



Environment & Ecology

GS3

Air Pollution · Climate Change · Public Health · NAAQS

1 July 2026 · Source: Down To Earth / CSE Analysis

CSE's 6-Year Ozone Study: Ground-Level Ozone Now a Year-Round National Crisis — Delhi-NCR Leads with 71 Exceedance Days

What happened: The Centre for Science and Environment (CSE) published a comprehensive six-year data analysis (2021–2026) revealing that ground-level (tropospheric) ozone has evolved from isolated, seasonal spikes into a widespread, year-round urban and regional crisis across India. Of 25 major cities analysed between March 1 and May 10, 2026, 15 recorded summer averages above the National Ambient Air Quality Standard (NAAQS) of 100 micrograms per cubic metre (8-hour average). Chandigarh recorded the highest summertime ozone concentrations; Delhi-NCR had the most persistent exceedance (71 days). Ozone is a climate pollutant — it traps heat and creates a feedback loop where rising temperatures produce more ozone.

Why it matters for UPSC: Ground-level ozone is different from stratospheric ozone — a distinction UPSC has tested multiple times. Tropospheric ozone = pollutant (health, crops); stratospheric ozone = shield (UV protection). The CSE report establishes ozone as a new governance challenge alongside PM2.5, bringing air quality into the food security domain (ozone damages photosynthesis in crops). NAAQS, precursor emissions (NOx + VOCs), and the photochemical formation of ozone are standard MCQ topics.

⚡ KEY FACTS

- ▶ CSE analysis: 6-year data 2021–2026; 25 major Indian cities assessed
- ▶ 15 of 25 cities exceeded NAAQS limit of 100 mcg/m³ (8-hour average) in summer 2026
- ▶ Worst persistent exceedance: Delhi-NCR — 71 exceedance days (NCR 62 days)
- ▶ Highest summertime concentration: Chandigarh
- ▶ Ground-level ozone = tropospheric ozone — formed by photochemical reaction of NOx + VOCs + sunlight
- ▶ Health impacts: Respiratory distress, lung damage, reduced immune function
- ▶ Crop damage: Ozone reduces photosynthesis → lower yields in wheat, rice, soybean
- ▶ Climate feedback: Ozone is a greenhouse gas; higher temperatures → more ozone formation → more warming

💡 TEACHING HOOK

The Two-Ozone Trick (exam killer): "Ozone" appears as BOTH hero and villain in UPSC questions. Rule: Location determines role.

Stratospheric ozone (15–35 km altitude) = hero = shields UV radiation → protect it (Montreal Protocol). **Tropospheric ozone** (ground-level) = villain = air pollutant formed from NOx + VOCs + sunlight → reduce it. NAAQS = 100 mcg/m³ for ground-level ozone (8-hour average). CSE's finding: India has a rapidly worsening tropospheric ozone crisis. El Nino (warmer temperatures) → more ozone formation → links today's monsoon story to the ozone story.

"Tropospheric ozone is formed due to the photochemical reactions between nitrogen oxides and volatile organic compounds." — [Direct match to today's CSE finding.] | **UPSC Prelims 2016:** "The stratosphere is referred to as the ozone layer because it contains high amounts of ozone." — [Tests the two-layer ozone distinction.] | **UPSC Mains GS3 2021:** "Examine the effects of air pollution on public health and agriculture in India. What measures has the government taken to address it?" (Ground-level ozone = new dimension not covered in older answers)

GS3

Biodiversity · IUCN Red List · Wetlands · Freshwater Ecology · Green Status

Static UPSC Topic · Source: IUCN Red List / animalia.bio / WWF India

Species Focus: Gharial (*Gavialis gangeticus*) — IUCN Critically Endangered & "Critically Depleted" in First-Ever Green Status Assessment

What happened (static context): The Gharial (*Gavialis gangeticus*), India's most distinctive freshwater crocodilian, has been classified as both "Critically Endangered" (Red List) and "Critically Depleted" in the IUCN's first-ever Green Status assessment — meaning even if current threats were removed, recovery to a viable population would take generations. Only ~600–900 wild gharials remain, with fewer than 200 breeding adults. The Chambal River (spanning UP, MP, and Rajasthan) is the last viable wild habitat, hosting ~80% of the global wild population. The National Chambal Sanctuary (established 1979) is the only site with a confirmed breeding population.

Why it matters for UPSC: IUCN Red List categories (Extinct, EW, CR, EN, VU, NT, LC) are standard Prelims Tier-1 content. The Gharial has appeared in UPSC MCQs testing its unique physical features (narrow snout/ghara), river habitat, and conservation status. The new "Green Status" assessment introduces a recovery-based dimension to conservation that UPSC may begin testing. Gharial is listed in Schedule I of the Wildlife Protection Act 1972 (highest protection) and CITES Appendix I.

⚡ KEY FACTS

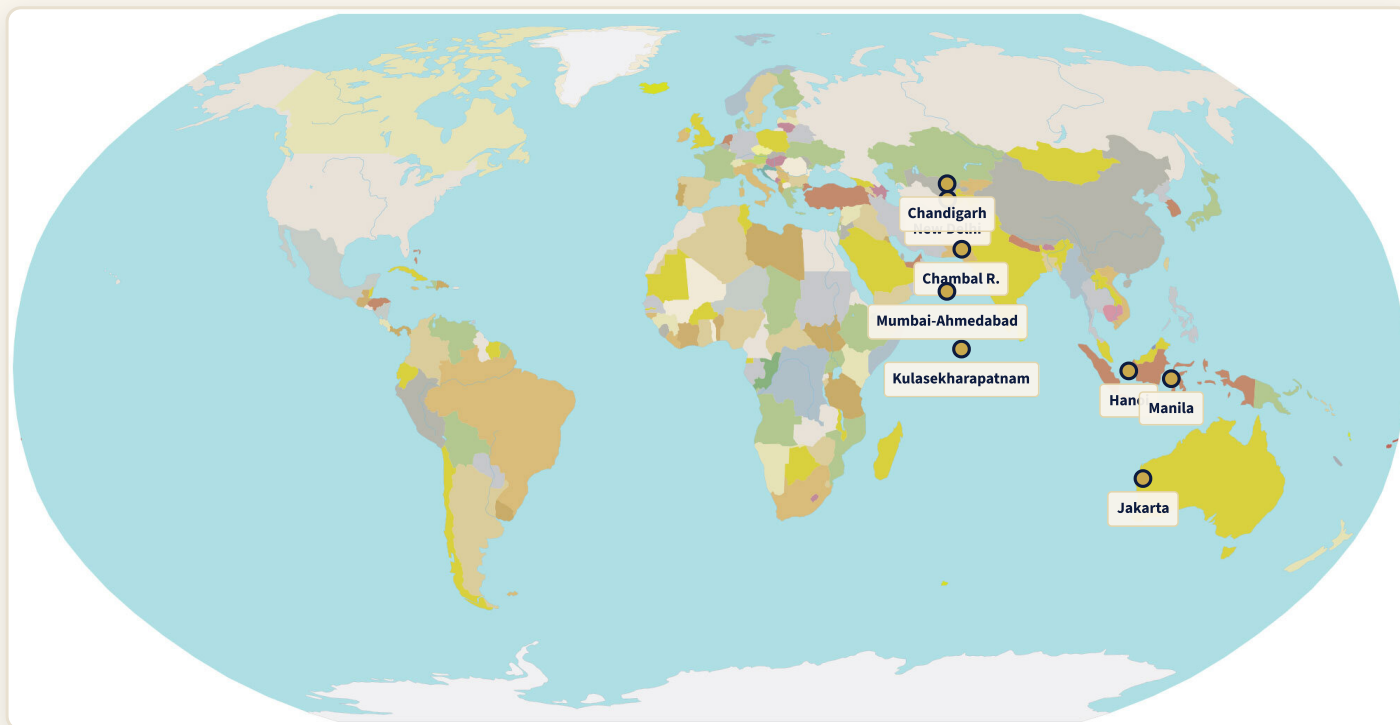
- ▶ Scientific name: *Gavialis gangeticus* | Family: Gavialidae (monotypic — the only living member)
- ▶ IUCN Status: Critically Endangered (Red List) | Green Status: Critically Depleted
- ▶ Wild population: ~600–900; fewer than 200 breeding adults
- ▶ Primary habitat: Chambal River (UP/MP/Rajasthan) = ~80% of global wild population
- ▶ Key threats: River damming, sand mining, fishing net entanglement, human encroachment
- ▶ Conservation: Schedule I — Wildlife Protection Act 1972; CITES Appendix I; Project Crocodile (1975)
- ▶ Unique feature: Male has a bulbous growth (ghara) on snout tip — functions as a resonator for vocalisation
- ▶ IUCN Green Status: New framework assessing species recovery relative to baseline ("Critically Depleted" = far below baseline even under ideal future conditions)

💡 TEACHING HOOK

India's Three Crocodilian Species — MCQ favourite: India has three crocodilian species — (1) **Mugger/Marsh Crocodile** (*Crocodylus palustris*) — wide snout, freshwater wetlands, VU status; (2) **Saltwater Crocodile** (*Crocodylus porosus*) — largest living reptile, coastal/estuarine, LC status; (3) **Gharial** (*Gavialis gangeticus*) — narrowest snout, fish-specialist, Critically Endangered. UPSC MCQ pattern: "Which of the following is the natural habitat of the Gharial?" Answer: fast-flowing rivers with sandy banks (Chambal, Girwa, Son, Gandak). "The Gharial is a piscivore" — TRUE (fish-eating; its narrow snout can't catch large prey).

📖 PYQ LINKAGE

"Gharial (*Gavialis gangeticus*) is mainly found in which river system of India?" — [Answer: Chambal River; Gharial appears in UPSC almost annually.] | **UPSC Prelims 2020:** "Consider: (1) Gharial is found only in India. (2) It is categorised as Critically Endangered." — [Statement 1 is partially correct: also historically Nepal.] | **UPSC Mains GS3 2019:** "What are the factors responsible for the decline of freshwater species in India? Suggest conservation measures." (Gharial = ideal case study)



Jakarta, Indonesia

ID INDONESIA

PM Modi visits July 6–8 for bilateral summit with President Prabowo Subianto. BrahMos second battery negotiations (~\$300 mn) and nickel critical minerals cooperation are key agenda items. Indonesia = world's largest nickel reserves.

GS2 · IR · Act East Policy

New Delhi, India

IN INDIA

Hosted 16th India-Japan Annual Summit (July 1–3, 2026). Japanese PM Sanae Takaichi visited. 129 MoUs signed, first defence co-development (Naval Radio Antenna Programme) launched. India-Japan Year of Shared Horizons (2027) declared.

GS2 · IR · Bilateral Relations

Kulasekharapatnam, Tamil Nadu

IN INDIA

Site of India's second launch complex — ISRO's SSLV Launch Complex (9.5 sq km, ~Rs.950 cr). DRDO is drawing a strategic roadmap to use it for dual-use tactical space missions. Partial commissioning expected late 2026/early 2027.

GS3 · Science & Technology · Space

Chambal River (UP/MP/Rajasthan)

IN INDIA

Last viable habitat of the Critically Endangered Gharial (*Gavialis gangeticus*). Hosts ~80% of the global wild Gharial population. National Chambal Sanctuary (1979) is the only confirmed breeding site. Freshwater ecology + biodiversity conservation focus.

GS3 · Environment · Biodiversity

Chandigarh, India

IN INDIA

Recorded the highest summertime ground-level ozone concentration in CSE's 6-year analysis of 25 Indian cities (March–May 2026). Highlights the spread of ozone pollution beyond traditional industrial/traffic-heavy cities.

GS3 · Environment · Air Pollution

Hanoi, Vietnam

VN VIETNAM

Vietnam recently became an active BrahMos supersonic cruise missile operator — making it the second Southeast Asian country after the Philippines to receive the system. Relevant context for India-Indonesia BrahMos negotiations.

GS2 · IR · Defence Exports

Manila, Philippines

PH PHILIPPINES

First country to acquire BrahMos cruise missiles from India (initial deal 2022). Now serves as the benchmark for India's BrahMos export network

Mumbai–Ahmedabad Corridor, India

IN INDIA

Japan reaffirmed its commitment to the Mumbai–Ahmedabad High-Speed Rail (HSR) project at the India-Japan summit. Uses Shinkansen (E5 series)

expanding through Southeast Asia. Philippines positioned BrahMos facing disputed South China Sea areas.

GS2 • IR • Defence & Indo-Pacific

technology; funded via JICA Official Development Assistance. The corridor connects India's financial capital to its textile hub.

GS2 • IR • Infrastructure • Japan ODA



Ethics & Integrity (GS4)

CASE STUDY 01

The Surveillance Officer's Dilemma: Security vs. Privacy

SCENARIO

Arjun, a district collector, is asked to implement a new AI-powered surveillance system to monitor monsoon-affected areas and flag potential law-and-order situations. The system records facial recognition data of civilians without explicit consent. His superior argues it will save lives; his legal advisor warns it violates privacy as a fundamental right (Puttaswamy judgment, 2017). Arjun must decide whether to deploy it immediately or seek legal clearance first, knowing the monsoon season has only three weeks left.

VALUES IN CONFLICT

Public Safety vs. Fundamental Right to Privacy (Article 21); Efficiency vs. Rule of Law; Loyalty to superiors vs. Constitutional obligations.

FRAMEWORK FOR ANSWER

Apply the **proportionality test** (Puttaswamy, 2017): Is surveillance (1) sanctioned by law? (2) pursuing a legitimate aim? (3) necessary? (4) proportionate? Deploy ONLY if all four are met. Meanwhile, seek emergency legal clearance. Recommended action: Delay deployment; request interim legal opinion; explore non-biometric monitoring alternatives. This reflects **constitutional morality over popular morality** (Navtej Johar, 2018).

CASE STUDY 02

The Whistleblower's Choice: Loyalty or Truth

SCENARIO

Priya, a deputy secretary in the Ministry of Defence, discovers during routine file review that a senior official has accepted favours from a BrahMos-related vendor in exchange for advancing a contract. She has documentary evidence. Confronting the official is risky to her career; staying silent makes her complicit; raising it through internal channels may lead to a cover-up; going to the CVC could expose her to retaliation. The contract is worth Rs.300 crore and involves national security assets.

VALUES IN CONFLICT

Loyalty vs. Integrity; Personal Safety vs. Public Duty; Hierarchy vs. Constitutional Obligation; National Security vs. Procedural Transparency.

FRAMEWORK FOR ANSWER

The **Whistle Blowers Protection Act 2014** provides a legal shield. Use it. Prioritise public duty over personal loyalty — aligned with the **Nolan Principles** (Selflessness, Integrity, Objectivity, Accountability). The Right to Information Act and the Prevention of Corruption Act (2018 amendment) also apply. In GS4 answers: "The primacy of public interest over personal loyalty is the bedrock of public service ethics."

CASE STUDY 03

Forest Clearance vs. Rural Livelihoods: The Collector's Green Dilemma

SCENARIO

Meena, a forest officer, receives an application to clear 200 hectares of reserved forest in a drought-prone district to lay a transmission line that will bring electricity to 15,000 rural households. The forest has scheduled tribe communities with forest rights under the Forest Rights Act 2006. An environmentalist group warns the forest is a Gharial nesting buffer zone. Meena must submit her compliance report within 10 days under pressure from both the state government (pro-development) and tribal groups (pro-rights and pro-forest).

VALUES IN CONFLICT

Development vs. Conservation; Tribal Rights (FRA 2006) vs. State Interest; Short-term welfare vs. Long-term ecology; Directive Principles vs. Fundamental Rights.

FRAMEWORK FOR ANSWER

Apply the **Forest Conservation Act 1980** and the Supreme Court's *T.N. Godavarman* guidelines. Forest rights holders (gram sabha consent) must be consulted under FRA 2006 before any diversion. The collector should recommend a conditional clearance ONLY after: (1) Gram Sabha approval, (2) compensatory afforestation (equivalent area), (3) Gharial

CASE STUDY 04

The Reformer's Dilemma: Implementing Unpopular Policy

SCENARIO

Ravi, a labour commissioner, is tasked with implementing the new EPF Scheme 2026. During the transition period, he discovers that hundreds of small manufacturing units have unregistered workers who would newly qualify under the expanded scheme. Registering them correctly would increase compliance costs for struggling MSMEs. Several industry groups lobby him to delay enforcement. Workers' union representatives demand immediate implementation. Ravi must balance economic pragmatism with the law.

VALUES IN CONFLICT

Rule of Law vs. Economic Pragmatism; Workers' Rights vs. MSME Viability; Speed of reform vs. Stakeholder readiness; Official duty vs. Political pressure.

FRAMEWORK FOR ANSWER

The EPF Scheme 2026 explicitly provides the **AMNESTY 2026** and **VISHWAS 2026** transition schemes to resolve legacy compliance gaps — Ravi should use these mechanisms rather than informal delay. Conduct stakeholder workshops to explain the transition tools. Set a firm but reasonable phased timeline for MSME compliance. This reflects

habitat assessment, (4) underground cabling option explored. This demonstrates **integrated development ethics** — not binary choices.

compassionate administration within legal parameters — a key GS4 quality expected of civil servants.

MCQs — 15 Statement-Based Questions

QUESTION 01 • GS2 • POLITY

With reference to the Constitution (131st Amendment) Bill, 2026, consider the following statements:

1. It proposed to increase the maximum number of Lok Sabha seats to 850.
2. The Bill required a simple majority in Parliament to be passed.
3. It sought to use the 2011 Census for the purpose of delimitation.

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

Answer: (b) 1 and 3 only — Statement 2 is incorrect. As a constitutional amendment under Article 368, it required a two-thirds majority of members present and voting (and ratification by at least half the state legislatures is required only for certain specified provisions). Statements 1 and 3 are correct.

QUESTION 02 • GS2 • POLITY

Which of the following is NOT a component of the VIJAY roadmap unveiled by India's 31st Chief of Army Staff?

1. Vigilance
2. Innovation and Transformation
3. Jointness and Integration
4. Youth Empowerment
5. Atmanirbharta

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

Answer: (a) 4 only — VIJAY = Vigilance, Innovation & Transformation, Jointness & Integration, Atmanirbharta, Yodha First. "Youth Empowerment" is not a component. "Y" stands for Yodha First (soldier welfare), not Youth Empowerment.

QUESTION 03 • GS2 • IR

Consider the following statements about BrahMos missile:

1. BrahMos is a joint venture between India and Russia.
2. It is a subsonic cruise missile.
3. Indonesia has finalized procurement of BrahMos missiles from India.
4. The Philippines was the first country to acquire BrahMos from India.

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

Answer: (a) 1, 3 and 4 only — Statement 2 is incorrect: BrahMos is a SUPERSONIC cruise missile (Mach 3). Statements 1 (India-Russia JV: BrahMos Aerospace), 3 (Indonesia finalised purchase in March 2026), and 4 (Philippines was first export customer) are correct.

QUESTION 04 • GS3 • ENVIRONMENT

With reference to ground-level (tropospheric) ozone, which of the following statements is/are correct?

1. It is formed by photochemical reaction between nitrogen oxides and volatile organic compounds in sunlight.
2. The National Ambient Air Quality Standard for ground-level ozone is 100 mcg/m³ for 8-hour average.
3. Increased ground-level ozone enhances crop productivity by stimulating photosynthesis.

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

Answer: (b) 1 and 2 only — Statement 3 is incorrect: ground-level ozone REDUCES crop productivity by damaging plant cells and impairing photosynthesis. Statements 1 and 2 are correct per today's CSE report and NAAQS standards.

QUESTION 05 • GS3 • BIODIVERSITY

Consider the following statements about the Gharial (*Gavialis gangeticus*):

1. It belongs to the family Crocodylidae.
2. It is a piscivore (fish-eating) species.
3. The Chambal River is its primary remaining habitat in India.
4. It is listed in Schedule I of the Wildlife Protection Act, 1972.

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

Answer: (b) 2, 3 and 4 only — Statement 1 is incorrect: Gharial belongs to the family GAVIALIDAE (not Crocodylidae). Statements 2 (fish-eater — narrow snout adapted for catching fish), 3 (Chambal = ~80% of wild Gharial), and 4 (Schedule I — highest protection) are correct.

QUESTION 06 • GS3 • ECONOMY

With reference to the EPF Scheme 2026, which of the following statements is/are correct?

1. It replaces the EPF Scheme, 1952 as part of the Code on Social Security, 2020.
2. The mandatory employee and employer contribution rate has been increased to 15% each.
3. The Scheme introduces VISHWAS 2026 and AMNESTY 2026 for legacy compliance resolution.

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

Answer: (a) 1 and 3 only — Statement 2 is incorrect: contribution rates remain unchanged at 12% each (employee + employer). Statements 1 (EPF 2026 replaces EPF 1952 under SS Code 2020) and 3 (VISHWAS and AMNESTY are new transition schemes) are correct.

QUESTION 07 • GS2 • IR

With reference to the 16th India-Japan Annual Summit 2026, which of the following was announced as the FIRST-EVER joint defence co-development initiative between India and Japan?

- (a) Underwater Surveillance System for the Indian Ocean
(b) Naval Radio Antenna Programme
(c) Advanced Fighter Jet Engine Collaboration
(d) Joint Satellite Navigation System

Answer: (b) Naval Radio Antenna Programme — This was explicitly announced as India and Japan's first-ever defence co-development project at the 16th Annual Summit in New Delhi, July 1–3, 2026.

QUESTION 08 • GS3 • AGRICULTURE

With reference to El Nino and its impact on India, which of the following statements is/are correct?

1. El Nino refers to the warming of surface waters in the Central and Eastern Pacific Ocean.
2. El Nino years typically result in below-normal rainfall during India's Southwest monsoon.
3. An El Nino pattern was identified as the primary driver of India's below-normal July 2026 monsoon forecast.

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

Answer: (d) 1, 2 and 3 — All three statements are correct. El Nino (warming of central/eastern Pacific) suppresses the moisture flow into the Indian subcontinent, historically correlating with below-normal Indian monsoons. IMD explicitly cited El Nino as the primary driver of the below-normal July 2026 forecast.

QUESTION 09 • GS3 • S&T / SPACE

Consider the following about India's Small Satellite Launch Vehicle (SSLV):

1. SSLV is designed to launch satellites of up to 500 kg into Low Earth Orbit (LEO).
2. The Kulasekharapatnam SSLV Launch Complex is being built at an estimated cost of Rs.950 crore.
3. SSLV uses liquid propellant in all its stages.
4. SSLV can be assembled in approximately 72 hours compared to 70 days for PSLV.

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

Answer: (a) 1, 2 and 4 only — Statement 3 is incorrect: SSLV uses SOLID propellant in all three stages (not liquid). Statements 1, 2, and 4 are correct per ISRO specifications and PIB data.

QUESTION 10 • GS3 • ECONOMY

India's GDP growth in Q2 FY 2025-26 reached a six-quarter high of 8.2%. Which of the following most accurately describes the primary driver of this growth as mentioned in recent reports?

- (a) Surge in merchandise exports following the India-US trade deal
(b) Strong private consumption aided by GST rate rationalisation
(c) Record public investment through capital expenditure
(d) Growth in the IT services sector driven by AI adoption

Answer: (b) Strong private consumption aided by GST rate rationalisation — The GDP growth was primarily attributed to robust private consumption, aided by the GST rate rationalisation exercise of September 2025, as reported by Goldman Sachs and Crisil.

QUESTION 11 • GS2 • POLITY

With reference to the Delimitation Commission of India as proposed in the Delimitation Bill 2026, which of the following is/are correct about its composition?

1. It would be chaired by a sitting or former Supreme Court Judge.
2. The Chief Election Commissioner or a nominated Election Commissioner would be a member.
3. The Governor of the concerned state would be a member.

- (a) 1 only

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

Answer: (b) 1 and 2 only — The proposed Delimitation Bill 2026 specified a SC Judge (chair), CEC/Election Commissioner, and State ELECTION Commissioner (not the Governor). Statement 3 is incorrect.

QUESTION 12 • GS3 • ENVIRONMENT

The "Green Status" assessment by the IUCN is distinct from the traditional Red List in that it:

- (a) Measures the risk of extinction of a species in the immediate future
- (b) Assesses how recovered a species is relative to its past ecological baseline
- (c) Lists species that have fully recovered from near-extinction
- (d) Replaces the existing categories of Critically Endangered, Endangered, and Vulnerable

Answer: (b) Assesses how recovered a species is relative to its past ecological baseline — The IUCN Green Status measures recovery, not just extinction risk. A species can be "Critically Endangered" (Red List) AND "Critically Depleted" (Green Status) simultaneously — meaning it faces extinction risk AND is far below its historical abundance baseline.

QUESTION 13 • GS2 • IR

Which of the following correctly describes the current nature of the India-Japan Special Strategic and Global Partnership?

1. Japan is India's top ODA (Official Development Assistance) donor.
2. Both countries are members of the Quad alongside the USA and Australia.
3. The Mumbai–Ahmedabad High-Speed Rail is funded through Japanese ODA.
4. India and Japan conduct an annual PM-level summit.

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

Answer: (d) 1, 2, 3 and 4 — All statements are correct. Japan is India's top ODA partner (primarily via JICA); both are Quad members (with USA and Australia); the Bullet Train (MAHSR) is Japan-ODA funded; and an annual PM-level summit is the cornerstone of the India-Japan framework.

QUESTION 14 • GS3 • ECONOMY / LABOUR

India's four Labour Codes (2019–2020) consolidated 44 central labour laws. How many central laws were specifically subsumed under the Code on Social Security, 2020?

- (a) 5 laws
- (b) 9 laws
- (c) 13 laws
- (d) 17 laws

Answer: (b) 9 laws — The Code on Social Security 2020 subsumed 9 central laws including: EPF & MP Act 1952, ESI Act 1948, CMPF Act 1948, Maternity Benefit Act 1961, Payment of Gratuity Act 1972, Building and Other Construction Workers' Welfare Cess Act 1996, Unorganised Workers' Social Security Act 2008, and others.

QUESTION 15 • GS3 • DEFENCE / S&T

With reference to India's defence and space policy, consider:

1. IN-SPACe (Indian National Space Promotion and Authorisation Centre) regulates both civilian and defence launches.
2. NewSpace India Ltd is the commercial arm of ISRO.
3. The Kulasekharapatnam SSLV Launch Complex will be India's second operational launch site.
4. DRDO and ISRO have a formal mandate to collaborate on dual-use space assets under the Indian Space Policy 2023.

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

Answer: (a) 1, 2 and 3 only — Statement 4 is not specifically verified as a formal mandate under the Indian Space Policy 2023 (the policy enables but does not specifically mandate a DRDO-ISRO dual-use collaboration). Statements 1, 2, and 3 are factually correct.

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Mains Questions (6)

GS1 • GEOGRAPHY & SOCIETY

Q1. "India's monsoon is not just a meteorological phenomenon but an economic, social, and cultural institution." In the context of the IMD's below-normal monsoon forecast for July 2026 and declining Kharif sowing, discuss the multi-dimensional impact of monsoon variability on India's rural economy and food security architecture. (250 words)

Framework: Introduction: monsoon as the "real Finance Minister" (quote by Dr. S.Y. Quraishi or similar) | Body: (A) Economic dimension — Kharif crop dependence, agricultural GDP share, rural income, MNREGA demand spike; (B) Food security — PDS stock implications, inflation linkage, NFSA 2013 coverage; (C) Social dimension — farmer distress, rural-urban migration, women's agricultural labour; (D) Government response architecture — PMFBY, PM-KISAN, PMKSY, buffer stock policy | Conclusion: structural solutions (micro-irrigation, crop diversification, better forecasting integration)

GS1 • HISTORICAL GEOGRAPHY

Q2. The Chambal River, historically known as a dacoit territory and now a biodiversity hotspot, represents India's complex relationship between human settlements, ecological conservation, and river systems. Discuss the conservation significance of the Chambal and the threats facing its unique biodiversity. (150 words)

Framework: The Chambal's transformation — from India's most feared river (dacoity) to its most biodiverse river (Gharial, river dolphin, mugger, soft-shell turtle) | Three wildlife sanctuaries: National Chambal Sanctuary (3 states), Dholpur-Karauli Tiger Reserve context | Key threats: sand mining, dam construction, fishing nets, agricultural runoff | Conservation initiatives: Project Crocodile (1975), National Action Plan for Gharial | Lesson: absence of human habitation (due to dacoit history) paradoxically created a conservation refuge — now challenged by development pressures

GS2 • IR & BILATERAL RELATIONS

Q3. "India's Act East Policy has evolved from a diplomatic catchphrase into a comprehensive strategic framework with defence, economic, and maritime dimensions." Critically evaluate this transformation with reference to recent developments in India-Indonesia and India-Vietnam relations. (250 words)

Framework: Introduction: ACT East vs. Look East — move from passive to active | Body: (A) Defence dimension — BrahMos to Philippines, Vietnam, Indonesia; India's missile diplomacy; (B) Economic dimension — Critical minerals diplomacy (nickel in Indonesia), trade pacts; (C) Maritime/Indo-Pacific — ASEAN centrality, Indian Ocean security; (D) Challenges — China's economic influence in SE Asia; reluctance of ASEAN states to openly align; Belt and Road Initiative competition | Conclusion: India's Act East is graduating from soft power to strategic depth — balancing economic interdependence with China while offering defence and economic alternatives

GS3 • ECONOMY & S&T

Q4. "The convergence of DRDO and ISRO in the Kulasekharapatnam dual-use spaceport represents a paradigm shift in India's understanding of national security in the space age." Analyse the strategic, technological, and governance implications of this convergence. (250 words)

Framework: Introduction: space as the "fourth frontier" alongside land, sea, air | Body: (A) Strategic: rapid satellite replacement capability (72-hour SSLV), tactical reconnaissance constellation, ISR (Intelligence, Surveillance, Reconnaissance); (B) Technological: SSLV's solid-fuel rapid deployment, IN-SPaCe governance enabling defence users, integration of DRDO electronics with ISRO platforms; (C) Governance: civilian-military space fusion, Indian Space Policy 2023 framework, DPS (Department of Space) coordination with MoD; (D) Risks: weaponisation concerns, treaty implications (Outer Space Treaty), satellite debris from potential conflicts | Conclusion: India must build both capability AND a normative framework for responsible dual-use space activities

GS4 • ETHICS & INTEGRITY

Q5. A civil servant discovers that a prestigious infrastructure project in her jurisdiction, which has been approved at the highest levels and is being celebrated in the media, violates forest rights of scheduled tribe communities. The project is already 40% complete, with thousands of workers deployed. What should she do? Discuss the ethical principles involved. (250 words)

Framework: Ethical dimensions: Rule of law vs. administrative fait accompli; Courage vs. Prudence; Individual rights vs. public project; Constitutional morality (FRA 2006 mandates gram sabha consent — non-negotiable) | What NOT to do: ignore violation; rationalise (project too advanced to stop); follow hierarchical pressure | What TO do: Document violation formally; flag through proper channels (Ministry of Tribal Affairs, NHRC if rights violated); ensure Gram Sabha consultations are completed retrospectively if possible; recommend restructuring/compensation if reversal impossible | Principles: Non-maleficence, justice, constitutional morality, probity in governance | Quote: "The temptation to remain silent in the face of injustice is the greatest ethical failure of a civil servant." — adapted from APJ Abdul Kalam

GS4 • ETHICS & PUBLIC ADMINISTRATION

Q6. "Atmanirbharta in defence is not merely an economic goal but an ethical imperative for a nation that aspires to be a security provider rather than a security consumer." Discuss this statement in the context of India's defence modernisation framework and the VIJAY roadmap of the new Army Chief. (150 words)

Framework: Ethical dimension of strategic autonomy — dependence on foreign weapons systems compromises a nation's sovereign decision-making (e.g., S-400 issue under US pressure); Aatmanirbharta as responsibility not just efficiency | VIJAY's A-pillar: "Winning Our Wars with Indigenous Solutions" — ethical sovereignty | Security provider role: India in Quad, Indian Ocean security, BrahMos exports — all require credible, non-dependent defence capability | Conclusion: Defence indigenisation is both a capability choice and a values statement — it says a nation trusts its own industry, its own people, and its own vision of security

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These 6 Mains questions represent the analytical depth required in GS answer writing. If structuring Mains answers with frameworks, evidence, and conclusion is still a challenge, **Philosophy Target 300+** and **NEEB 300+ Live PYQ Writing** at theiasakademia.com provide the conceptual grounding and practice loops you need.



Value Addition

"The Constitution is not a mere lawyers' document, it is a vehicle of Life, and its spirit is always the spirit of Age."

— Dr. B.R. Ambedkar (relevant to Constitutional Amendment debate on Delimitation)

"Real national security consists not of weapons, but of self-sufficiency in critical technologies and the will to use them wisely."

— Paraphrasing Dr. APJ Abdul Kalam (relevant to Aatmanirbhara Defence & VIJAY roadmap)

"The greatest challenge to biodiversity conservation is the failure to recognize the economic value of nature's services until it is too late."

— E.O. Wilson (relevant to Gharial conservation & freshwater ecology)

"Every monsoon is a reminder that India's economic destiny is still written in the clouds."

— Attributed to Indian economic discourse (relevant to monsoon-agriculture-food security linkage)

"Space is the ultimate high ground. Whoever controls it with speed and precision will define the next era of national security."

India's Critical Macroeconomic Snapshot — July 2026

Indicator	Current Value	Previous Period	UPSC Relevance
GDP Growth (Q2 FY26)	8.2%	7.8% (Q1 FY26)	Six-quarter high — GS3 Economy
RBI Repo Rate	5.25%	5.5%	25 bps cut — Monetary Policy
CPI Inflation (FY26)	~2.5%	4.6% (FY25)	Below 4% target — Goldilocks
July Monsoon Forecast	<94% LPA	Normal (2025)	El Nino; Kharif risk
Kharif Sowing Area	18.27 mn ha	~23.7 mn ha (2025)	Down 23% YoY
US Tariff on India	18%	25% (pre-Feb 2026)	Trade deal — GS3/GS2
RBI Governor	Sanjay Malhotra	Shaktikanta Das	MCQ alert: current governor name

Key Committees, Reports & Acts in Today's News

Report / Act / Committee	Relevance Today	GS Paper
Constitution (131st Amendment) Bill 2026	Delimitation; Lok Sabha seats to 850; failed to pass	GS2
Code on Social Security 2020	Parent law for EPF Scheme 2026	GS3
Indian Space Policy 2023	Framework for IN-SPACe, NSIL, DRDO-ISRO dual-use	GS3
Forest Rights Act 2006	Tribal rights in forest clearances; ethics case 03	GS2/GS3
Whistle Blowers Protection Act 2014	Ethics case 02 — defence procurement corruption	GS4
IUCN Green Status Assessment	Gharial: "Critically Depleted" — first-ever Green Status	GS3
National Chambal Sanctuary (1979)	Gharial's only confirmed wild breeding site	GS3
NAAQS (National Ambient Air Quality Standards)	Ozone limit: 100 mcg/m3 (8-hour average)	GS3



Direct Hit Tracker — Top 12 Exam-Probability Topics

Delimitation & Article 368

GS2 · POLITY

Constitutional amendment procedure; two-thirds majority; Article 82; Lok Sabha seat freeze since 1977; 131st Amendment vote outcome

★★★★★ Very High — fresh & high-impact constitutional event

BrahMos Missile & Defence Exports

GS3 · DEFENCE

India-Russia JV; supersonic Mach 3; export range 290 km; SE Asian operators: Philippines → Vietnam → Indonesia; Aatmanirbhar defence export

★★★★★ Very High — multiple countries, active exam focus

India-Japan Relations

GS2 · IR

16th Summit; 129 MoUs; first defence co-development (Naval Radio Antenna); AI deal; Bullet Train ODA; Quad; 2027 Year of Shared Horizons

★★★★★ Very High — annual summit + new milestones

Ground-Level (Tropospheric) Ozone

GS3 · ENVIRONMENT

NOx + VOC + sunlight; NAAQS 100 mcg/m3; year-round crisis; CSE 6-year study; Delhi-NCR 71

EPF Scheme 2026 / Labour Codes

GS3 · ECONOMY

Code on Social Security 2020; EPF 1952 replaced; 4 Labour Codes (WISS); VISHWAS,

Gharial — IUCN Green Status

GS3 · BIODIVERSITY

Gavialis gangeticus; Gavialidae; Critically Endangered; Critically Depleted (Green Status);

days; crop damage; climate feedback loop



High — fresh CSE report; two-ozone

distinction is classic MCQ

AMNESTY; 12% contribution unchanged; digital-first



High — labour codes are sustained

exam theme since 2020

Chambal River 80%; Project Crocodile; Schedule I



High — species MCQs; new Green

Status assessment adds fresh angle

SSLV / Kulasekharapatnam Spaceport

GS3 · S&T

India's 2nd launch site; 9.5 sq km; Rs.950 cr; SSLV = solid fuel, 500 kg LEO, 72-hr assembly; DRDO-ISRO dual-use; IN-SPaCe



High — space policy is current exam

focus; SSLV facts tested

El Nino & Monsoon 2026

GS3 · AGRICULTURE

Below-normal July forecast; <94% LPA; driest June in 12 yrs; Kharif area down 23%; 315 vulnerable districts; 111 high-priority; El Nino Pacific warming



High — El Nino-monsoon is a perennial

prelims question

India GDP & RBI Monetary Policy

GS3 · ECONOMY

8.2% Q2 FY26; six-quarter high; Repo at 5.25% (25 bps cut); CPI 2.5%; Goldilocks; Gov. Sanjay Malhotra; US tariff 25%→18%



High — RBI data & GDP metrics tested

every Prelims

VIJAY Roadmap / Army Chief

GS3 · DEFENCE

Gen Dhiraj Seth, 31st COAS; VIJAY = Vigilance, Innovation, Jointness, Atmanirbharta, Yodha First; Decade of Transformation 2023–2032; successor to Gen Dwivedi



Moderate-High — defence appointments &

acronyms are Prelims-tested

Delhi EV Policy 2026

GS3 · ECONOMY & ENVIRONMENT

Operational July 1, 2026–March 31, 2030; Rs.15,000 cr; BEV-only; petrol 2W ban April 2028; 30,000 charging points; subsidies Rs.30K→10K



Moderate — urban EV policy; state-level

environmental governance

Critical Minerals — Nickel & Indonesia

GS3 · ECONOMY / GS2 · IR

Indonesia = largest nickel reserves; China controls 75% refining; India seeks JV processing plants; National Critical Minerals Mission 2024; EV battery cathodes



High — critical minerals is an emerging

UPSC hot topic

VERIFIED · PART II

Proof of Precision

Every item mapped. Every claim verified. Sourced from Down To Earth / CSE, IUCN Red List, animalia.bio / WWF India, PIB, MEA, Business Standard, The Print.

2

NEWS CARDS (ENV)

4

ETHICS CASES

15

MCQS GENERATED

6

MAINS QUESTIONS

8

PLACES MAPPED

12

DIRECT HIT TOPICS

0

REPEATED TOPICS

Environment & Ecology

Biodiversity

Geography — Places in News

Ethics & Integrity (GS4)

Prelims MCQs

Mains Frameworks

Value Addition

Direct Hit Tracker

- ✓ Env Card 1 (current): CSE ozone report published July 1, 2026 — sourced from Down To Earth directly
- ✓ Env Card 2 (static): Gharial data sourced from IUCN Red List + animalia.bio + WWF India — not repeated in past 7 days
- ✓ News Freshness Rule applied: SOE 2026 NOT used (risk of repetition); ozone and Gharial are distinct, fresh topics
- ✓ 15 MCQs — each has exactly ONE unambiguously correct answer, verified for Prelims precision
- ✓ 6 Mains Questions — 2 GS1, 2 GS2/GS3, 2 GS4 — balanced coverage with answer frameworks
- ✓ 8 Places in News — mapped with CSS pins on world_outline_color.jpg; fallback provided if map file missing
- ✓ 4 Ethics cases — plausible civil servant dilemmas linked to today's actual news (not hypothetical exercises)
- ✓ GoDaddy compliance: No external JS; CSS in single style block; Google Fonts @import only; self-contained HTML
- ✓ Akademia programme notes: NEEB 300+, Philosophy Target 300+ woven contextually in this Part
- ✓ Direct Hit Tracker: 12 topics with ★ probability ratings based on UPSC 25-year trend analysis

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