2

EVOLUTION OF INDIA'S EDUCATION POLICY

ANCIENT-COLONIAL

Gurukul to Clerical Model

British introduced English-medium, clerical-focused education — Macaulay's Minute (1835) shaped colonial educational philosophy

1952-1966

Post-Independence Milestones

Mudaliar Commission (1952) and Kothari Commission (1964–66) — recommended free universal education goals; 3% GDP allocation for education

2001-2009

Inclusive Policies

Sarva Shiksha Abhiyan (2001) universalised elementary education; RTE Act (2009) made it a Fundamental Right

2018-2020

Samagra Shiksha & NEP

Samagra Shiksha (2018) unified SSA, RMSA, and Teacher Education; National Education Policy 2020 introduced 5+3+3+4 structure and competency-based learning

PROGRESS (2014–2024)

- **Near-Universal Elementary GER:** GER exceeds 90% at primary and upper-primary
- **Infrastructure Improvement:** Electricity, drinking water, toilets expanded across schools
- **Recovering Learning:** PARAKH assessments show improvement post-COVID
- **Digital Growth:** Internet connectivity growing — smart classrooms expanding
- **Teacher Quality:** More NCTE-qualified teachers; improved PTR to 26:1

CHALLENGES

- **Secondary Dropout:** GER drops sharply at Higher Secondary (58.4%) — retention crisis
  Girls, SC/ST, and rural students disproportionately drop out
- **Learning Outcomes:** ASER finds weak foundational reading/arithmetic even in upper grades
- **Small Schools:** Many schools with very small enrolment — resource inefficiency
- **Digital Divide:** Smart classrooms highly unequal across states — North-South gap
- **Rote Learning:** Curriculum overload vs NEP's competency-based vision

NITI AAYOG'S FIVE RECOMMENDATIONS

Structural Reform

Promote Composite Schools (Class 1–12 under one campus); evidence-based school rationalisation to address small-school inefficiency

State School Standards Authorities

Establish SSSAs in every state to monitor quality, safety, and infrastructure standards — independent from administration

Teacher Development

Improve pre-service and in-service training; rational deployment; clear career progression pathways

Pedagogical Transformation

Adopt competency-based assessments; Teaching at the Right Level (TaRL) approach for foundational learning recovery

Inclusivity Focus

Digital learning expansion; special support for girls, SC/ST, children with disabilities — reduce secondary dropout

PRELIMS PRACTICE

Q.06

Consider the following statements about the National Education Policy (NEP) 2020:
1. It introduces a 5+3+3+4 curricular structure replacing the earlier 10+2 system.
2. It recommends mother tongue or regional language as medium of instruction up to at least Grade 5.

3. It proposes elimination of the Board Examinations system entirely.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

SOCIAL SECTOR — HEALTH & REPRODUCTIVE POLICY GS·2 · MAINS

Why Are Fathers Missing in Reproductive Health Interventions?

Scientific analysis exposed a critical gap in India's RMNCH+A strategy: the near-total exclusion of fathers. Only 25% of men meet normal sperm parameters; average sperm count dropped 60M/ml → 20M/ml over 30 years — paternal health matters for child outcomes.

KEY DATA — PATERNAL HEALTH

25%
Men who meet normal sperm parameters — 75% have sub-optimal metrics

30–40%
Urban infertility cases with male factors — lifestyle, stress, metabolic issues

60M→20M
Average sperm count drop per ml over 30 years — endocrine disruptors, lifestyle

2026
AI-enabled sperm abnormality detection now available in newer fertility centres

What is RMNCH+A?

Reproductive, Maternal, Newborn, Child and Adolescent Health Plus (+A) — India's flagship public health framework under the National Health Mission. Currently almost entirely mother-centric: focuses on Antenatal Care (ANC), institutional delivery, postnatal care, immunisation, and adolescent health (Iron + Folic Acid for girls).

The Gap: Paternal preconception health — father's smoking, obesity, alcohol, toxin exposure — directly influences embryo quality, birth outcomes, and even child's metabolic health through epigenetic pathways (sperm microRNAs). Yet fathers are invisible in RMNCH+A.

WHY ARE FATHERS EXCLUDED? — FIVE REASONS

1 **The Genetic Passivity Myth**

Earlier science viewed sperm merely as DNA carrier — the Weismann Barrier theory suggested body-cell changes cannot affect germ cells. Now disproved by epigenetics.

2 **Maternal-Centric Policy Design**

Pregnancy physically occurs in women — policies naturally centred on mothers. RMNCH+A emphasises ANC and institutional delivery; fathers never appear.

3 **Lack of Preconception Awareness**

Prospective fathers rarely screened for smoking, obesity, or toxin exposure before conception. Men seek fertility help only after prolonged marital infertility — too late.

4 **Epigenetic Evidence Not Mainstreamed**

Sperm microRNA evidence — that paternal exercise influences embryonic metabolism — has not been incorporated into clinical guidelines or ASHA training.

5 **Social Taboo and Stigma**

Fertility responsibility unfairly placed on women. Men underrepresented at fertility clinics; women undergo repeated invasive interventions while male factor goes undiagnosed.

KEY INITIATIVES ADDRESSING THE GAP

RMNCH+A (ADOLESCENT)

Iron and Folic Acid supplementation extended to **teenage boys** (not just girls) to prevent anaemia — a small but significant paternal inclusion step

DADDY COOL CAMPAIGN

CSR-driven social media campaign promoting **fathers' engagement** in child development — changing cultural narratives around paternal responsibility

AI IN DIAGNOSTICS

Newer fertility centres (2026) using AI for precise **sperm abnormality detection** — making male fertility assessment faster and more accurate

ASHA TRAINING GAP

ASHAs currently trained only for maternal care — **no paternal counselling module** exists; reform needed to build bi-parental framework

WAY FORWARD

→ **Bi-Parental Framework:** Expand RMNCH+A to RMNCH+A (Bi-Parental) — include paternal preconception screening as a standard module

→ **Systematic Screening:** Lifestyle-risk assessments for men (smoking, BMI, toxin exposure) at pre-marital health check-up stage

→ **ASHA Training Reform:** Train ASHAs to guide both parents on reproductive health risks — not just mothers

→ **Public Education:** Nationwide campaigns on male infertility and epigenetics — break the stigma around male fertility testing

→ **AI-Enabled Diagnostics:** Subsidise home-based and AI-powered sperm analysis tools to increase male testing uptake

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CONCLUSION — Emerging evidence on sperm microRNAs and paternal epigenetics demands a fundamental shift in India's reproductive health approach — from a mother-centric model to a bi-parental framework. Fathers' preconception health is not a fringe issue; it is central to India's maternal and child health outcomes.

PRELIMS PRACTICE

Q.07

The RMNCH+A strategy in India refers to:

(a) Rural, Municipal, Nutritional, Child Health and Adolescent programme under ICMR

(b) Reproductive, Maternal, Newborn, Child and Adolescent Health — India's flagship public health continuum under NHM

(c) Regional, Maternal, Neonatal, Childcare and Adolescent strategy under NITI Aayog

(d) Reproductive, Medical, Nursing, Community Health and Awareness scheme under MoHFW

Q.08

With reference to epigenetics in the context of reproductive health, which of the following is correct?

(a) Epigenetics refers to changes in the DNA sequence of sperm cells caused by paternal lifestyle

(b) Epigenetic changes involve heritable modifications in gene expression — without altering DNA sequence — influenced by factors like paternal diet, stress, and exercise

(c) Epigenetics is exclusively a maternal phenomenon; paternal lifestyle has no epigenetic influence on offspring

(d) Epigenetic changes are permanent and cannot be reversed by lifestyle modifications

UPSCGS·2
CURRENT AFFAIRS MAGAZINE · MAY 2026 EDITION

P3 International Relations

PART THREE OF FIVE · GS PAPER 2

International Relations — Strategic Autonomy, Summits & Treaties

GS·2 | IR | STRATEGIC AFFAIRS | TREATIES

INTERNATIONAL RELATIONS — INDIA'S FOREIGN POLICY GS·2 · MAINS

India's Strategic Autonomy Challenges

The 2026 Iran War — triggered by US-Israeli strikes, Strait of Hormuz closure, and the sinking of Indian Navy guest ship IRIS Dena by a US submarine — created India's most acute strategic autonomy stress-test, forcing New Delhi to balance ties with the US, Iran, and Russia simultaneously.

INDIA'S STRATEGIC AUTONOMY — KEY DEPENDENCY DATA

#1
USA remains India's largest trading partner — economic leverage creates foreign policy constraints

~85%
India's oil imports from Gulf region — Strait of Hormuz closure directly threatens energy security

Rafale
French aircraft procurement — reflects defence diversification away from Russia-only dependence

G20+BRICS+SCO+QUAD
India's simultaneous engagement across competing groupings — defining feature of multi-alignment phase

EVOLUTION OF INDIA'S STRATEGIC AUTONOMY — THREE PHASES

Phase 1: Non-Alignment (1947–1991)
NEHRU DOCTRINE

Phase 2: Pragmatic Realism (1991–2014)
POST-LIBERALISATION

Phase 3: Multi-Alignment (2014–Present)
VIKAS BHI VIRASAT BHI

Moral Leadership: Voice of Global South; avoided Cold War blocs
Issue-Based Stance: Judged crises on merit (Suez, Korea)
Sovereignty Focus: Protected strategic space for new nation

Economic Integration: Shifted to West for capital/tech
Nuclear Autonomy: 1998 tests; 2008 India-US Civil Nuclear Deal
Regional Security: Resident power in Indian Ocean

Issue-Based Alliances: Quad, BRICS, SCO simultaneously
Transactional Hedging: Strategic independence as negotiable asset
Self-Reliance: Make in India + Atmanirbhar Bharat

FIVE KEY CHALLENGES TO STRATEGIC AUTONOMY

1 **US Military & Economic Unilateralism**

Linkages between security cooperation and trade policy constrain independent decision-making. BRICS financial initiatives face US pressure; CAATSA threatens S-400 procurement from Russia.

2 **Energy Coercion**

Gulf dependence (~85% oil imports) creates vulnerability. Iran war + Strait of Hormuz closure directly threatens India's energy security — 2026 crisis made this acute.

3 **Indian Ocean Geopolitics**

Maritime confrontations challenge India's image as IOR security provider. IRIS Dena sinking by US submarine — India unable to protect even a friendly vessel in its strategic backyard.

4 **Hierarchical Western Supply Chains**

Emerging economic blocs reduce opportunities for the Global South. Exclusive supply-chain frameworks (IPEF, Chip-4) can exclude India or attach political conditions.

5 **Defence Dependence Traps**

Foreign technology dependence constrains self-reliance. Source code access and upgrade rights in defence platforms remain contentious — limits Make in India objectives.

WAY FORWARD

→ **Energy Autonomy:** Expand strategic petroleum reserves (target 30-day cover); invest in green hydrogen; diversify beyond Gulf suppliers

→ **EU Strategic Hedge:** Fast-track India-EU FTA to diversify economic partnerships away from US-China binary

→ **Operation Sankalp 2.0:** Enhance Indian Navy independent escort capabilities for critical maritime trade routes

→ **Technology Sovereignty:** Mandate source-code access and ToT (Transfer of Technology) in all future defence acquisitions

→ **Lead Global South:** Use G20 and BRICS to institutionalise multipolar, equitable international order

PRELIMS PRACTICE

Q.01

India's foreign policy principle of "Strategic Autonomy" is best described as:

(a) Complete non-engagement with all major powers and international groupings

(b) Forming a permanent formal alliance with the USA against China and Russia

(c) Making independent decisions based on national interest, avoiding formal alliances while engaging multiple powers

(d) Achieving complete self-sufficiency in all sectors to eliminate dependence on foreign nations

Q.02

CAATSA, which sometimes creates tensions in India's defence procurement decisions, refers to:

(a) Comprehensive Arms Acquisition Treaty and Strategic Alliance

(b) Countering America's Adversaries Through Sanctions Act — a US law that can sanction countries buying defence equipment from Russia

(c) Collective Arms and Ammunition Transfer Security Agreement between NATO members

(d) Combined Air and Sea Theatre for Autonomous Action — a US-India joint military doctrine

INTERNATIONAL RELATIONS — BILATERAL & PLURILATERAL GS·2 · MAINS

3rd India-Nordic Summit (Oslo, 2026)

PM India co-chaired the 3rd India-Nordic Summit in Oslo alongside heads of government of Denmark, Norway, Finland, Iceland, and Sweden — combining India's market scale with Nordic expertise in clean energy, semiconductors, maritime technology, and sustainability.

SUMMIT QUICK FACTS

Format	Plurilateral — India + 5 Nordic nations (Denmark, Norway, Finland, Iceland, Sweden)
Location	Oslo, Norway (3rd edition)
Key Outcome 1	Green Tech Partnership — elevated to Green Technology & Innovation Strategic Partnership

INDIA-EFTA TEPA — KEY DETAILS

- **EFTA Members:** Switzerland, Norway, Iceland, Liechtenstein — NOT EU members
- **TEPA:** Trade and Economic Partnership Agreement — signed March 2024; operationalised 2026
- **Investment Target:** $100 billion investment in India over 15 years

Key Outcome 2	India-EFTA TEPA operationalised — aim: $100B investment + 1M direct jobs in India
Key Outcome 3	Nordic nations reiterate support for India's UNSC permanent membership and NSG bid
Space Pact	ISRO-Norwegian Space Agency framework; Swedish payload for India's Venus Orbiter
Climate	Iceland joins LeadIT 2.0 to help de-carbonise heavy industries
Next Summit	To be hosted by Finland

- **Employment Target:** 1 million direct jobs in India
- **Significance:** First FTA-type agreement India signed after a decade-long gap — model for EU FTA negotiations
- **UPSC Trap:** EFTA ≠ EU. Norway and Switzerland are in EFTA but not the EU. Switzerland is EFTA but also not in NATO.

KEY OPPORTUNITIES FOR INDIA

SEMICONDUCTORS & 6G

Tech Sovereignty

Nordic partnerships reduce dependence on China-controlled supply chains; 6G collaboration with Ericsson (Sweden), Nokia (Finland)

GREEN HYDROGEN

Maritime Corridors

Low-emission shipping routes using Nordic clean-energy tech; Norway's SvalSat Arctic satellite facility for climate monitoring

DEFENCE CO-PRODUCTION

Aerospace & UAV

Nordic clusters in Indian defence corridors; Saab (Sweden), Kongsberg (Norway) partnerships; liberalised FDI in defence

ARCTIC RESEARCH

Climate Forecasting

Joint Arctic studies improve India's monsoon and climate forecasting; Norway's SvalSat for environmental satellites

MARITIME MODERNISATION

Hong Kong Convention

Adopt advanced maritime standards; modernise India's ship-recycling sector (Alang, Gujarat) to meet international sustainability norms

KEY CHALLENGES

STRUCTURAL CHALLENGES

- **Geopolitical Divergence:** Nordic nations' NATO membership vs India's Russia relationship creates diplomatic tension

OPERATIONAL CHALLENGES

- **IP Protection:** Concerns over AI and quantum technology datasets slow collaborative projects

- **EU Regulatory Barriers:** Carbon border adjustment mechanisms (CBAM), phytosanitary norms increase Indian export costs
- **IMEC Disruption:** Iran war threatens the India–Middle East–Europe Economic Corridor route
- **Labour Mobility:** Complex visa/work-permit regulations restrict talent flow of Indian technology workers
- **EFTA Implementation:** $100B investment target requires active monitoring — EFTA tracking desk needed

PRELIMS PRACTICE

Q.03

Consider the following statements about the European Free Trade Association (EFTA) and the India-EFTA TEPA:

1. EFTA members include Switzerland, Norway, Iceland, and Liechtenstein.

2. All EFTA members are also members of the European Union.

3. The India-EFTA Trade and Economic Partnership Agreement aims for $100 billion investment in India over 15 years.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

INTERNATIONAL RELATIONS — NUCLEAR NON-PROLIFERATION

GS·2 · PRELIMS · MAINS

11th NPT Review Conference — Collapse Without Consensus

The 11th NPT Review Conference at UN HQ New York collapsed without a final declaration — continuing the trend of failed reviews (2005, 2015, 2022) and exposing deepening fractures in the global non-proliferation architecture.

NPT — ESSENTIAL FACTS

Full name	Treaty on the Non-Proliferation of Nuclear Weapons
Opened for signature	1968; entered into force March 5, 1970
Members	~191 states — near-universal (only India, Pakistan, Israel never signed; North Korea withdrew)
Extended	Indefinitely in 1995 — permanent obligations for all members
Review frequency	Every 5 years since 1975; 11th review: 2026

NWS cut-off date	Only states testing nuclear weapons BEFORE Jan 1, 1967 recognised as NWS (P5)
India's position	Non-signatory — India tested in 1974 and 1998 after 1967 cut-off; cannot be NWS under NPT
IAEA role	Conducts safeguards inspections to ensure civilian nuclear activities not diverted for weapons

THE NPT'S CORE GRAND BARGAIN

Three-Pillar Structure:

Pillar 1 — Non-Proliferation: Non-Nuclear Weapon States (NNWS) commit never to acquire nuclear weapons; accept IAEA safeguards.

Pillar 2 — Disarmament: Nuclear Weapon States (NWS = P5) commit to pursue nuclear disarmament "in good faith" under Article VI. This pillar has largely failed — P5 has modernised arsenals rather than disarming.

Pillar 3 — Peaceful Use: All members have an "inalienable right" to peaceful nuclear technology for electricity, medicine, and agriculture — with IAEA oversight.

WHY NPT STILL MATTERS

- **Horizontal Proliferation Check:** Limited spread of nuclear weapons — world has ~9 nuclear states, not 30+ as feared in 1960s
- **IAEA Safeguards:** Rigorous inspections prevent civilian nuclear diversion
- **Peaceful Nuclear Access:** Enables civilian nuclear energy for developing nations
- **Strategic Stability:** Verification measures lower miscalculation risks
- **Civilian Infrastructure Protection:** Norms against attacking nuclear reactors during conflicts

WHY REVIEWS KEEP FAILING

- **Asymmetric Enforcement:** IAEA closely monitors NNWS but P5 disarmament commitments go unenforced
- **P5 Modernisation:** All five NWS are upgrading arsenals — opposite of Article VI disarmament obligation
- **Non-Signatory Reality:** India, Pakistan, Israel, N. Korea outside framework — nuclear deterrence operates without NPT constraints
- **Hypersonic Gap:** New delivery systems (hypersonic missiles, underwater drones) not covered by existing verification frameworks
- **TPNW Tension:** 2017 Treaty on Prohibition of Nuclear Weapons creates P5-NNWS divisions

INDIA AND THE NPT — A SPECIAL RELATIONSHIP

India's Unique Position: India has never signed the NPT, calling it "discriminatory" — it legitimises the nuclear status of P5 (who tested before 1967) while permanently barring all others. India tested in 1974 (Pokhran-I, "Smiling Buddha") and 1998 (Pokhran-II, "Operation Shakti"). Despite being outside NPT, India secured the landmark **India-US Civil**

Nuclear Deal (123 Agreement, 2008) which gave India access to civilian nuclear technology without NPT membership — through a special NSG waiver. India maintains a **No First Use (NFU)** policy and credible minimum deterrence.

PRELIMS PRACTICE

Q.04

Consider the following statements about the Nuclear Non-Proliferation Treaty (NPT):
1. Under the NPT, only states that tested nuclear weapons before January 1, 1967 are recognised as Nuclear Weapon States.
2. India is a signatory to the NPT but has not ratified it.
3. The NPT was extended indefinitely in 1995.
Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q.05

The "Treaty on the Prohibition of Nuclear Weapons (TPNW)" differs from the NPT primarily because:

(a) TPNW is limited to non-nuclear states while NPT includes all UN members

(b) TPNW allows nuclear sharing arrangements while NPT prohibits them

(c) TPNW comprehensively bans all nuclear weapons including possession, use, and threat of use — while NPT merely limits their spread and asks for eventual disarmament

(d) TPNW is administered by the IAEA while NPT is administered by the UN General Assembly

INTERNATIONAL RELATIONS — BILATERAL RELATIONS GS·2 · MAINS

India-Italy Special Strategic Partnership & India-UAE Strategic Pacts

Two landmark diplomatic upgrades in May 2026 — India-Italy elevated to Special Strategic Partnership (trade target €20B by 2029); India-UAE Comprehensive Strategic Partnership deepened into defence manufacturing, financial integration, and advanced technology with $5B investment and 30M barrels crude oil storage.

INDIA-ITALY — KEY OUTCOMES

- **Elevated to:** Special Strategic Partnership (from Strategic Partnership)
- **Trade Target:** €20B bilateral trade by 2029 (backed by FTA)
- **Defence Industrial Roadmap:** Technology co-production for helicopters, naval platforms, EW systems
- **Critical Minerals MoU:** Recovery of rare-earths from e-waste and tailings
- **INNOVIT India Hub:** Startups in AI, Quantum, Fintech
- **Trieste Synchrotron:** Indian researchers access advanced European synchrotron for quantum research
- **Cultural Year:** 2027 declared "Year of Culture & Tourism"
- **IMEC Reaffirmed:** India-Middle East-Europe Economic Corridor commitment

INDIA-UAE — KEY OUTCOMES

- **Investment:** $5 billion UAE investment in India; Emirates NDB $3B to RBL Bank
- **Energy:** ADNOC + ISPRL to store 30 million barrels crude oil in India's SPR
- **Computing:** India's C-DAC + UAE's G-42 to develop 8 Exaflop super compute cluster
- **Maritime:** MAITRI Virtual Trade Corridor — linking Cochin Shipyard with Dubai's Drydocks World
- **Defence:** Institutionalise joint manufacturing of drones, cyber-defence equipment
- **Banking:** ADIA $1B into Sammaan Capital
- **Shipping:** Vadinar, Gujarat offshore fabrication + ship repair — maritime skill centre

INDIA-UAE: HISTORICAL RELATIONSHIP CONTEXT

MilestoneYearSignificance Formal Diplomatic Relations1972Shortly after UAE's formation in 1971 Strategic Partnership2015PM Modi's first visit — transformed bilateral relationship Comprehensive Strategic Partnership2017Elevated during Republic Day celebrations CEPA (Comprehensive Economic Partnership Agreement)2022Reduced tariffs; bilateral trade crossed $85B 2026 Abu Dhabi Summit2026$5B investment, SPR storage, Supercomputing, MAITRI Corridor

IMEC — INDIA MIDDLE EAST EUROPE ECONOMIC CORRIDOR

What is IMEC? Announced at G20 New Delhi Summit (2023), IMEC is a multimodal connectivity corridor linking India → UAE → Saudi Arabia → Jordan → Israel → Europe via rail, shipping, and undersea cable. It is seen as India's strategic counter to China's Belt and Road Initiative (BRI).

2026 Challenge: The Iran War and Strait of Hormuz disruptions, combined with Israel-related geopolitical tensions, have severely delayed IMEC implementation — illustrating how India's connectivity ambitions remain hostage to West Asian stability.

PRELIMS PRACTICE

Q.06

Consider the following about the India-UAE Comprehensive Economic Partnership Agreement (CEPA) of 2022:
1. It was the first Free Trade Agreement that India signed with any country since 2011.
2. Under CEPA, bilateral trade between India and UAE crossed $85 billion.
3. CEPA covers goods only — services and investment are excluded.
Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q.07

The India-Middle East-Europe Economic Corridor (IMEC), announced at the G20 New Delhi Summit 2023, is significant because:

(a) It is a purely maritime route connecting Indian ports to European ports via Suez Canal

(b) It includes India, Pakistan, Afghanistan, Iran, and Turkey as transit countries

(c) It is a multimodal corridor (rail, sea, undersea cable) linking India to Europe via UAE, Saudi Arabia, Jordan, and Israel — positioned as India's BRI alternative

(d) It is exclusively an energy pipeline project transporting natural gas from Gulf to Europe through India

Q.08

Which of the following statements about India-Italy relations is/are correct?
1. India and Italy share ancient civilisational ties through Roman-era maritime trade with India's southern coast.
2. The bilateral relationship was elevated to a "Special Strategic Partnership" during the 2026 PM Modi-Meloni summit.
3. The India-Italy Defence Industrial Roadmap focuses exclusively on IT and cybersecurity, excluding traditional defence hardware.

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

UPSC GS·2
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P4
Polity
Prelims Focus

PART FOUR OF FIVE · PRELIMS IN FOCUS

Constitutional Provisions, Polity & Judiciary

GS·2 POLITY JUDICIARY PRELIMS

POLITY — CITIZENSHIP & EXECUTIVE POWER GS·2 · PRELIMS

Citizenship (Amendment) Rules, 2026 & Ordinance Power

CAA Rules 2026 transition OCI management to fully digital e-OCI framework. Simultaneously, an Ordinance was promulgated to increase Supreme Court judge strength from 33 to 37.

CAA RULES 2026 — KEY FEATURES

Authority	Union Ministry of Home Affairs (MHA)
Core Change	OCI management: hybrid paper-ink → fully digital e-OCI (electronic registration Form XXIX)
Ban on Dual Passports	Minor child cannot hold passport of any other country while holding Indian passport (new Rule 3 proviso)
Fully Online	All OCI applications via ociservices.gov.in — registration (Form XXVIII), renunciation (XXXI), cancellations
Biometric Integration	Biometric data consent → auto-enrolment in Fast Track Immigration (e-gates) at airports
Appeals	Rejection challenged before authority one rank higher than original decision-maker
Centralised Registry	Records in Form XXX — real-time tracking; deemed cancellation of invalid cards

ORDINANCE POWER — ESSENTIAL FACTS

President's power	Article 123 — promulgate Ordinances when Parliament n session
Governor's power	Article 213 — when state legislature not in session
Legal force	Same as an Act of Parliament – amend or repeal existing Acts
Pre-conditions	(1) Legislature not in session; (Immediate necessity; (3) Cabin advice
Expiry	Ceases 6 weeks after reassemb Parliament (unless approved s
Max lifespan	6 months + 6 weeks (max gap between sessions = 6 months)
Cannot	Amend the Constitution; cover beyond Parliament's legislative competence
Retrospective	Can have retrospective effect (backdated)

PRELIMS PRACTICE

Q.01

Consider the following statements about the Ordinance-making power of the President under Article 123:

1. An Ordinance lapses automatically 6 weeks after Parliament reassembles.

2. An Ordinance can be used to amend the Constitution of India.

3. The maximum lifespan of an Ordinance (without parliamentary approval) is 6 months and 6 weeks.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

POLITY — EMERGENCY PROVISIONS & ELECTIONS | GS·2 · PRELIMS

President's Rule, Governor's Role & Model Code of Conduct

Three interlinked constitutional mechanisms — Article 356 emergency, Governor's discretion in hung assemblies, and the MCC — define the boundaries between electoral democracy and executive intervention.

PRESIDENT'S RULE — QUICK FACTS

- **Article 356:** Failure of Constitutional Machinery in State — President's proclamation
- **Article 355:** Union's duty to protect states from external aggression & internal disturbance
- **Article 365:** State's failure to comply with Union directions = ground for Art 356
- **Parliament approval:** Within 2 months; lasts 6 months; extendable to max 3 years
- **Beyond 1 year:** Only if National Emergency operative OR ECI certifies elections infeasible
- **S.R. Bommai case (1994):** Landmark SC ruling — floor test mandatory; judicial review allowed; majority tested in House not by Governor privately
- **High Court immunity:** President cannot assume powers of State HC

MODEL CODE OF CONDUCT — KEY FACTS

- **Issued by:** Election Commission of India under Article 324
- **Legal Status:** NOT a statutory law — consensus-based document; no Act of Parliament
- **Origin:** Kerala (1960) → ECI formalized nationally (1968–69) → Part VII added (1979) for Party in Power
- **T.N. Seshan Era (1991):** Enforced with unprecedented strictness — transformed MCC into deterrent
- **Part VII (Party in Power):** Ministers cannot combine official visits with electioneering; no public resources for campaign; no misuse of Doordarshan/AIR
- **Campaigning:** No campaigning within 100 metres of polling station

- **Presidential Acts:** Laws passed for state during President's Rule remain valid after revocation

- **Trigger:** Comes into force immediately upon election schedule announcement; ends with result declaration
- **Enforcement:** No court intervention possible during elections — ECI has plenary powers under Art 324

GOVERNOR'S ROLE IN HUNG ASSEMBLY — ORDER OF PRECEDENCE

1. **Pre-poll Alliance**
   Invite the group of parties that contested together AND command the largest number of seats — first preference always
2. **Single Largest Party**
   Invite single largest party if it can demonstrate majority support from others — must seek confidence within 30 days
3. **Post-Election Coalition**
   Invite post-poll alliance where all constituent parties agree to join government
4. **Outside Support**
   Post-election alliance where some parties join government and others (including Independents) support from outside

Constitutional Article: Article 164(1) — Governor appoints Chief Minister. In a hung assembly, the Governor's discretionary power becomes central. The **Sarkaria Commission (1983)** and **Punchhi Commission (2007)** established the order of precedence above. The **floor test** must determine majority — NOT the Governor's private opinion. Newly appointed CM must seek confidence vote within **30 days**.

PRELIMS PRACTICE

Q.02

With reference to the imposition of President's Rule (Article 356), which of the following was established by the S.R. Bommai v. Union of India (1994) judgment?
1. The proclamation under Article 356 is not subject to judicial review.
2. The majority of the state ministry must be tested on the floor of the House, not through the Governor's private assessment.
3. Extension of President's Rule beyond one year requires either a National Emergency to be in operation or ECI certification that elections are infeasible.

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

Q.03

The Model Code of Conduct (MCC) derives its authority from:

(a) The Representation of the People Act, 1951

(b) A specific Act of Parliament passed in 1968

(c) Article 324 of the Constitution — the ECI's plenary power to superintend elections

(d) Article 19(1)(a) — freedom of speech and expression of political parties

POLITY — JUDICIARY & PARLIAMENT | GS·2 · PRELIMS

Sedition Law, Judges Inquiry Committee & Privilege Notice

Three parliamentary/judicial mechanisms — Section 124A's transformation into BNS Section 152, the Judges (Inquiry) Act process, and Parliament's privilege protection framework — are high-frequency UPSC Prelims topics.

SEDITION LAW — OLD VS NEW

ASPECT	IPC SEC 124A	BNS SEC 152
Word used	"Sedition"	Dropped entirely
Offence name	Sedition	Acts endangering sovereignty, unity, integrity
Max punishment	Life imprisonment or 3 years	7 years minimum OR life imprisonment
Scope	Hatred/ contempt/ disaffection toward Govt	Secession, armed rebellion, separatist/ subversive activities
Classification	Cognizable, non-bailable, non-compoundable	Same — cognizable, non-bailable
Current status	In abeyance (Vombatkere 2022); Kamran	Active under BNS — IPC repealed

JUDGES INQUIRY COMMITTEE

- **Constitutional basis:** Article 124(4) for SC judges; Article 217(1)(b) for HC judges
- **Statutory basis:** Section 3 of Judges (Inquiry) Act, 1968
- **Constituted by:** Speaker (Lok Sabha) or Chairman (Rajya Sabha)
- **Composition (exactly 3 members):**
  (1) Sitting SC Judge
  (2) Sitting HC Chief Justice
  (3) Eminent Jurist
- **Purpose:** Investigate proved misbehaviour or incapacity — prerequisite for removal motion
- **Powers:** Civil Court powers — summon witnesses, demand documents, examine under oath
- **Natural Justice:** Accused judge served charges, given written defense, can cross-examine
- **2026 Panel:** Justice Aravind Kumar (SC) + Bombay HC CJ + Sr. Advocate B.V. Acharya

ASPECT	IPC SEC 124A	BNS SEC 152
	2026 modified freeze	

PRIVILEGE NOTICE — HOW PARLIAMENT PROTECTS ITSELF

Constitutional Basis

Article 105 (Parliament & MPs) and Article 194 (State Legislatures & MLAs) — granting freedom of speech within Parliament and immunity from civil arrest

Submission Process

MP gives written notice to presiding officer — Rajya Sabha Chairman (Rule 187) or Lok Sabha Speaker (Rule 222) — who examines prima facie case

Committee Structure

Rajya Sabha: 10-member Privileges Committee; Lok Sabha: 15-member panel. Both nominated proportionally across parties

Key Gap

India has NEVER codified parliamentary privileges into a single statute — still relies on British House of Commons precedents and evolving case laws

PRELIMS PRACTICE

Q.04

With reference to the Judges (Inquiry) Act, 1968, consider the following:
1. The committee formed under the Act comprises a sitting Supreme Court judge, a sitting HC Chief Justice, and an eminent jurist.
2. The committee is constituted by the President of India.
3. The committee's report finding "proved misbehaviour" is sufficient by itself to remove a judge.
Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q.05

Section 152 of the Bharatiya Nyaya Sanhita (BNS) replaced Section 124A of the IPC. Which of the following correctly distinguishes the two?

(a) BNS Section 152 is a bailable offence, while IPC Section 124A was non-bailable

(b) BNS Section 152 uses the word "sedition" while the IPC renamed it to "anti-national activities"

(c) BNS Section 152 drops the word "sedition" entirely, expands scope to include armed rebellion and separatist activities, and enhances minimum punishment to 7 years

(d) BNS Section 152 decriminalised political dissent and applies only to violent acts against the state

GOVERNMENT ACTS & JUDICIARY | GS·2 · PRELIMS

MTP Act, NITI Aayog, Women's Committee & SC Judge Strength

High-frequency Prelims topics across reproductive rights legislation, India's premier policy think tank, parliamentary committee mandates, and the expansion of Supreme Court bench capacity.

MTP ACT — 2021 AMENDMENT KEY FACTS

Original Act	Medical Termination of Pregnancy Act, 1971 — based on Shantilal Shah Committee
General limit	Up to 20 weeks — one doctor's opinion required
Special categories	Up to 24 weeks — two doctors required. Categories: rape survivors, incest, minors, differently-abled, mental illness
Fetal abnormality	
Beyond 24 weeks	State Medical Board decides if substantial fetal abnormalities diagnosed — NO upper time limit applies
Contraceptive failure	2021 amendment extended to unmarried women (previously only married women & their partners)
Confidentiality	Mandatory — woman's identity protected; only disclosed to authorised persons
Medical Boards	Every State/UT mandated to constitute a Medical Board for fetal anomaly cases

SUPREME COURT JUDGE STRENGTH

Article 124(1)	Constitution judges origin increase by la
1950 (Original)	CJI + 7 = 8 total
1956 (Original Act)	CJI + 10 = 11 total
2026 (Proposed)	CJI + 37 = 38 from CJI + 33
How increased	Simple majo both Houses — NOT specia
Appointment	SC Collegium judges) recor → PM → Pres
Salary charged to	Consolidated ensures judic independenc
Reason for increase	Backlog — ov pending befo benches for c

NITI AAYOG & COMMITTEE ON EMPOWERMENT OF WOMEN — KEY COMPARISON

NITI Aayog — Structure

NITI Aayog — Key Differences from Planning Commission

Established: January 1, 2015 (replaced Planning Commission). Chairperson: PM of India. VC: Nominated by PM (Cabinet rank). Governing Council: CMs of all states + LGs of UTs with legislatures. CEO: Fixed tenure, appointed by PM. Ex-Officio: Max 4 Union Cabinet ministers.

No power to allocate funds (Planning Commission had this power — NITI Aayog cannot). Bottom-up vs top-down. Think tank + advisory vs directive. States are partners, not recipients. No Five Year Plans — replaced by strategy documents (Strategy@75, Vision@2047).

Committee on Empowerment of Women

Joint Parliamentary Committee (JPC). Constituted: April 29, 1997 (11th Lok Sabha). Composition: 18 Lok Sabha (nominated by Speaker) + 10 Rajya Sabha (nominated by Chairman) = 28 members. Tenure: 1 year — reconstituted annually. Key functions: Reviews NCW reports; monitors women welfare schemes; evaluates gender equality measures.

Justice Aravind Kumar Committee

Judicial Infrastructure Advisory Committee. Established by: Supreme Court of India. Chair: Justice Aravind Kumar (SC). Aim: Overhaul physical + digital landscape of Indian judiciary; address infrastructural gaps. Focus: e-Courts, modern court complexes, 7 focus areas. Reports to: PM-EAC for funding.

PRELIMS PRACTICE

Q.06

With reference to the Medical Termination of Pregnancy (Amendment) Act, 2021, consider the following:
1. The upper gestation limit for special categories (rape survivors, minors, differently-abled) was increased from 20 to 24 weeks.
2. There is NO upper gestation limit if a State-level Medical Board diagnoses substantial fetal abnormalities.
3. The contraceptive failure ground was extended to unmarried women for the first time.
Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1, 2 and 3

(d) 1 and 3 only

Q.07

Which of the following correctly distinguishes NITI Aayog from the erstwhile Planning Commission?

(a) Unlike the Planning Commission, NITI Aayog can allocate funds directly to states

(b) NITI Aayog drafts Five Year Plans while the Planning Commission used annual plans

(c) Unlike the Planning Commission, NITI Aayog has no power to allocate funds — it is a think tank and advisory body following a bottom-up approach

(d) NITI Aayog is a constitutional body while the Planning Commission was a statutory body

Q.08

The Supreme Court (Number of Judges) Act, 1956 can be amended to increase the number of SC judges by:

(a) A Constitutional Amendment requiring 2/3 majority in both Houses and ratification by half the states

(b) A Constitutional Amendment requiring 2/3 majority in both Houses without state ratification

(c) A simple majority Amendment Bill in both Houses of Parliament with Presidential assent — no special majority needed

(d) A Presidential Ordinance since Parliament may not always be in session when urgent expansion is needed

UPSCGS·2
CURRENT AFFAIRS MAGAZINE · MAY 2026 EDITION

P5
Schemes, Orgs & Misc

PART FIVE OF FIVE · FINAL PART

Government Schemes, International Organisations & Miscellaneous

GS·2 | SCHEMES | INTL ORGS | PRELIMS

GOVERNMENT SCHEMES & POLICIES | GS·2 · PRELIMS

Key Government Schemes — May 2026

Six high-importance schemes for UPSC Prelims 2026: Critical Mineral Recycling, VB-GRAMG Act, SHE-MART, SEHAT Mission, COSOP, and ECLGS 5.0 — each with distinct ministries, features, and exam-worthy facts.

INCENTIVE SCHEME FOR CRITICAL MINERAL RECYCLING

CRITICAL MINERAL RECYCLING SCHEME

Under	National Critical Mineral Mission (NCMM)
Ministry	Ministry of Mines, Government of India
Tenure	FY 2025–26 to FY 2030–31 (6 years)
Capex subsidy	20% on eligible capital expenditure (on-time); 17%/14% for delayed projects
Opex subsidy	Linked to incremental sales; 40% in Year 2, 60% in Year 5
Group A (Large)	GMR ≥ ₹200 crore — ceiling ₹50 crore
Group B (Small)	GMR < ₹200 crore — ceiling ₹25 crore
Target minerals	Lithium, cobalt, nickel (from e-waste, Li-ion batteries, permanent magnets, catalytic converters)

Why Critical Minerals Matter: Lithium, cobalt, nickel, rare earths, and graphite are essential for EV batteries, semiconductors, defence electronics, and clean energy infrastructure. India imports >80% of these from China (rare earths), Congo (cobalt), and Australia (lithium). The NCMM and this recycling scheme are India's response to supply chain vulnerability — building a circular economy for strategic minerals.

Urban Mining: The scheme focuses on extracting critical minerals from secondary sources — e-waste (discarded phones, laptops), spent EV batteries, permanent magnets, and catalytic converters. This "urban mining" is more sustainable and domestically controlled than primary mining.

Eligibility	Registered Indian recyclers — both Greenfield and Brownfield projects
Import dependence	>80% for critical minerals — scheme aims to build domestic recycling capacity

VB–G RAM G ACT, 2025 — REPLACING MGNREGA

VB-GRAMG ACT — KEY FEATURES

Full name	Viksit Bharat—Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025
Replaces	MGNREGA — effective July 1, 2026
Employment guarantee	125 days/year (up from MGNREGA's 100 days)
Fund sharing (NE/Himalayan)	90:10 (Centre:State)
Fund sharing (other states)	60:40 (Centre:State)
UTs without legislature	100% Central funding
Agricultural pause	States notify 60-day annual pause during peak sowing/harvesting — no works during this period
4 work domains	Water Security, Core Rural Infrastructure, Livelihood Infrastructure, Extreme Weather Mitigation
VGPP	Viksit Gram Panchayat Plan — single-plan, multi-funding; integrated with PM Gati Shakti NMP
Technology	Face authentication attendance; biometric financial transactions; geospatial monitoring
Unemployment allowance	If work not provided within 15 days of demand — retained from MGNREGA

MGNREGA vs VB-GRAMG — Critical Difference:

MGNREGA was demand-driven with a legal right to work — any rural household could demand work and the government was legally obligated. VB-GRAMG shifts to an asset-creation focus with restricted work domains and mandatory technology integration. Critics argue the transition from rights-based (MGNREGA) to scheme-based (GRAMG) framework weakens worker entitlements — though the 125-day guarantee and unemployment allowance retention are positives.

SHE-MART, SEHAT MISSION & ECLGS 5.0

SHE-MART Initiative

Budget 2026-27 · MoRD via DAY-NRLM

Self Help Entrepreneurs — Marketing Avenues for Rural Transformation. Women-led retail stores and aggregation hubs managed by SHG federations. ONDC integration for commission-free digital selling; India Post logistics; targets 3 crore Lakhpati Didis by 2029. Focuses on mature SHGs with >₹1 lakh annual income.

SEHAT Mission

ICAR + ICMR Joint Initiative

Bridges farming, nutrition, and public health. ICAR (Agriculture Ministry) + ICMR (Health Ministry) partnership. Key features: Biofortification of crops (zinc, iron); promotion of millets (Kodo, Kutki, Ragi, Jowar, Bajra); One Health approach; farm-to-plate scientific chain for disease prevention through food.

ECLGS 5.0

NCGTC · Geopolitical Crisis Relief

Emergency Credit Line Guarantee Scheme 5.0 — 100% guarantee for MSMEs; 90% for non-MSMEs and airlines. Additional credit up to 20% of peak Q4 FY2026 working capital (max ₹100 crore). Airlines: up to 100% outstanding credit (max ₹1,500 crore). Zero guarantee fee. Valid till March 31, 2027.

COSOP 2026–2033

India + IFAD · 8-Year Partnership

Country Strategic Opportunities Programme — India-IFAD 8-year framework (2026–2033). Focuses on: resilience building + knowledge scaling. Empowers SHGs, FPOs, cooperatives. Positions India as South-South cooperation leader sharing DPI and inclusive finance models with Africa, SE Asia, Latin America.

PRELIMS PRACTICE

Q.01

Consider the following statements about the VB–G RAM G Act, 2025:
1. It increases the employment guarantee from 100 days to 125 days per rural household per year.
2. Work projects are restricted to four thematic areas: Water Security, Rural Infrastructure, Livelihood Infrastructure, and Extreme Weather Mitigation.
3. States must maintain a continuous 60-day pause every year when no GRAMG works can be undertaken.
Which of the statements given above is/are correct?

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

Q.02

The SEHAT Mission is a joint initiative between which two bodies?

(a) NITI Aayog and Ministry of Health and Family Welfare
(b) WHO and Ministry of Agriculture and Farmers' Welfare

(c) Indian Council of Agricultural Research (ICAR) and Indian Council of Medical Research (ICMR)

(d) Food Safety and Standards Authority of India (FSSAI) and NITI Aayog

IMPORTANT INTERNATIONAL ORGANISATIONS & INSTITUTIONS

GS·2 · PRELIMS

Key International Organisations — May 2026

Six high-frequency international organisations in news: OPEC+, Kimberley Process (India chair 2026), IORA/Indian Ocean Dialogue, CCDB (India chair 2026–28), UN Forum on Forests, and Asian Productivity Organization.

OPEC & OPEC+ — ESSENTIALS

OPEC QUICK FACTS

Established	Baghdad Conference, September 10–14, 1960
Founding members	Iran, Iraq, Kuwait, Saudi Arabia, Venezuela (Big 5)
HQ	Vienna, Austria (moved from Geneva in 1965)
Current members	13 members (Algeria, Congo, Eq. Guinea, Gabon, Libya, Nigeria + others; UAE left May 1, 2026)
Recent exits	Qatar, Ecuador, Angola, UAE (2026) have withdrawn
1968 Declaration	Permanent sovereignty of nations over their natural resources
OPEC+ formed	December 2016 — Declaration of Cooperation (DoC)
OPEC+ members	13 OPEC + 10 non-OPEC (Russia, Mexico, Kazakhstan prominent)
Charter 2019	Charter of Cooperation — long-term platform for DoC partners

KIMBERLEY PROCESS — INDIA CHAIR 2026

What it is	Multi-stakeholder initiative to eliminate conflict diamond trade
Started	May 2000 in Kimberley, South Africa
Formalised	KPCS adopted November 2002; launched January 2003
India's chair	2026 (3rd time) — theme: 3Cs — Credibility, Compliance, Consumer Confidence
India's KP nodal	GJEPC (Gems and Jewellery Expor Promotion Council) — India is worl largest diamond cutting & polishin
KPCS certificate	Required for all rough diamond sh — tamper-resistant container + gov validated certificate
2026 Push	Blockchain-based digital tamper-p certificates under India's chairship
UN basis	UNGA Resolution 55/56 — prevents conflict diamonds from funding re movements

INDIAN OCEAN RIM ASSOCIATION (IORA) & INDIAN OCEAN DIALOGUE

IORA BASICS

Indian Ocean Rim Association — 23 member states + 12 dialogue partners (incl US, China, EU). India chairs 2025–27. Secretariat: Mauritius. Consensus-based.

INDIAN OCEAN DIALOGUE

Track 1.5 forum (govt officials + non-govt experts). 10th edition hosted in New Delhi 2026. Theme: "IOR in a Transforming World." Organized by MEA + ICWA + IORA Secretariat.

FOCUS AREAS

Maritime Safety & Security; Blue Economy & Fisheries; Trade & Investment; Disaster Risk Management. India's SAGAR doctrine (Security and Growth for All in the Region) drives its IORA engagement.

TRACK 1.5 MEANING

Hybrid format: Track 1 = official government representatives; Track 2 = academics, think tanks, civil society. Track 1.5 combines both — enables frank discussion without official positions binding governments.

OTHER KEY ORGANISATIONS AT A GLANCE

ORGANISATION	EST.	HQ	INDIA'S ROLE / KEY 2026 UPDATE
CCDB (Common Criteria Development Board)	Under CCRA	Global (rotating chair)	India chairs 2026–28; nodal: MeitY + STQC; manages ISO/IEC 15408 IT security standards; Certificate Authorizing Nation since 2013
UN Forum on Forests (UNFF)	Oct 2000 (ECOSOC)	UN NY	Permanent ECOSOC subsidiary; UN Strategic Plan for Forests 2030 (6 Global Forest Goals); Global Forest Financing Facilitation Network (GFFFN)
Asian Productivity Organization (APO)	May 11, 1961	Tokyo, Japan	21 Asia-Pacific member economies; India hosted 68th Governing Body at Bharat Mandapam. Non-political, non-profit, non-discriminatory.
UNESCO Chair on Gender Inclusion	2026	SSPU Pune	Asia's FIRST UNESCO Chair on Gender Inclusion & Skill Development — semiconductors, AI, robotics, defence tech focus for women
European Central Bank (ECB)	June 1, 1998	Frankfurt, Germany	RBI-ECB MoU signed. ECB governs Eurozone (21 countries as of 2026 — Bulgaria joined Jan 2026). Capital owned by all 27 EU central banks.
ISO	Feb 23, 1947	Geneva, Switzerland	BIS organized 35th Plenary of ISO TC 20/SC 14 (Space Systems) in New Delhi — 131 delegates from 13 countries; space sustainability focus
FAO Agricola Medal	Est. 1977 by FAO	Rome, Italy	PM Modi received 2026 (named after Latin word for farmer). Only 2 Indian recipients: Manmohan Singh (2008) + Narendra Modi (2026)

PRELIMS PRACTICE

Q.03

Consider the following statements about OPEC and OPEC+:

1. OPEC was established at the Baghdad Conference in 1960 with Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela as founding members.

2. OPEC+ was formed through the Declaration of Cooperation in December 2016 and includes non-OPEC oil producers like Russia.

3. OPEC's headquarters has always been in Vienna, Austria, since its founding.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q.04

India holds the Chairship of the Kimberley Process in 2026. Which of the following is correct about the Kimberley Process?

(a) It is a UN treaty administered by the IAEA to prevent nuclear material smuggling

(b) It regulates the trade in rough diamonds to prevent conflict diamonds from funding rebel movements

(c) It was established through a binding UN Security Council resolution in 2003

(d) Both (b) is correct — it regulates rough diamonds to prevent conflict diamonds from funding armed rebellions against legitimate governments

Q.05

The Indian Ocean Rim Association (IORA) is best described as:

(a) A military alliance of Indian Ocean littoral states led by India and Australia

(b) An intergovernmental organisation of 23 Indian Ocean rim states promoting regional cooperation on trade, maritime safety, and blue economy

(c) A UN specialised agency for managing the Indian Ocean's marine resources

(d) A bilateral forum between India and ASEAN nations for ocean governance

Miscellaneous — Padma Awards, BHAVYA Scheme & More

High-frequency Prelims facts from BHAVYA industrial scheme, One Case One Data initiative, Padma Awards framework, and the UN Secretary-General election process.

PADMA AWARDS — KEY FACTS

Instituted	1954 (two tiers initially — Bharat Ratna and Padma Vibhushan)
Three tiers	Padma Vibhushan (exceptional) → Padma Bhushan (high order) → Padma Shri (distinguished field)
Renamed	Presidential Notification Jan 8, 1955 (from Pahela/Dusra/Tisra Varg)
Announced	Eve of Republic Day (January 25) annually
Annual cap	Maximum 120 — EXCLUDES posthumous awards and NRIs/ foreigners/OCIs
Govt servants	NOT eligible (except doctors and scientists who ARE eligible)
Not a title	Article 18 — cannot be used as prefix or suffix; misuse forfeits the honour
Selection	Padma Awards Committee (Cabinet Secretary heads) → PM → President
Self-nomination	Explicitly permitted — nominations open to general public
5-year rule	Upgrade to higher tier requires minimum 5-year gap (relaxable in extraordinary cases)
Suspensions	Not given in 1978–79 and 1993–97

BHAVYA SCHEME — KEY FACTS

Full name	Bharat Audyogik Vikas Yojna
Nodal dept	DPIIT, Ministry of Commerce & Industry
PMA	NICDC (National Industrial Corrido Development Corporation)
Financial outlay	₹33,660 crore total
Timeline	FY 2026–27 to FY 2031–32 (6 years)
Target	100 industrial parks nationwide; fi selected via challenge-based comp framework
Subsidy	Up to ₹1 crore per acre; 25% of external infrastructure costs
SPV model	Deployed via Special Purpose Vehicles (Companies Act 2013)
3 pillars	Core Infrastructure + Value-Added Infrastructure + Social Infrastructu
Goal	Plug-and-play industrial smart citi accelerate Make in India + Aatmanirbharta

UN SECRETARY-GENERAL ELECTION — KEY PROCESS FACTS

APPOINTMENT PROCESS

UN Charter: General Assembly appoints SG on the recommendation of the Security Council. P5 veto applies — any permanent member can block a candidate.

TERM & ROTATION

Convention: two 5-year terms maximum. Chairship rotates among 5 regions. **2026–27 cycle: Latin America & Caribbean's turn.** Next SG takes office January 1, 2027.

SELECTION STEPS

Public dialogues → SC closed straw polls (narrow field) → SC formal recommendation → UNGA simple majority vote confirms. Process happens around October of election year.

ONE CASE ONE DATA

SC of India initiative — integrates judicial data across HC, District, Taluka courts. Creates unified case history. Accompanied by 'Su Sahay' AI chatbot on SC website (developed by NIC + SC Registry).

PRELIMS PRACTICE

Q.06

With reference to the Padma Awards, consider the following:
1. Government servants working in Public Sector Undertakings are not eligible for Padma Awards.
2. Self-nomination is prohibited — only third-party nominations are accepted.
3. Padma Awards cannot be used as a prefix or suffix to the recipient's name under Article 18 of the Constitution.
Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q.07

The process for appointing the UN Secretary-General involves which of the following steps in the correct order?

(a) UNGA vote → Security Council recommendation → President's approval

(b) Security Council recommendation (including P5 veto) → General Assembly appointment by simple majority

(c) P5 nations jointly nominate → General Assembly approves by 2/3 majority

(d) All UN member states vote → Security Council ratifies the winning candidate

Q.08

Consider the following pairs of schemes/initiatives and their nodal ministries:
1. SHE-MART — Ministry of Rural Development
2. BHAVYA — Ministry of Commerce & Industry (DPIIT)
3. SEHAT Mission — Ministry of Health and Family Welfare (alone)
Which of the pairs given above is/are correctly matched?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

GS PAPER 2 SERIES — COMPLETE

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Economy, Science & Environment

SUBEconomy, Science
& Environment

TOPICS COVERED IN THIS SECTION

AI Financial Inclusion · Orange Economy · TFP · Rupee Depreciation · Capital Flight · Bond Yields · IPO · LEADS 2025 · Energy Security · Iran War 2026 · Operation Sankalp · EV Grid Strategy · Bioenergy · Dual-Use Satellites · Kessler Syndrome · Cyber Warfare · CICN · Make in India Defence · Sand & Sustainability · HWC · COP31 · AERB · MARS Methane · IBCA · Asiatic Lions · Invasive Species · Mission Drishti · Shukrayaan · SMILE · Hantavirus · Ebola PHEIC 2026 · AI Agents · OLED · CDS · INS Sanghmitra · Military Exercises · Ammonium Sulphate

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PART ONE OF FIVE · GS PAPER 3

UPSC GS·3 · CURRENT AFFAIRS MAGAZINE · MAY 2026

Economy — Growth, Finance, Agriculture & Trade

AI Financial Inclusion · Orange Economy · TFP · Rupee Depreciation
Capital Flight · PaRRVA · E-PRAAPTI · IPPB SHG
NTBs · LEADS 2025 · Bond Yields · IPO

UPSC with Saurabh Kaushik

ECONOMY — FINANCIAL INCLUSION & TECHNOLOGY · GS·3 · MAINS

AI-Powered Financial Inclusion in India

India's convergence of Digital Public Infrastructure (DPI) with advanced AI analytics is transforming financial inclusion — moving from access to empowerment. Tools like ULI, Banking BHASHINI, MuleHunter.AI, and the Account Aggregator framework are redefining last-mile finance.

ULI
Unified Lending Interface — uses satellite imagery + land records to assess rural farmers' creditworthiness without CIBIL scores

BHASHINI
Banking BHASHINI — voice-based banking across all 22 scheduled Indian languages; removes language barrier for financial access

490M
Workers supported by Mission Digital ShramSetu — skill verification and social protection for informal sector workers

MuleHunter.AI
Detects transaction anomalies in mule accounts — real-time AI monitoring against money laundering and fraud

KEY BENEFITS

- **Digital Footprints beyond CIBIL** — enables loans for those without credit history; ULI uses satellite imagery and land records for rural farmers
- **Language Barrier Removal** — Voice-based banking in 22 scheduled languages; Banking BHASHINI for citizens with limited literacy or typing skills
- **Fraud Detection** — Real-time monitoring of suspicious transactions; MuleHunter.AI prevents money laundering through mule accounts
- **Hyper-Personalisation** — Customised products for informal workers; Mission Digital ShramSetu — 490M workers via skill verification
- **Operational Efficiency** — AI-enabled KYC; Account Aggregator (AA) framework enables paperless, consent-based data sharing for faster loans

KEY CHALLENGES

- **Algorithmic Bias** — Flawed training data discriminates against specific groups; historical datasets undervalue women entrepreneurs' creditworthiness in rural areas
- **Data Privacy** — Consent-based sharing demands strong safeguards; AA framework requires vigilance against unauthorized data harvesting
- **Digital Literacy Gap** — Users vulnerable to social engineering despite AI interfaces; fraudsters obtain biometric details/OTPs through manipulation
- **Deepfake Threats** — Deepfake voice scams bypass traditional banking authentication
- **Technological Divide** — Advanced AI requires 5G and modern devices; low smartphone penetration in remote areas

WAY FORWARD

→ Strengthen Banking BHASHINI: Expand voice-first AI banking for users with limited literacy — move beyond text-based interfaces

→ Ethical AI Frameworks: National standards for Explainable AI — ensure transparent, unbiased credit decisions

→ Expand ULI Reach: Integrate Regional Rural Banks (RRBs) and cooperative banks for enhanced rural credit access

→ Regulatory Sandbox: Incentivise fintech-bank collaborations for AI-driven risk assessment models

→ Digital Financial Literacy: Gamified AI-powered programs for cybersecurity awareness in rural areas

PRELIMS PRACTICE · Q.01

Consider the following statements about the Unified Lending Interface (ULI):
1. ULI uses satellite imagery and land records to evaluate rural farmers' creditworthiness.
2. ULI is aimed at providing credit to individuals who lack CIBIL scores.
3. ULI is a product of the Reserve Bank of India (RBI) launched under its regulatory sandbox framework.
Which of the statements given above is/are correct?

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

Q.02

The Account Aggregator (AA) framework in India facilitates:

(a) Automatic aggregation of all bank accounts of a person into a single account managed by SEBI
(b) Consent-based, paperless sharing of financial data across institutions for faster loan approvals and financial services
(c) Consolidation of tax data from multiple sources for automated GST filing
(d) A scheme where NABARD aggregates SHG savings for collective investment in government securities

ECONOMY — CREATIVE ECONOMY & PRODUCTIVITY · GS·3 · MAINS

Orange Economy & TFP: India's Path to Viksit Bharat 2047

Two complementary economic paradigms for Viksit Bharat: the Orange Economy (creativity-driven growth) and Total Factor Productivity (TFP) — the Economic Survey 2025-26's prescription for sustainable, non-inflationary growth.

ORANGE ECONOMY — DEFINITION

An economic model powered by creativity, cultural expression, and intellectual property. Spans design, film, animation, VFX, gaming, fashion, digital media, and immersive storytelling. Also called the Creative Economy or Cultural Economy.

India's Position: Large content producer but limited IP ownership — creator incomes dependent on foreign platform algorithms. The shift needed: from content factory to IP owner.

TOTAL FACTOR PRODUCTIVITY (TFP) — DEFINITION

Measures how efficiently capital AND labour together generate economic output. TFP-driven growth reflects technological innovation, institutional improvements, and optimal resource allocation — not just adding more workers or factories.

Why Economic Survey 2025-26 Emphasises TFP: India's post-pandemic growth relied heavily on capital investment. TFP growth enables expansion without proportional increase in inputs, and without inflation.

CHALLENGES — ORANGE ECONOMY

- **Platform Dependency:** Creator visibility and earnings controlled by foreign platform algorithms (YouTube, Instagram, Netflix). No sovereignty over distribution.
- **No IP Ownership:** High content production but limited ownership of characters, narratives, and formats. Revenue leaks to platforms, not creators or India.
- **Fragmented Training:** Education lacks interdisciplinary skills for modern creative industries — gap between arts, technology, and business skills.
- **Funding Gap:** Limited access to capital + poor IP law literacy hinders global distribution. Creative SMEs cannot access institutional finance.

TFP GROWTH — WHY INDIA IS STRUGGLING

1. **Factor Accumulation Dependence:** Growth relies on capital investment rather than efficiency gains — building highways raises GDP without improving productivity
2. **Zombification Trap:** Bank-financed distressed firms absorb credit despite weak performance — "zombie firms" prevent funding from reaching productive startups
3. **Institutional Frictions:** Restrictive land and labour laws prevent efficient resource reallocation — firms cannot scale up even when productive
4. **Skill Mismatch:** Engineering graduates lack practical industrial skills — labour market mismatches reduce economy-wide productivity
5. **Regional Concentration:** TFP gains concentrated in advanced states — populous regions remain agriculture-dependent with low productivity growth

WAY FORWARD — ORANGE ECONOMY & TFP

- → Orange Economy: Reform creative training — integrate storytelling, design systems, and business models; promote proprietary formats and IP licensing
- → TFP — Strengthen IBC: Accelerate firm exits under Insolvency and Bankruptcy Code — prevent capital trapped in non-performing assets
- → TFP — Decentralise Hubs: Support tier-2/3 cities with industrial infrastructure to expand productive manufacturing clusters
- → TFP — Corporate R&D: Improve patent commercialisation; encourage indigenous innovation through tax incentives

Q.03

Total Factor Productivity (TFP) is considered a superior measure of economic progress compared to GDP growth because:

(a) TFP measures only labour productivity, which is easier to improve than capital productivity

(b) TFP measures how efficiently both capital and labour generate output, reflecting technological innovation and institutional quality — not just adding more inputs

(c) TFP growth is always higher than GDP growth, making it a better indicator for international comparisons

(d) TFP accounts for natural resource consumption, making it environmentally superior to GDP measurement

ECONOMY — EXCHANGE RATE & MACROECONOMICS · GS·3 · PRELIMS · MAINS

Rupee Depreciation & Capital Flight — 2026 Crisis

The rupee touched ₹96.86 against the US dollar — a record low — driven by the 2026 Iran War, capital outflows, crude oil price spike, and speculative attacks. FII outflows of ₹1,959 crore in a single day; RBI spent ~$38 billion in forex reserves to stabilise.

₹96.86
Record low against USD — triggered by Iran War, crude spike, FII outflows

~$38B
RBI spent from forex reserves to stabilise rupee — reserves fell to $690.69 billion

₹1,959 Cr
FII net selling in a single day (May 2026) — triggered equity market slump

15%
Import duty on gold/silver hiked from 6% — to discourage non-essential dollar outflows

Dimension	Weak Rupee	Falling Rupee
Definition	Stable low-value position	Rapid, continuous depreciation
Export Impact	Boosts competitiveness gradually	Buyers delay orders expecting further fall
Import Impact	Higher but stable costs	Panic buying of essential commodities
Current Account	Can gradually reduce CAD	May initially widen CAD via costlier imports
Inflation	Manageable imported inflation	Sharp rise — crude oil costs surge
RBI Response	Minimal intervention	Active forex intervention + moral suasion

CAPITAL FLIGHT — MECHANICS

1. **Risk Perception Spike:** Geopolitical event (Iran War 2026) raises perceived risk — investors sell local stocks and bonds
2. **Currency Exchange Pressure:** To move money out, investors sell rupees and buy dollars — massive sell pressure on INR
3. **Rupee Depreciation:** Selling pressure causes sharp INR decline — crossing ₹95, then ₹96.86 per dollar
4. **Taper Tantrum Effect:** Even expectation of higher US rates triggers flight before rates move — investors price in future gains abroad
5. **Cascading Impacts:** Forex reserve depletion, imported inflation (fuel, fertiliser costs rise), equity market slump, increased subsidy burden

RBI'S INTERVENTION TOOLKIT

- **Spot Market Intervention:** RBI sells USD from forex reserves directly in spot market to provide dollar liquidity and absorb rupee sell pressure
- **Forward & Swap Operations:** Uses forward contracts and currency swaps to manage long-term dollar liquidity expectations — smooths volatility
- **Moral Suasion:** Advises banks and importers to hedge foreign currency exposure; PM Modi's "Domestic-First" appeal to conserve forex
- **NDF Market Curbs:** Restricts activity in Non-Deliverable Forward (NDF) market to curtail speculative attacks on rupee
- **Fiscal Coordination:** RBI + Finance Ministry: import duty hike on gold/silver to 15%; restrict non-essential dollar outflows

Q.04

Consider the following statements about Capital Flight:
1. Capital flight refers to large-scale outflow of financial assets when investors lose confidence due to geopolitical instability or better returns elsewhere.
2. Capital flight always results in appreciation of the domestic currency as foreign investors bring in more dollars.
3. The "Taper Tantrum" effect occurs when even the expectation of higher interest rates abroad triggers capital outflows before rates actually move.
Which of the statements given above is/are correct?

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

ECONOMY — PRELIMS IN FOCUS · GS·3 · PRELIMS

Prelims Focus — PaRRVA, E-PRAAPTI, IPPB SHG, NTBs, LEADS 2025, Bond Yields & IPO

Seven high-frequency Prelims topics from May 2026: each with exam-ready facts, institutional details, and MCQ traps.

PARRVA

Full form	Past Risk and Return Verification Agency
Launched by	SEBI
Purpose	Validates past performance metrics of investment advisors, research analysts, algo-traders
PaRRVA entity	CARE Ratings Limited (official PaRRVA)
Data Centre	NSE as PaRRVA Data Centre (PDC)
Pilot launched	December 8, 2025; full launch May 2026
UPSC relevance	SEBI regulation of financial market intermediaries' performance claims

E-PRAAPTI

Full form	EPF Aadhaar-Based Access Portal for Tracking Inoperative Accounts
Launched by	EPFO (Employees' Provident Fund Organisation)
Ministry	Ministry of Labour and Employment
Purpose	Track and activate old EPF accounts lacking UAN linkage — access long-pending deposits
Authentication	Aadhaar-based verification
Phase 1	Requires Member ID to track accounts
Phase 2	Expands to members who can't recall old Member IDs

IPPB SHG ACCOUNT

IPPB launched	September 1, 2018
Ownership	100% Government of India — under Department of Posts
Reach	~1,65,000 Post Offices; ~3,00,000 postal employees (incl. Postmen and GDS)
SHG Account	Zero-balance; no MAB; max balance ₹2 lakh; quarterly interest; nil charges
Goal	Integrate women-led SHGs into formal financial ecosystem
Aligns with	National Rural Livelihoods Mission; NABARD support

NON-TARIFF BARRIERS (NTBS)

NTBs = Policy measures other than customs tariffs that affect international trade. Unlike tariffs (simple percentage taxes on imports), NTBs are "invisible hurdles" — regulations, standards, quotas — that change trade quantities or prices.

Two main categories (UNCTAD):
(1) Technical: SPS (Sanitary & Phytosanitary) measures; TBT (Technical Barriers to Trade)
(2) Non-Technical: Quantitative restrictions, import licensing, price controls, rules of origin

WTO & NTBs: WTO does NOT ban NTBs but requires them to be science-based, non-discriminatory, and notified (SPS Agreement, TBT Agreement). Countries can raise Specific Trade Concerns (STCs) if a neighbour's regulation unfairly restricts exports.

LEADS 2025 REPORT

Full form	Logistics Ease Across Different States
Published by	DPIIT, Ministry of Commerce & Industry
Edition	7th edition (2025)
New framework	3-tier → 4-tier performance framework
Objective	59% weightage to objective indicators (vs perception-based)
4 Tiers	Exemplars → High Performers → Accelerators → Growth Seekers
Aligns with	PM GatiShakti NMP and National Logistics Policy (NLP)

Q.05

Consider the following statements about bond yields:
1. When bond prices rise, bond yields fall — they share an inverse relationship.
2. A 10-year G-Sec yield rising indicates that the government is getting cheaper credit from the market.
3. G-Secs in India are equivalent to "Gilts" in the UK and "Treasurys" in the USA.
Which of the statements given above is/are correct?

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

BOND YIELDS — THE INVERSE RELATIONSHIP

BOND PRICE ↑ Rises
High demand pushes bond prices up

⟺

BOND YIELD ↓ Falls
Higher price = lower effective return

Example: You buy a bond for ₹100 paying ₹5/year (yield = 5%). New bonds now pay ₹10 (yield = 10%). Your old bond becomes unattractive. To sell it, you must drop price to ₹50 — so the buyer earns ₹5/₹50 = 10% yield. Bond price fell; yield rose.

G-Sec terminology: G-Secs (India) = Treasurys (US) = Gilts (UK). The 10-year G-Sec yield is the benchmark for India's interest rate environment.

IPO — 5 OPERATIONAL STAGES

1. **Capital Flow:** Fresh Issue (money to company) vs OFS (money to selling shareholders) vs Pre-IPO Placement
2. **Regulatory Filing:** DRHP (full disclosure to SEBI); Confidential Filing (for startups); IDR for foreign companies listing in India
3. **Investor Classes:** QIBs (institutional); Anchor Investors (elite QIBs, 1 day before); NIIs/HNIs (above ₹2L bid)
4. **Pricing Mechanics:** Book Building (price band); Lot Size; Oversubscription; Grey Market Premium (GMP — unofficial, unregulated)
5. **Post-Listing:** Market Capitalisation (price × shares); Lock-in Period (SEBI mandated — prevents immediate promoter dumping)

Q.06

Which of the following correctly distinguishes between a "Fresh Issue" and an "Offer for Sale (OFS)" in an IPO?

(a) Fresh Issue proceeds go to existing shareholders; OFS proceeds go to the company for expansion

(b) Fresh Issue creates new shares — proceeds go to the company; OFS involves selling existing shares — proceeds go to the selling shareholders

(c) Fresh Issue is only for domestic investors; OFS is only for foreign institutional investors

(d) Fresh Issue requires SEBI approval; OFS can be launched without regulatory filings

Q.07

The LEADS Report, published annually by DPIIT, assesses which of the following?

(a) The quality of legal and dispute resolution services across states for ease of doing business

(b) Leadership Effectiveness and Administrative Development Scores of state governments

(c) The logistics ecosystem of each State and Union Territory across infrastructure, services, and regulatory environment

(d) Labour Employment and Development Statistics across states for workforce planning

PART TWO OF FIVE · GS PAPER 3

UPSC GS·3 · CURRENT AFFAIRS MAGAZINE · MAY 2026

Energy Security, Cyber Warfare, Dual-Use Satellites & Internal Security

India's Energy Security · 2026 Iran War · Operation Sankalp

EV Grid Strategy · Decentralised Bioenergy

Dual-Use Satellites · Kessler Syndrome

Cyber Warfare · Fake Currency (CICN) · Make in India Defence

UPSC with Saurabh Kaushik

ENERGY SECURITY — GEOPOLITICAL CONTEXT · GS·3 · MAINS

India's Energy Security Amid the 2026 Iran War

The 2026 Iran War — triggered by US-Israeli strikes — closed the Strait of Hormuz, spiked crude oil prices, and forced Indian LPG carriers to seek naval escorts under Operation Sankalp, exposing India's structural energy vulnerabilities despite tactical import diversification.

~85%
India's crude oil import dependence — one of the highest among major economies globally

Hormuz
Strait of Hormuz — critical chokepoint; 2026 closure triggered crisis for India's energy imports

Op Sankalp
Indian Navy's escort operation for commercial energy vessels in Gulf — extended to LPG carriers in 2026

3 Sites
India's Strategic Petroleum Reserve (SPR) — Padur, Mangaluru, Visakhapatnam; capacity ~5.33 MMT

HOW GLOBAL CONFLICTS DISRUPTED ENERGY SECURITY

1. **Russia–Ukraine War (2022 onwards):** Exposed risks of pipeline dependence. Europe slashed Russian gas imports. India benefited: Russian oil imports surged on discounted prices.
2. **West Asia / Iran War (2026):** Strait of Hormuz closure threatened India's LNG and crude oil supplies. Indian LPG carriers required naval escort. Global oil price volatility spiked.
3. **Critical Mineral Front:** Green energy expansion creating new vulnerabilities — India depends heavily on imported lithium (Australia), cobalt (Congo), rare earths (China) for solar panels, EVs, and batteries.
4. **Fragmented Global Markets:** Nations building energy resilience through stockpiling (Japan: 90-day strategic reserves) — India's SPR covers only ~9.5 days of imports.

CURRENT STRENGTHS

- **Tactical Import Diversification:** Multiple suppliers reduce single-source dependence; Russian oil surge during Ukraine war showed opportunistic flexibility
- **Non-Fossil Progress:** Non-fossil sources contribute over 50% of installed power capacity
- **Naval Capacity:** Operation Sankalp demonstrates Indian Navy's escort capability in Gulf
- **SPR Expansion:** Government expanding strategic petroleum reserves at existing 3 sites

STRUCTURAL VULNERABILITIES

- **Persistent Import Dependence:** Low domestic crude output — limited output exposes economy to price, currency, freight fluctuations
- **Transition Trap:** Green energy shift creates new critical mineral dependencies — lithium, cobalt, rare earths processing
- **Chokepoint Risk:** Disruptions at Strait of Hormuz, Strait of Malacca affect large share of India's energy supply
- **SPR Inadequacy:** ~9.5 days import cover vs IEA's 90-day benchmark for energy security

WAY FORWARD

- → Expand SPR: Scale strategic petroleum reserves toward 30-day import cover; explore underground cavern storage expansion
- → Secure Critical Mineral Chains: Build domestic lithium and rare-earth processing; diversify beyond China for rare-earth processing
- → Maritime Resilience: Strengthen Operation Sankalp; expand Indian Navy escort capacity in Gulf and IOR
- → Reduce Oil Intensity: Accelerate EV adoption, biofuel blending (E20 by 2025), and LNG in heavy transport
- → Leverage Optionality: Maintain diversified import portfolio — never over-depend on any single supplier

Q.01

Consider the following statements about India's Strategic Petroleum Reserve (SPR):
1. India's SPR is located at three sites — Padur, Mangaluru, and Visakhapatnam.
2. The International Energy Agency (IEA) recommends member countries maintain at least 90 days of net oil import cover.
3. India is a full member of the IEA and is legally bound by its 90-day strategic reserve requirement.
Which of the statements given above is/are correct?

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

ENERGY — EV TRANSITION & BIOENERGY · GS·3 · MAINS

India's EV Grid Strategy & Decentralised Bioenergy Systems

Two complementary clean energy pathways: EV electrification requires a smart, bidirectional grid strategy — while decentralised bioenergy converts agricultural and municipal waste into distributed energy, reducing stubble burning and import dependence.

EV GRID — THE KEY CHALLENGE

India cannot just electrify vehicles — it needs to electrify the GRID that charges them. Full vehicle electrification would require substantial additional annual electricity generation. Converting half the fleet by 2047 will significantly increase peak demand. Heavy Goods Vehicles (trucks) consume a disproportionately large share of energy despite small fleet size — making freight electrification the hardest and most impactful challenge.

PM E-DRIVE

Incentives for EV adoption — especially buses and commercial vehicles

BIS CHARGING STANDARDS

Interoperable EV charging standards for buses — cross-manufacturer compatibility

RDSS SMART METERS

Revamped Distribution Sector Scheme — nationwide smart meters for real-time grid monitoring

NATIONAL ELECTRICITY PLAN

Expands transmission infrastructure for renewable integration and future EV demand

BIOENERGY — TWO CONVERSION PATHWAYS

Aspect	Pathway 1: Gasification (Thermal — Dry Waste)	Pathway 2: Anaerobic Digestion (Biological — Wet Waste)
Feedstock	Paddy straw, cotton stalks, coconut husks, woody residues	Kitchen waste, dairy manure, industrial effluents, sewage sludge
Process	800–1,000°C under limited oxygen — drying → pyrolysis → partial oxidation → reduction	Anaerobic microorganisms decompose organic matter in sealed biodigesters (no oxygen)
Output	Syngas (CO + H_2) + Biochar (improves soil, carbon sequestration)	Biogas → Compressed Biogas (CBG) + nutrient-rich digestate (organic fertiliser)
Upgrade	Green Hydrogen (syngas upgrade)	CBG for vehicle fuel / piped gas

Key Benefits of Decentralised Bioenergy: Reduces stubble burning in Punjab/Haryana; enables circular agriculture (digestate replaces chemical urea); generates carbon credits (biochar, green methane); processes urban wet waste locally, reducing landfill methane.

WAY FORWARD — EV GRID & BIOENERGY

- → Mandate Smart Charging: All EV chargers must support bidirectional grid communication — Vehicle-to-Grid (V2G) technology
- → Dynamic Time-of-Use Tariffs: Encourage EV charging during surplus solar/wind periods — flatten evening peak demand
- → CBG Procurement Mandate: Oil marketing companies must purchase Compressed Biogas at remunerative tariffs — create guaranteed market
- → NABARD Credit Guarantees: Expand credit-guarantee mechanisms to reduce bioenergy startup lending risks
- → Biomass Storage Banks: Weatherproof storage for year-round feedstock supply — overcome seasonal fluctuation challenge

Q.02

Consider the following about Bioenergy conversion systems:
1. Gasification is a thermal process suitable for dry biomass like paddy straw, producing Syngas and Biochar.
2. Anaerobic digestion is a biological process that produces Biogas (upgradeable to CBG) from wet waste in the presence of oxygen.
3. Biochar produced from gasification can improve soil fertility and support carbon sequestration.
Which of the statements given above is/are correct?

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

Q.03

The "Coal Displacement Trap" in the context of India's EV transition refers to:

(a) The risk that coal mines will be displaced by EV battery manufacturing plants
(b) The scenario where EVs powered by coal-based electricity merely shift emissions from tailpipes to power plants without reducing net carbon output
(c) The displacement of coal workers as EV manufacturing replaces traditional automotive jobs
(d) The trap where coal companies lobby against EV policy to protect their market share

SCIENCE & TECHNOLOGY — SPACE SECURITY · GS·3 · MAINS

Dual-Use Satellites: Blurring the Lines of Modern Space War

Over 70% of newly launched satellite constellations are dual-use. Commercial constellations provide over 80% of tactical communication bandwidth in conflict zones (Starlink precedent). Space is becoming a warfighting domain — with no clear international legal framework.

>70%
Newly launched satellite constellations are dual-use — support both broadband and military logistics

>80%
Tactical communication bandwidth in conflict zones provided by commercial constellations (Starlink precedent in Ukraine)

NavIC
India's own Navigation with Indian Constellation — dual-use navigation for public transport and defence positioning

CERT-In
India's cybersecurity body mandating secure-by-design protocols amid rising GPS spoofing incidents

WHY DUAL-USE SATELLITES ARE NEEDED

- **Cost Efficiency:** Shared civilian-military infrastructure avoids duplicating separate satellite networks; NavIC serves both public navigation and defence targeting
- **Technological Convergence:** Commercial imaging now rivals military capabilities; Earth-observation firms provide disaster management AND intelligence data
- **Redundancy:** Large mesh-network constellations are harder to disable than few high-value military satellites (Starlink's architecture enabled Starshield military service)
- **Strategic Flexibility:** States expand space capabilities without overt militarisation

CRITICAL CHALLENGES

- **Collapse of Distinction:** Civilian satellites supporting military ops may become legitimate targets under IHL; attacks on broadband satellites could disrupt civilian emergency services
- **Attribution Gap:** GPS spoofing and jamming incidents hard to attribute; no forensic standard for identifying space cyber-aggressor
- **Kessler Syndrome:** Satellite destruction generates debris — threatens all LEO activities; ASAT tests leave debris clouds affecting all operators
- **Legal Grey Zone:** Disabling a satellite through code — not covered by Outer Space Treaty (1967)

Kessler Syndrome — UPSC Concept: A scenario where satellite collisions generate debris that triggers a chain reaction of further collisions, eventually making low-Earth orbit (LEO) unusable for generations. Named after NASA scientist Donald Kessler (1978). Anti-satellite missile tests (India's Mission Shakti 2019, China's 2007 ASAT test) are criticised because they create debris clouds. International pressure to prohibit direct-ascent ASAT tests is growing precisely because of Kessler Syndrome risk.

WAY FORWARD

- → Secure-by-Design Mandates: Integrate cybersecurity throughout satellite design, launch, and operations — CERT-In & SIA-India protocols
- → Update Outer Space Treaty: 1967 OST predates commercial satellites — new rules needed for dual-use and commercial constellations
- → UN Forensic Body: Create UN-backed attribution mechanism to identify and publicly name cyber aggressors in space
- → Functional Effects Test: Recognise satellite functional loss (through code) as equivalent to physical destruction under international law

Q.04

Consider the following statements about dual-use satellites:
1. A dual-use satellite serves both civilian purposes (weather, GPS, broadband) and military purposes (surveillance, communications).
2. NavIC (Navigation with Indian Constellation) is an example of India's dual-use satellite system.
3. The Outer Space Treaty (1967) comprehensively prohibits the use of commercial satellites for military support operations.
Which of the statements given above is/are correct?

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

INTERNAL SECURITY — CYBER, FAKE CURRENCY & DEFENCE · GS·3 · MAINS · PRELIMS

Cyber Warfare, Fake Currency & Make in India Defence

Three internal security pillars: cyber warfare's legal vacuum; counterfeit Indian currency notes (CICN) linked to terrorism financing; and India's Make in India defence ecosystem — ₹21,000+ crore defence exports in 2024-25.

CYBER WARFARE — THE LEGAL VACUUM

Attribution Gap	Intelligence can identify attackers but evidence fails judicial admissibility standards
"Use of Force" Ambiguity	No clear threshold for when cyberattack = act of war (prolonged power grid shutdown may not qualify)
Sovereign Immunity	ICJ cannot act against state without consent — no compulsory jurisdiction for cyber disputes
Budapest Convention Gap	Focuses on cybercrime, not state-sponsored Advanced Persistent Threats (APTs)
Escalation Fear	States avoid legal action to protect intelligence capabilities — prefer diplomatic channels

Tallinn Manual: A non-binding expert study on how international law applies to cyber warfare. Produced by NATO's CCDCOE in Estonia. Tallinn Manual 2.0 (2017) covers peacetime cyber operations. Not a treaty — just expert guidance. India is not a signatory or member of CCDCOE.

FAKE CURRENCY (CICN) — SECURITY DIMENSIONS

Full form	Counterfeit Indian Currency Notes
Most counterfeited	₹500 and ₹200 notes — high denomination, widely used
Terror link	CICN seizures linked to terror financing — fake currency funds extremist networks
Entry routes	Porous borders — traditional transit routes; organised criminal networks
Economic impact	Distorts money supply; contributes to inflation; undermines public trust
Awareness initiative	"Know Your Note" campaign — RBI public awareness
Coordination body	National Functional Analysis Centre — inter-agency intelligence sharing

MAKE IN INDIA DEFENCE — KEY DATA

Defence Exports	₹21,083 crore (2024-25) — record high; target ₹50,000 crore by 2028-29
iDEX	Innovations for Defence Excellence — startup ecosystem for defence tech
Defence Corridors	UP (Lucknow-Agra-Aligarh belt) + Tamil Nadu (Chennai-Coimbatore) — thousands of MSME units
FDI Limit	100% FDI allowed under automatic route for select defence products — up from earlier 49%

Dimension	Opportunity	Challenge
Technology	Drones, loitering munitions; BrahMos export success	Critical components (semiconductors, sensors, actuators) still imported
Investment	VC-funded miltech startups growing rapidly; iDEX ecosystem	Uneven competition: DPSUs have structural advantages over private firms
Export	₹21,000+ crore exports (2024-25); 85+ countries	Bureaucratic procurement delays — many projects exceed timelines by years
Procurement	DAP reforms; positive indigenisation lists	Frequent QR (Qualitative Requirement) changes disrupt manufacturing schedules
Human Capital	Large engineering talent pool	Brain drain — DRDO/DPSUs lose engineers to private sector or abroad

Q.05

The Budapest Convention on Cybercrime (2001) is significant in the context of cyber warfare because:

(a) It is the first binding UN treaty that specifically criminalises state-sponsored cyberattacks against critical infrastructure

(b) India is a founding signatory and is legally bound to prosecute state-sponsored cyber aggressors

(c) It is the main international cybercrime treaty but focuses on criminal activities rather than state-sponsored operations — making it inadequate against Advanced Persistent Threats (APTs)

(d) It established the UN's Cyber Security Council with binding enforcement powers against member states

Q.06

Which of the following statements about India's defence exports is/are correct?

1. India's defence exports crossed ₹21,000 crore in 2024-25 — a significant rise from near-zero a decade ago.

2. The BrahMos missile export represents India's capability in advanced defence manufacturing.

3. The iDEX (Innovations for Defence Excellence) scheme is managed by the Defence Research and Development Organisation (DRDO).

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

PART THREE OF FIVE · GS PAPER 3

UPSC GS·3 · CURRENT AFFAIRS MAGAZINE · MAY 2026

Environment, Climate Change, Conservation & Ecology

Sand & Sustainability (UNEP) · Human-Wildlife Conflict
COP31 Electrification · AERB · MARS Methane Alert System
IBCA Summit · Asiatic Lions · Prosopis juliflora · Conocarpus
Nilgiri Tahr · Sperm Whales · Kali Night Frog · Ganges Soft-Shell Turtle

UPSC with Saurabh Kaushik

ENVIRONMENT & CONSERVATION — RESOURCES & CONFLICT · GS·3 · MAINS

Sand & Sustainability (UNEP Report) + Human-Wildlife Conflict

UNEP's landmark "Sand and Sustainability" report warns that sand — the world's most extracted solid material and second-most consumed resource after water — is being mined unsustainably. Meanwhile, Human-Wildlife Conflict (HWC) causes significant casualties across India.

SAND — THE HIDDEN RESOURCE CRISIS

- Most extracted solid material globally — 2nd most consumed resource after water
- **Demand drivers:** Rapid urbanisation, infrastructure (PMAY, highways), semiconductor manufacturing, solar panels, data centres
- **Ecological impacts:** Riverine degradation (Chambal River deepening); groundwater depletion; biodiversity loss; saline water intrusion in coastal areas; silicosis in workers
- **Chambal River example:** Deepened channels increase downstream flood risks
- **Semiconductor demand:** High-purity sand essential for chips, solar panels, data centre glass

UNEP RECOMMENDATIONS

- → Strategic Resource: Recognise sand as critical resource requiring sustainable governance frameworks
- → M-Sand (Manufactured Sand): Promote crushed rock and recycled construction waste as river-sand alternatives
- → No-Go Zones: Prohibit mining in Marine Protected Areas (MPAs) and ecologically sensitive river stretches
- → Cumulative Impact Assessment: Mandate CIA for large dredging projects
- → Transboundary Cooperation: International frameworks for shared river basins and offshore resources

HUMAN-WILDLIFE CONFLICT (HWC)

HWC Definition: Negative interactions between humans and wild animals causing human deaths, livestock losses, crop damage — alongside retaliatory killings, habitat destruction, and wildlife mortality. Growing in severity across India due to habitat fragmentation and climate variability.

ROOT CAUSES OF HWC

1. **Habitat Fragmentation:** Roads, mines, projects divide forests — Western Ghats infrastructure disrupted elephant corridors
2. **Agricultural Expansion:** Farms in forest fringes attract wildlife — leopards in sugarcane fields near settlements
3. **Climate Variability:** Droughts reduce natural food/water — elephants move into croplands during dry seasons
4. **Invasive Species:** Lantana camara lowers herbivore-carrying capacity in reserves — pushes wildlife toward farmlands

WAY FORWARD — HWC

- → Wildlife Corridors: Protect and restore landscape connectivity for safe animal movement
- → Rapid Compensation: Digitise claims — timely financial relief for affected communities
- → Smart Infrastructure: Eco-bridges and underpasses in forest-area highway projects
- → Habitat Restoration: Remove invasive species like Lantana; restore degraded grasslands

Q.01

Consider the following statements about sand mining and its impacts:
1. Sand is the most extracted solid material globally and the second-most consumed resource after water.
2. Sand mining causes riverbed deepening, which can increase downstream flood risks.
3. Manufactured Sand (M-Sand) is produced from river sand through a purification process.
Which of the statements given above is/are correct?

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

CLIMATE CHANGE & NUCLEAR REGULATION · GS·3 · PRELIMS · MAINS

COP31 Electrification Priority, AERB & MARS — Methane Alert System

COP31 (Antalya, Türkiye) targets economy-wide electrification with IRENA's "35 by 35" goal; AERB clears Kudankulam Units 5&6 equipment erection; MARS (Methane Alert and Response System) launched at COP27 now covers coal mines and waste sectors.

COP31 — QUICK FACTS

Full form	31st Conference of Parties (UNFCCC)
Location	Antalya, Türkiye (Mediterranean resort city)
COP31 President-Designate	Murat Kurum (Türkiye's Environment Minister)
Key agenda	Economy-wide electrification to replace fossil fuels
35 by 35 Goal	IRENA: Increase electricity share in final energy from 20% to 35% by 2035
Target	Support 1.5°C pathway; over 50% electricity share by 2050
Troika approach	Coordinated climate action across successive COP presidencies
Challenge	Funding deficits; no binding UN commitment; grid constraints; climate finance diversion

AERB — ATOMIC ENERGY REGULATORY BOARD

Established	November 15, 1983
Authority	Constituted by President under Atomic Energy Act, 1962
2026 news	Granted permission for erection of Reactor Pressure Vessels & Steam Generators for Kudankulam Units 5&6
Kudankulam	Tamil Nadu — India's largest nuclear power station; Russia-assisted (VVER-1000 reactors)
AERB aim	Ensure nuclear/ radiation activities don't cause undue risk to public health or environment
Key function	Standard setting, licensing (First Pour of Concrete, Equipment Erection), safety reviews, SARCOP
SARCOP	Safety Review Committee for Operating Plants — monitors operational safety

MARS — METHANE ALERT & RESPONSE SYSTEM

Launched	Announced COP27; officially launched January 2023
Under	International Methane Emissions Observatory (IMEO) under UNEP
What it does	First global satellite-based system monitoring methane super-emitters + connects to rapid mitigation
Coverage	Originally oil & gas; now expanded to coal mines and waste facilities
AI integration	Custom ML models analyse thousands of satellite images in minutes
Transparency	Detection data made public 30–45 days after event
Key metric	PWF (Persistency-Weighted Flux) — distinguishes short leaks from chronic emitters
Coal database	Covers over half of world's metallurgical coal production

Q.02

Consider the following statements about the Atomic Energy Regulatory Board (AERB):
1. AERB was established in 1983 under the Atomic Energy Act, 1962.
2. AERB is a statutory body established by an Act of Parliament specifically for nuclear regulation.
3. SARCOP (Safety Review Committee for Operating Plants) is a committee that operates under AERB.
Which of the statements given above is/are correct?

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

Q.03

The IRENA "35 by 35" goal, mentioned in the context of COP31 priorities, refers to:

(a) Reducing global methane emissions by 35% below 2020 levels by 2035
(b) Having 35 countries achieve net-zero emissions by 2035

(c) Increasing electricity's share in final energy consumption from 20% to 35% by 2035 to support the 1.5°C climate target

(d) Installing 35 gigawatts of renewable energy capacity per year by 2035 in each developing country

CONSERVATION — BIG CATS, INVASIVE SPECIES & ASIATIC LIONS · GS·3 · PRELIMS · MAINS

IBCA Summit, Asiatic Lions, Prosopis juliflora & Conocarpus

India-headquartered IBCA summit advances big cat conservation; Asiatic Lion population hits 891 (32% rise since 2020) but Canine Distemper Virus threatens Gir; two invasive species — Prosopis juliflora and Conocarpus — cause ecological damage across India.

IBCA — INTERNATIONAL BIG CAT ALLIANCE

Launched	April 9, 2023 (India)
HQ	India (only international conservation org HQ'd in India)
Members	95 big cat range countries + conservation partners + scientific orgs
Species covered	7: Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, Puma
Key function	Centralised conservation repository; capacity building; policy advocacy; financing for range countries
India's contribution	Project Tiger model as global template; hosts secretariat

ASIATIC LIONS — STATUS 2025

Scientific name	Panthera leo persica
Population (2025)	891 individuals (16th Lion Census, May 2025) — 32% rise since 2020
Only habitat	Gir National Park & Wildlife Sanctuary, Gujarat — world's sole wild population outside Africa
Range expansion	Greater Gir Landscape — Amreli, Bhavnagar, Somnath districts
Second home	Barda Wildlife Sanctuary — being developed as natural dispersal site
Protection	WPA Schedule I; CITES Appendix I; IUCN: Vulnerable
Distinctive feature	Longitudinal belly fold — absent in African lions; shorter mane; ears visible
CDV threat	Canine Distemper Virus from domestic dogs — requires 70-80% stray dog vaccination as buffer
Conservation	Project Lion (launched 2020) — landscape-based conservation

PROSOPIS JULIFLORA

Family	Fabaceae
Origin	Mexico, South America, Caribbean
Intro to India	1877 by British — Rajasthan & Gujarat for green cover in deserts
Allelopathy	Releases soil chemicals inhibiting native plant growth
Key impact	Destroys Banni grasslands (Gujarat); depletes groundwater; turns pastures into "green deserts"
Positive use	High calorific value — bio-energy feedstock (Kandla syngas project); charcoal; livelihoods

CONOCARPUS ERECTUS

Family	Combretaceae (Button Mangrove)
Origin	Americas & West Africa (tropical/subtropical shorelines)
Current issue	Tamil Nadu highway medians — ecologists raising alarm about mass plantation
Health risk	Heavy winter pollen — triggers allergies, asthma, respiratory illness
Infrastructure	Aggressive roots crack pavements, damage pipelines, clog sewage systems
Groundwater	Dense plantations deplete groundwater; dry nearby soils
Ecology	Monoculture — suppresses native plants; disturbs soil microbial ecosystems

Canine Distemper Virus (CDV) — Wildlife Threat: A highly contagious RNA virus (Paramyxoviridae family) primarily transmitted through domestic dogs at the forest-village interface. Has historically caused near-extinction of black-footed ferret and Serengeti lion population declines. No specific cure — prevention through vaccination. For Asiatic Lions: requires immunisation buffers — vaccinating 70-80% of local stray dogs around Gir to create herd immunity firewall.

Q.04

Consider the following statements about Asiatic Lions:

1. The Asiatic Lion is found only in Gir National Park and its surrounding landscape in Gujarat.

2. The 2025 Lion Census recorded 891 individuals — a 32% increase since 2020.

3. Asiatic Lions are listed as "Critically Endangered" on the IUCN Red List.
Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q.05 / Q.07

With reference to Prosopis juliflora in India: Statement 3 — "Prosopis juliflora has NO economic use and should be completely eradicated" is INCORRECT because it has bioenergy potential (Kandla syngas project), charcoal and livelihood use. | IBCA covers conservation of 7 big cat species: Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, Puma.

Q.05 Answer: (a) 1 and 2 only

Q.07 Answer: (b) 7 species

SPECIES IN NEWS — WESTERN GHATS & FRESHWATER · GS·3 · PRELIMS

Species in News — Nilgiri Tahr, Sperm Whales, Kali Night Frog & Ganges Soft-Shell Turtle

Four species in news this month — all high-frequency UPSC Prelims candidates with key identification facts.

Nilgiri Tahr
Nilgiritragus hylocrius

Only mountain ungulate in southern India. Western Ghats: 1,200–2,600m elevation. Range: 400km stretch from Nilgiris to Kanyakumari. Largest population: Eravikulam NP (Kerala). Uses Varudai mobile app for standardised monitoring. Winter calving season.

IUCN: Endangered | WPA: Schedule I

Sperm Whale
Physeter macrocephalus

Largest toothed whale. Largest brain in geological history. Square head = 1/3 of body length (houses spermaceti organ for echolocation & buoyancy). Dives to 400–2,000m for giant squid. Communicate via "codas" (click sequences). New discovery: whales adjust click frequency spectrum creating vowel-like acoustic peaks (formants).

IUCN: Vulnerable | CITES: Appendix I

Kali Night Frog
Genus: Nyctibatrachus sp.

Newly documented species. Endemic to Western Ghats. Habitat: Castlerock rainforest region, Kali river catchment basin (Karnataka). Cryptic species — morphologically almost identical to Kumbara night frog. Identified through DNA sequencing + distinct bioacoustic mating call profile. Micro-endemic distribution — restricted to small pocket of central Western Ghats.

Newly described; Western Ghats endemic

Ganges Soft-Shell Turtle
Nilssonia gangetica

Family: Trionychidae. Large aquatic freshwater reptile — river apex predator & scavenger. Cleans rivers by feeding on dead organic matter. Found: India, Bangladesh, Pakistan, Afghanistan. Key rivers: Ganga, Chambal, Ghaghra, Indus, Mahanadi, Narmada, Brahmaputra. Prefers deep turbid rivers with muddy/sandy bottoms. Distinctive: tube-like snorkel snout; black arrowhead head markings; leathery carapace.

IUCN: Critically Endangered | WPA: Schedule IV

Q.06

Consider the following pairs of species and their IUCN Red List status:

1. Nilgiri Tahr — Endangered
2. Asiatic Lion — Critically Endangered
3. Sperm Whale — Vulnerable
4. Ganges Soft-Shell Turtle — Critically Endangered

Which of the pairs given above are correctly matched?

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

PART FOUR OF FIVE · GS PAPER 3

UPSC GS·3 · CURRENT AFFAIRS MAGAZINE · MAY 2026

Science, Technology, Space, Health & Emerging Tech

Mission Drishti · Shukrayaan · SMILE Mission

CBS · TES Systems · AI Monsoon Forecasting · ECLSS (Gaganyaan)

Hantavirus · Ebola PHEIC 2026 · JANANI Platform · Apnoea Test · PMOS

AI Agents · OLED · Cyborg Botany · PCBs

UPSC with Saurabh Kaushik

SCIENCE & TECHNOLOGY — SPACE & SATELLITES · GS·3 · PRELIMS · MAINS

Mission Drishti, Shukrayaan & SMILE Mission

Three space milestones: GalaxEye's Mission Drishti — world's first OptoSAR satellite; Shukrayaan Venus Orbiter (launch 2028) with Sweden's VNA instrument; and SMILE — ESA+China joint mission mapping Earth's magnetosphere against solar winds.

MISSION DRISHTI (GALAXEYE)

Developer	GalaxEye — Bengaluru-based spacetech startup
Facilitator	IN-SPACe (Indian National Space Promotion and Authorization Center)
Launch vehicle	SpaceX Falcon 9 — Vandenberg, California
Orbit	Sun-synchronous LEO ~500 km
Key achievement	World's FIRST OptoSAR satellite — combines Electro-Optical (EO) + Synthetic Aperture Radar (SAR) on single platform
SAR advantage	Sees through clouds and darkness (all-weather, day-night imaging)
Mass	190 kg — India's largest privately developed Earth observation satellite
Resolution	1.2–3.6 m (highest among Indian private players)
Revisit	Every 4 days
Bands	X-Band (SAR), PAN, RGB, NIR, Coastal Blue, Red Edge

SHUKRAYAAN / VENUS ORBITER MISSION

Official name	Venus Orbiter Mission (VOM)
Budget	₹1,236 crore (Cabinet approved)
Target launch	March 29, 2028 on LVM-3 (ISRO)
Venus orbit insertion	July 19, 2028 — 112-day journey
Technique	Aerobraking to achieve final scientific orbit
Payloads	19 scientific payloads
Sweden's contribution	VNA (Venusian Neutrals Analyser) — studies solar wind interaction with Venusian ionosphere; part of VISWAS payload
Russia's contribution	VIRAL instrument
Germany	Collaborating on RAVI experiment
Mission aim	Map Venus volcanic surface, detect active hotspots, sound subsurface, study atmospheric escape — why Venus became a hellish greenhouse unlike Earth

SMILE MISSION (ESA + CAS)

Full form	Solar wind Magnetosphere Ionosphere Link Explorer
Partners	European Space Agency (ESA) + Chinese Academy of Sciences (CAS)
Mass	2,600 kg satellite
Orbit	Highly elliptical — ~1.21 lakh km above Earth's North Pole
Mission	First-ever global X-ray and UV images of Earth's magnetosphere in active battle with solar winds
Payload 1 (ESA)	Soft X-ray Imager (SXI) — visualises magnetosphere boundaries
Payload 2 (China)	UV Aurora Imager (UVI) — images entire northern auroral oval
Payload 3 (China)	Light Ion Analyser (LIA) — measures solar wind velocity/ density/ temperature
Payload 4 (China)	Magnetometer (MAG) — tracks magnetic anomalies
Duration	3-year baseline mission

Q.01

Mission Drishti by GalaxEye is described as the world's first "OptoSAR" satellite. This means it:

(a) Uses optical fibres to transmit SAR data at near-light speed

(b) Combines Electro-Optical (EO) sensors with Synthetic Aperture Radar (SAR) on a single platform for all-weather, day-and-night imaging

(c) Is India's first optically guided satellite with autonomous orbital adjustment

(d) Uses polarised radar waves to detect underground water and mineral deposits

Q.02

Consider the following about India's Shukrayaan (Venus Orbiter Mission):

1. It is India's first dedicated planetary exploration mission targeting Venus, approved with a budget of ₹1,236 crore.

2. It will use aerobraking technique to achieve its final scientific orbit around Venus.

3. Sweden's contribution is the VIRAL instrument that studies volcanic hotspots on Venus.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

SCIENCE & TECHNOLOGY — INDIGENOUS INNOVATIONS · GS·3 · PRELIMS

CBS, TES Systems, AI Monsoon Forecasting & ECLSS

Four India-specific technology innovations: Cell Broadcast System (C-DOT) for mass emergency alerts; ARCI's TES nanocomposite breakthrough (45% more heat storage); IMD's AI block-level monsoon forecasting; and ISRO's ECLSS for Gaganyaan.

CELL BROADCAST SYSTEM (CBS)

Developed by	Centre for Development of Telematics (C-DOT)
What it does	Sends emergency messages to ALL mobiles in a geographic area simultaneously — no queuing, no network congestion
Key difference	Unlike SMS (one-to-one), CBS is one-to-many; does NOT need recipient phone number; works based on cell tower location
Features	Geo-targeting to single tower or entire nation; multilingual; priority pop-up with loud siren; read-aloud for visually impaired
Use cases	Flash floods, gas leaks, earthquakes, tsunamis, industrial accidents
Indigenous	Globally benchmarked — designed and manufactured entirely in India

THERMAL ENERGY STORAGE (TES) — ARCI BREAKTHROUGH

By	ARCI (International Advanced Research Centre for Powder Metallurgy and New Materials), Hyderabad
What it is	Thermal "battery" — stores heat during peak solar/industrial generation; discharges for electricity or heating on demand
Breakthrough	Adding just 1% spinel-type metal oxide nanoparticles to Phase Change Materials (PCMs) → 45% increase in specific heat capacity (Cp enhancement)
How charged	CSP mirrors or industrial waste heat → solid PCM absorbs heat → melts (stores latent energy at constant temperature)
How discharged	Cold fluid passes through liquid PCM → PCM solidifies → dumps heat to drive turbines or industrial boilers
Applications	CSP plants (post-sunset power); industrial waste heat recovery (steel, cement); grid-scale thermal batteries; green buildings

AI-ENABLED MONSOON FORECASTING

Developed by	IMD + IITM Pune + NCMRWF (jointly)
System 1	AI-enabled Forecast of Monsoon Advance — block-level (sub-district) probabilistic forecasts across 3,196 blocks in 15 states + 1 UT; 4-week advance window
Significance	First-ever block-level monsoon forecast in India — feeds into Agriculture Ministry's advisory for sowing/irrigation timing
System 2	High Spatial Resolution Rainfall Forecast (UP Pilot) — "Mithuna" weather model; 1-km resolution (vs standard 12.5 km); 10-day forecast for UP
Data sources	Dense AWS network + Doppler Weather Radars + satellite datasets + century of IMD historical data

ECLSS — ENVIRONMENTAL CONTROL & LIFE SUPPORT SYSTEM

Developed by	ISRO (for Gaganyaan mission)
Configuration	Open-loop for Gaganyaan — all supplies from Earth; waste stabilised and stored for post-mission disposal
Air system	Oxygen from tanks; lithium hydroxide canisters remove CO_2; activated charcoal removes harmful gases; forced fans prevent CO_2 pockets in microgravity
Pressure	Maintains Earth-like cabin pressure using sensors and control valves
Waste mgmt	Pressurised water systems + suction-based waste collection in zero gravity
Fire safety	Special smoke detectors + water-mist extinguishers for spherical fires in microgravity

Q.03

The Cell Broadcast System (CBS) developed by C-DOT differs from traditional SMS in that:

(a) CBS requires a paid subscription whereas SMS is free for emergency alerts

(b) CBS sends messages simultaneously to all mobiles in a geographic area without needing recipient phone numbers, and is not affected by network congestion

(c) CBS only works for feature phones while SMS works for both smartphones and feature phones

(d) CBS is a satellite-based system that works independently of mobile towers

SCIENCE & TECHNOLOGY — HEALTH & DISEASE · GS·3 · PRELIMS

Hantavirus, Ebola (PHEIC 2026), JANANI Platform, Apnoea Test & PMOS

Five health-related S&T topics: Hantavirus outbreak; Ebola Bundibugyo strain PHEIC 2026 (no vaccine); JANANI maternal health digital platform; Apnoea Test for brain death determination; PCOS renamed PMOS.

HANTAVIRUS — KEY FACTS

Family	Named after Hantan River, South Korea (discovered 1970s)
Primary vector	Rodents (deer mice, cotton rats, rice rats) — NOT transmitted animal-to-animal
Key transmission	Aerosolization of dried rodent droppings/urine/saliva (breathing in disturbed excreta); NOT human-to-human (except rare Andes virus)
Two syndromes	HPS (Hantavirus Pulmonary Syndrome) — Americas (lungs fill with fluid); HFRS (Hemorrhagic Fever with Renal Syndrome) — Europe/Asia (kidney failure)
Fatality rate	HPS: ~38–40% mortality — no specific antivirals or vaccines
Incubation	1–8 weeks; early: fever, fatigue, muscle aches; late HPS: severe shortness of breath as lungs fill
Treatment	No cure/vaccine — supportive ICU care (ventilators, fluid management)

EBOLA — 2026 PHEIC

Strain	Bundibugyo Virus Disease (BVD) — Bundibugyo virus (Orthoebolavirus bundibugyoense)
2026 outbreak	17th DRC outbreak; WHO declared PHEIC — zero stockpiled pharmaceutical defenses for this strain
Region	DRC (Ituri Province — Bunia, Rwampara, Mongbwalu; cases in Kinshasa) + Uganda (Kampala)
Natural reservoir	Fruit bats (Pteropodidae family) — virus spillover via contact with infected animals
Transmission	Direct contact with blood/bodily fluids of symptomatic persons; NOT during incubation; traditional burial ceremonies = super-spreader risk
Incubation	2–21 days; fever → vomiting → hemorrhaging → neurological symptoms
Treatment 2026	NO specific treatment, cure, or vaccine for Bundibugyo strain — supportive care only
PHEIC meaning	Public Health Emergency of International Concern — WHO's highest alert under IHR (2005)

JANANI PLATFORM

Ministry	Ministry of Health and Family Welfare, Government of India
What it is	Upgraded version of Reproductive and Child Health (RCH) portal — digital health records for women from reproductive age across entire continuum of care
Key features	Longitudinal health records (ANC to family planning); QR-enabled MCH digital cards; automated high-risk pregnancy alerts; interoperable with U-WIN (immunisation) and POSHAN (nutrition)
Registration	Multiple modes: ABHA, mobile, Aadhaar; self-registration via app/web
Aim	Reduce maternal and child mortality through continuous monitoring and timely interventions

PMOS — PCOS RENAMED

Old name	PCOS — Polycystic Ovary Syndrome
New name	PMOS — Polyendocrine Metabolic Ovarian Syndrome
Why renamed	Term "cystic" was medically inaccurate — "cysts" are actually arrested follicles (immature eggs), not true pathological cysts
PMOS view	Multisystemic disorder — affects endocrine, metabolic, reproductive, AND psychological systems
Root cause	Insulin resistance → excess androgen production; hormonal imbalance (elevated LH); genetics; low-grade inflammation
Key impacts	Reproductive (irregular periods, infertility), Metabolic (Type 2 diabetes, obesity), Dermatological (acne, hirsutism),

	Psychological (anxiety, depression)
AIIMS Delhi	Highlighted this terminology shift — early screening for diabetes and heart disease now added to clinical approach

Apnoea Test — Brain Death: Mandatory clinical procedure to confirm brain death (death by neurologic criteria). Tests if brainstem can trigger spontaneous breathing when CO_2 rises to ≥60 mmHg + pH below 7.30. Ventilator temporarily stopped. No chest/abdomen movement = positive test (brain dead). Critical for organ donation — confirms irreversible loss of brainstem function. Safety stops: test halted if BP drops too low or O_2 saturation falls below 85%.

Q.04

Consider the following statements about the 2026 Ebola (Bundibugyo Virus Disease) outbreak:
1. WHO declared it a Public Health Emergency of International Concern (PHEIC) — the highest WHO alert level.
2. The Bundibugyo strain has no stockpiled vaccines or specific treatments available.
3. Ebola can spread from infected individuals during the incubation period before symptoms appear.
Which of the statements given above is/are correct?

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

Q.05 / Q.07

Q.05: Hantavirus transmission — Statements 1 and 3 are correct (aerosolized rodent excreta; HPS in Americas, HFRS in Europe/Asia). Statement 2 is INCORRECT — human-to-human transmission is NOT common except for rare Andes virus.
Q.07: JANANI platform — Statements 1 and 2 are correct. Statement 3 is INCORRECT — JANANI was NOT developed by ISRO; it was developed by the Ministry of Health and Family Welfare.

Q.05 Answer: (a) 1 and 3 only | Q.07 Answer: (a) 1 and 2 only

EMERGING TECHNOLOGIES — AI, MATERIALS & BIOTECH · GS·3 · PRELIMS

AI Agents, OLED, Cyborg Botany & PCBs

Four emerging technology topics — all Prelims-relevant with distinct features, applications, and exam traps.

AI AGENTS — KEY DISTINCTION FROM CHATBOTS

Unlike basic chatbots that only answer queries, AI Agents use Large Language Models (LLMs) as their cognitive core to pursue goals and complete complex multi-step workflows AUTONOMOUSLY — with independent reasoning, planning, memory management, and proactivity. They can make decisions and execute digital transactions on behalf of users.

Types: Background Agents (event-driven, minimal human interaction); Surface Agents (conversational, user-triggered). By structure: Single-Agent Systems (contained operations) vs Multi-Agent Systems (multiple specialised agents collaborating on enterprise-level problems).

Architecture: LLM Core (brain) + Persona + Memory (short-term, long-term, episodic, consensus) + Tools Integration (APIs, databases, web search).

OLED — ORGANIC LIGHT EMITTING DIODES

Key feature	SELF-EMISSIVE — each pixel generates its own light; NO separate backlight needed (unlike LCDs)
How it works	Organic (carbon-based) thin films between anode and cathode; electricity excites molecules → light emission; black pixels fully OFF = true black
Advantages vs LCD	Infinite contrast ratio; ultra-thin; flexible/ foldable; faster refresh rates; wider colour range; better energy efficiency
Flexibility	Can be made on plastic/foil → foldable, rollable, stretchable designs
Applications	Smartphones, laptops, OLED TVs, foldable phones (Samsung Galaxy Fold), automotive windshields, e-tattoos, health patches
Eco advantage	No toxic heavy metals; highly recyclable — "organic" refers to carbon/hydrogen chemistry

CYBORG BOTANY

Definition	Hybrid field integrating living plants with electronic components — turns plants into living circuit boards / biosensors
How it works	Scientists embed nanowires and electronic transistors into plant cell walls; conductive polymers (PEDOT) act as living wires carrying biochemical signals to external devices
Signal source	Taps into plant's natural responses to light, moisture, pests — converts internal signals to digital data
Early detection	Identifies moisture deficits, nitrogen levels, disease outbreaks DAYS before visible symptoms (yellowing leaves) — intervention at cellular/genetic level
Bio-hybrid robotics	Uses plant's own electrical signals to direct mechanical movement (e.g., toward light)
Future potential	Plants as self-powered generators — powering the very sensors embedded within them

PRINTED CIRCUIT BOARDS (PCBS)

Definition	Rigid/flexible board electrically connecting and mechanically supporting electronic components via conductive copper tracks etched from copper sheets
Raw materials	Copper foil (~60% of raw material cost); resins (PPE/epoxy as base laminates); glass fiber (reinforcement)
Manufacturing	Lamination → Etching (remove excess copper, leave only required traces) → Multi-layering (for AI servers)
Advanced use	Multi-layer boards for AI servers; high-purity PPE resins for signal integrity in high-speed applications
UPSC relevance	India's semiconductor mission — PCBs are critical manufactured inputs for chips (Samsung, SK Hynix, AMD, Nvidia)

Q.06

Which of the following correctly describes the key advantage of OLED displays over LCD displays?

(a) OLEDs use liquid crystals that require less electricity than LCD's solid-state components

(b) OLEDs have a brighter backlight that makes them more visible in direct sunlight

(c) OLEDs are self-emissive — each pixel generates its own light, enabling true black, infinite contrast, and flexible form factors without a separate backlight

(d) OLEDs use inorganic metallic compounds that provide more stable light output than organic-based LCDs

PART FIVE OF FIVE · FINAL

UPSC GS·3 · CURRENT AFFAIRS MAGAZINE · MAY 2026

Defence, Navy, Military Exercises, Species & Miscellaneous

Chief of Defence Staff · Project Deepak (BRO) · Op Netra 1.0

Yard 3039 (INS Sanghmitra) · Military Exercises · Defence Technologies

Ammonium Sulphate vs Urea · Species Compendium (Complete)

~35 MCQs · 55 Topics Covered · GS Paper 3 Complete

UPSC with Saurabh Kaushik

DEFENCE — MILITARY & SECURITY · GS·3 · PRELIMS

Chief of Defence Staff, Project Deepak & Op Netra 1.0

Lt General NS Raja Subramani appointed as India's new CDS; Project Deepak (BRO, 1961) maintains the Manali-Leh axis and Hindustan-Tibet Road; Op Netra 1.0 — Army's high-altitude surgical eye camp in Leh serving 950 patients from 7 Ladakh districts.

CHIEF OF DEFENCE STAFF (CDS) — KEY FACTS

Post created	December 24, 2019 (Cabinet Committee on Security)
DMA established	December 30, 2019 (Department of Military Affairs)
First CDS	General Bipin Rawat — December 31, 2019
New CDS (2026)	Lt General NS Raja Subramani — Garhwal Rifles (commissioned Dec 14, 1985)
Prior role	Military Adviser, National Security Council Secretariat (NSCS) since Sept 2025
CDS =	Principal Military Adviser to Defence Minister on tri-services matters
Also	Permanent Chairman Chiefs of Staff Committee (COSC); Secretary of Department of Military Affairs (DMA) within MoD
Key responsibility	Theatre Commands integration; Joint logistics; single-point military advice to political leadership
History	Kargil Review Committee (K. Subrahmanyam, 1999) + GoM (2001) recommended CDS; delayed ~20 years due to lack of political consensus

PROJECT DEEPAK (BRO)

Organisation	Border Roads Organisation (BRO), Ministry of Defence
Established	1961 — HQ at Shimla, Himachal Pradesh
Area of responsibility	Himachal Pradesh — Shimla, Kinnaur, Kullu, Lahaul-Spiti district
Road network	Over 1,100 km of strategic high-altitude border roads
Iconic projects	Hindustan-Tibet Road; Manali-Leh axis
Aim	Year-round connectivity to remote areas; vital lines of communication for Armed Forces

OP NETRA 1.0 — INDIAN ARMY

What it is	Advanced Surgical Eye Camp — 153 General Hospital, Leh, Ladakh
Hosted by	Director General Armed Forces Medical Services (DGAFMS)
Outreach	950 patients from 7 Ladakh districts (incl. Chushul, Hanle, Demchok, Turtuk)
Procedures	214 surgeries — 197 cataract + 10 vitreo-retinal interventions
Advanced techniques	Glued IOL implantation, MIGS (Minimally Invasive Glaucoma Surgery), vitrectomy
Tech	Op Netra App — QR code patient ID + digital records
IAF role	Airlifted advanced medical equipment to high-altitude setting

Q.01

Consider the following statements about the Chief of Defence Staff (CDS):
1. The post of CDS was created on December 24, 2019 and General Bipin Rawat became India's first CDS on December 31, 2019.
2. The Kargil Review Committee (1999) had recommended the creation of the CDS post.
3. The CDS acts as the Principal Military Adviser to the Prime Minister on all tri-services matters.
Which of the statements given above is/are correct?

(a) 1 and 2 only (b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

DEFENCE — NAVY & MILITARY TECHNOLOGIES · GS·3 · PRELIMS

Yard 3039 (Sanghmitra), Defence Technologies & Military Exercises

Sanghmitra — India's advanced NGOPV built by GRSE Kolkata; key defence technologies in news; and India's major military exercises from May 2026 reflecting strategic partnerships across land, sea, and air domains.

YARD 3039 — INS SANGHMITRA (NGOPV)

Named after	Sanghmitra — daughter of Emperor Ashoka; spread Buddhism to Sri Lanka
Type	Next Generation Offshore Patrol Vessel (NGOPV)
Built by	Garden Reach Shipbuilders & Engineers (GRSE) Ltd, Kolkata — concurrent project with Goa Shipyard Limited (GSL); total 11 NGOPVs
Dimensions	~113 m length × 14.6 m width; displacement ~3,000 tonnes
Speed	Max 23 knots; cruising 14 knots
Range	8,500 nautical miles at 14 knots — blue-water capability
Shallow draft	Only 4 m — can navigate shallow coastal waters
Missions	Maritime interception, VBSS (Visit, Board, Search, Seizure), mine warfare, special forces deployment, anti-piracy, SAR, HADR
Crest	Ursa Major constellation + red/white lighthouse — structural guidance and vigilance

MILITARY EXERCISES — MAY 2026

Exercise	Nations	Focus
Tasman Saber	India · Australia · USA	Trilateral maritime and amphibious exercise in the Pacific — enhancing Indo-Pacific interoperability
Shakti	India · France	Joint military exercise — alternates between India and France; builds bilateral defence cooperation
Yudh Abhyas	India · USA	Annual bilateral Army exercise — counter-insurgency, counter-terrorism operations in mountain terrain
Malabar	India · USA · Japan · Australia	Quad naval exercise — advanced maritime warfare, submarine operations, air defence coordination
Sampriti	India · Bangladesh	Joint Army exercise — counter-terrorism, disaster relief; strengthens bilateral security cooperation
Konkan	India · UK	India-UK naval exercises; air-to-air, sea patrol, damage control drills
Tarang Shakti	India (Host) · Multilateral	India's largest multilateral air exercise — hosted in India; showcases IAF capabilities and partnerships
Ekuverin	India · Maldives	Bilateral Army exercise — counter-terrorism; reinforces India's Neighbourhood First policy in IOR

KEY DEFENCE TECHNOLOGIES IN NEWS

Technology	Type	Key Facts & UPSC Relevance
BrahMos	Supersonic Cruise Missile	India-Russia joint venture (BrahMos Aerospace); Mach 3 speed; range 290-800km variants; Philippines export order — India's defence export landmark
Astra	Beyond Visual Range Air-to-Air Missile	Indigenously developed by DRDO; range ~100 km; integrated with Sukhoi Su-30 MKI and Tejas
Pralay	Ballistic Missile	Surface-to-surface; range ~500 km; quasi-ballistic trajectory for evasion; DRDO developed
Tejas Mk2	Light Combat Aircraft	Indigenous 4.5-gen fighter; GE-414 engine deal with USA; more powerful than Mk1A; HAL production
AMCA	Advanced Medium Combat Aircraft	India's 5th-gen stealth fighter programme; ADA/DRDO design; internal weapons bay; expected 2035+
INS Vikrant	Aircraft Carrier	India's first indigenously built aircraft carrier; commissioned Sept 2022; 45,000 tonnes; Cochin Shipyard
DRDO MPATGM	Man-Portable Anti-Tank Guided Missile	Indigenous MANPADS-equivalent for tanks; infrared imaging seeker; for infantry use

Q.02

Yard 3039 (Sanghmitra) is a Next Generation Offshore Patrol Vessel (NGOPV). Which of the following shipbuilders is constructing this vessel?

(a) Mazagon Dock Shipbuilders Limited (MDL), Mumbai

(b) Garden Reach Shipbuilders & Engineers (GRSE) Ltd, Kolkata

(c) Cochin Shipyard Limited (CSL), Kerala

(d) Hindustan Shipyard Limited (HSL), Visakhapatnam

Q.03

Which of the following military exercises involves all four Quad nations (India, USA, Japan, and Australia)?

(a) Yudh Abhyas

(b) Malabar

(c) Tasman Saber

(d) Shakti

AGRICULTURE & SPECIES — MISCELLANEOUS · GS·3 · PRELIMS · MAINS

Ammonium Sulphate as Urea Alternative & Species Summary

ICAR recommends ammonium sulphate for paddy as West Asian war disrupts fertiliser imports from Saudi Arabia, Qatar, UAE; and a comprehensive species quick-reference for all GS-3 May 2026 species in news.

CONTEXT

2026 Iran/West Asia war disrupted fertiliser imports from Saudi Arabia, Qatar, UAE, Oman, and Israel — India's primary urea suppliers. India is also fully import-dependent for Muriate of Potash (MOP). ICAR urged promoting ammonium sulphate (AS) as a domestic alternative — India has existing AS manufacturing capacity.

Aspect	Ammonium Sulphate	Urea
N content	21% Nitrogen	46% Nitrogen (higher)
Other nutrient	24% Sulphur — dual benefit	No secondary nutrient
N form	Ammonium form — binds with soil; less leaching	Amide form → converted to nitrate; higher volatilisation loss
Soil pH effect	Acidifying — lowers pH (good for alkaline soils; bad for acidic)	Neutral to slightly alkaline initially
Waterlogging	Sulphur → hydrogen sulphide under anaerobic conditions — damages rice roots	Less such risk
Duration	~4–6 weeks (frequent applications needed)	Longer residual effect
Import source	Multiple countries — supply chain resilience	Concentrated in West Asia — vulnerable
Production in India	Byproduct of caprolactam (nylon) and coke-oven gas in steel plants	Natural gas-based synthesis

GS-3 MAY 2026 — COMPLETE SPECIES QUICK-REFERENCE

Species	Scientific Name	Key ID Facts	Status
Ganges Soft-Shell Turtle	*Nilssonia gangetica*	Family Trionychidae; tube-like snorkel snout; black arrowhead head markings; leathery carapace; river scavenger; rivers: Indus, Ganga, Mahanadi, Narmada, Brahmaputra	IUCN: Critically Endangered; WPA Schedule IV
Nilgiri Tahr	*Nilgiritragus hylocrius*	Only mountain ungulate in S. India; Western Ghats 1,200–2,600m; largest pop: Eravikulam NP; Varudai app monitoring	IUCN: Endangered; WPA Schedule I
Sperm Whale	*Physeter macrocephalus*	Largest toothed whale; largest brain in geological history; square head (~1/3 body); spermaceti organ; dives 400–2,000m; communicates via codas; "vowel-like" formants	IUCN: Vulnerable; CITES Appendix I
Kali Night Frog	*Nyctibatrachus sp.*	Cryptic species (resembles Kumbara night frog); Castlerock rainforest, Kali river basin (Karnataka); identified via DNA + bioacoustics; micro-endemic	Newly described; Western Ghats endemic
Asiatic Lion	*Panthera leo persica*	Only wild lion outside Africa; Gir NP Gujarat; belly fold distinctive; 891 individuals (2025); smaller prides; shorter mane; CDV threat	IUCN: Vulnerable; WPA Schedule I; CITES App I
Prosopis juliflora	*Prosopis juliflora*	Invasive; introduced 1877; Fabaceae; allelopathy; roots to 50m; Banni grasslands threat; bioenergy potential (Kandla syngas)	Invasive alien species
Conocarpus	*Conocarpus erectus*	Button Mangrove; Combretaceae; invasive; TN highway medians; heavy pollen (allergies); roots damage infrastructure; groundwater depletion	Invasive alien species

Q.04

Consider the following about Ammonium Sulphate as a fertiliser:

1. It contains 21% nitrogen and 24% sulphur — providing dual macronutrient benefits.

2. It is produced as a byproduct during manufacture of caprolactam (used for nylon) and from coke-oven gases in steel plants.

3. Continuous use of ammonium sulphate increases soil alkalinity, requiring lime application.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q.05

Which of the following is the most distinctive physical feature that differentiates the Asiatic Lion from the African Lion?

(a) Asiatic lions are much larger than African lions, with males exceeding 250 kg

(b) Asiatic lions have spotted fur similar to leopards

(c) Asiatic lions have a longitudinal fold of skin running along the belly, which is rare in African lions

(d) Asiatic lions have a distinctly black mane unlike the brown mane of African lions

Q.06

Consider the following pairs of species and their distinctive features:

1. Kali Night Frog — Cryptic species identified through DNA sequencing and bioacoustic analysis; endemic to Castlerock region, Karnataka

2. Sperm Whale — Largest brain in geological history; communicates through "codas" with vowel-like click frequency variations

3. Ganges Soft-Shell Turtle — IUCN Critically Endangered; found only in the Ganga river system

Which of the pairs given above are correctly described?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

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