

THEIAS AKADEMIA PRESENTS

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The Topper's Last Read. Every Morning.

PART I · HEADLINES TO ECONOMY

Sunday, 18 October 2026

"The Topper's Last Read"

IN THIS EDITION

1. Top Headlines
2. Polity & Governance
3. International Relations
4. Defence & Security
5. Science & Technology
6. Economy

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01 Top Headlines

12 flashes across GS1-GS3 — read before the detailed cards

- 1

GS2

Supreme Court extends scrutiny of the Delhi SIR-protest contempt pleas; ADR challenges Section 16 immunity of the CEC Act, 2023.
- 2

GS2

ECI byelections conclude in five Assembly seats and the Nagaon Lok Sabha seat; AINRC retains Puducherry's Thattanchavady, TVK makes its Assembly debut in Tamil Nadu.
- 3

GS2

EAM S. Jaishankar completes a three-nation Africa tour — Ghana, Côte d'Ivoire and Ethiopia — reinforcing India's ITEC partnerships and the AU reform push.
- 4

GS2

Defence Secretary Rajesh Kumar Singh visits Cyprus and Greece to deepen the India-EU Security and Defence Partnership in the Eastern Mediterranean.
- 5

GS3

INS Sahyadri anchors at Vladivostok for Exercise INDRA-2026 with the Russian Navy (13-18 October).
- 6

GS3

INS Trishul concludes Exercise KONKAN-26 with the UK's Royal Navy at Plymouth (8-15 October).
- 7

GS3

GRSE Kolkata launches Next-Generation Offshore Patrol Vessel 'Shreyas'; Indian Coast Guard commissions indigenous FPV ICGS Ajit at Goa.
- 8

GS3

DST-funded University of Kerala team identifies Mars-analogue mineral sites at Neyveli and the Tiruchirappalli Badlands.
- 9

GS3

PIB backgrounder flags that only 32 of India's 111 declared National Waterways are navigation-ready despite cargo crossing 218 MMT in 2025-26.
- 10

GS3

NGT sets aside District Survey Reports for Basti and Shamli districts, Uttar Pradesh, over EIA lapses in sand-mining clearances.
- 11

GS3

This edition's rotating static species profile revisits the Snow Leopard as Places in News anchors at Hemis National Park, Ladakh.

THEIAS AKADEMIA

A dozen moving institutional threads in one morning — contempt jurisdiction, byelection law, three continents of diplomacy, two navies and a Mars-analogue lab. On days this dense, candidates enrolled in **Sahyog Mentorship** get a same-day structured breakdown mapping every story to its exact GS sub-heading, so nothing gets lost in the volume. Details: theiasakademia.com

02 Polity & Governance

2 cards · hard-capped at 3 per edition (Rule 16.1)

GS2

Constitution — Judiciary, Election Commission, Fundamental Rights

9–15 October 2026 (developing) · Source: Supreme Court of India (official orders); PIB

Election Commissioners Under the Scanner: Contempt, Protest Rights and the New Challenge to Section 16 Immunity

Why in News: A bench led by CJI Surya Kant has, since 9 October 2026, issued a sequence of orders arising from protests in Delhi against CEC Gyanesh Kumar and the Election Commission's pan-India Special Intensive Revision (SIR) of electoral rolls, including a contempt petition (*Shailendra Mani Tripathi v. Govind Mohan*, Diary No. 63858-2026) against the Union Home Secretary, the Delhi Police Commissioner and the DMRC Chairperson. The matter was adjourned from 13 to 15 October 2026 owing to Justice V Mohana's ill-health. On 12 October, Opposition leaders including Rahul Gandhi marched toward the Court, prompting the CJI's oral observation that protests should occur at designated places without impeding lawyers and litigants.

Background: Article 19(1)(b) guarantees the right to assemble peaceably and without arms, subject to reasonable restrictions under Article 19(3); Section 163 of the Bharatiya Nagarik Suraksha Sanhita, 2023 (successor to Section 144 CrPC) empowers preventive prohibitory orders. The Supreme Court's contempt jurisdiction flows from Articles 129 and 215 read with the Contempt of Courts Act, 1971. The Election Commission's constitutional

basis sits in Article 324 (superintendence, direction and control of elections); the CEC Act, 2023 was enacted after the Court's own ruling in *Anoop Baranwal v. Union of India* (2023), which had called for a broad-based selection mechanism for Election Commissioners pending a law — Parliament's 2023 Act placed the selection committee under the Prime Minister's chairmanship rather than a judicially-weighted panel, a point of continuing controversy.

⚡ KEY FACTS

- Lead case: *Shailendra Mani Tripathi v. Govind Mohan*, Diary No. 63858-2026 — a contempt petition against the Union Home Secretary, Delhi Police Commissioner and DMRC Chairperson
- Bench: CJI Surya Kant, Justices Joymalya Bagchi and V Mohana
- 9 October: the Court called police notifications ahead of the 10 October protest "overreaching" and barred a blanket halt to Metro/train services
- 11 October special sitting (Justices Bagchi & Mohana): no detention except by procedure established by law; normal transport and internet to continue; *prima facie* contempt found and notice issued
- 13 October: hearing adjourned to 15 October owing to Justice Mohana's ill-health; compliance-report deadline extended to 15 October
- ADR's fresh petition challenges Section 16, CEC Act 2023 — the clause granting Election Commissioners immunity for acts done in their official capacity
- Separately, Rahul Gandhi and nine other INDIA bloc MPs have petitioned against the ECI's ongoing SIR exercise under Article 324 and the Representation of the People Act, 1950
- The Supreme Court Advocates-on-Record Association and the Supreme Court Bar Association have sought independent inquiries into the detention of lawyers on 10 October

🎯 MAINS DIMENSIONS / ANALYSIS

- Tension between Article 19 assembly rights and Section 163 BNSS preventive powers — the proportionality framework from *Anuradha Bhasin v. Union of India* (2020) is the likely judicial touchstone
- Statutory immunity vs judicial review: reading Section 16 of the CEC Act, 2023 as ousting courts would sit uneasily with Articles 32/226 and the basic-structure doctrine (*Kesavananda Bharati*, 1973)
- Contempt jurisdiction as an enforcement tool for live protest-management directions raises the separate question of whether courts are well-placed to run operational policing decisions
- Centre–Delhi administrative friction: coordination between Delhi Police (Union-controlled under Article 239AA) and the DMRC (a joint Centre–State SPV) during a live law-and-order event
- Way forward: codified, narrowly-tailored protest-management SOPs and a legislatively clearer, good-faith-limited immunity clause for Election Commissioners would reduce recurring litigation of this kind

Previously covered:

11 October 2026 — the Supreme Court's Sunday sitting on Article 19/Section 163 BNSS and the Delhi Metro contempt plea

What's new today:

On 13–15 October 2026 the Court extended compliance timelines on its 9–11 October protest-management directions, continued contempt notices against the Union Home Secretary, the Delhi Police Commissioner and the DMRC Chairperson, and — in a structurally new development — issued notice on a fresh petition by the Association for Democratic Reforms (ADR) challenging Section 16 of the Chief Election Commissioner and Other Election Commissioners Act, 2023, which grants Election Commissioners immunity for official acts.

UPSC relevance shift:

the story has moved from an episodic law-and-order/contempt dispute to a structural question of institutional accountability — whether a statutory immunity clause can shield a constitutional authority from judicial review.

 PYQ LINKAGE

GS2 2018 Mains — on the Supreme Court's ruling settling the Lieutenant Governor–Delhi government tussle under Article 239AA (direct institutional-accountability parallel); GS2 2014 Mains — the basic-structure doctrine and limits on Parliament's amending power (bears on testing Section 16 immunity against judicial review).

 PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements regarding the Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023:

1. It was enacted in response to the Supreme Court's judgment in *Anoop Baranwal v. Union of India* (2023).
2. It places the selection committee for the CEC and Election Commissioners under the chairmanship of the President of India.
3. It provides certain protections to Election Commissioners for acts done in their official capacity.

Which of the statements given above is/are correct?

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

Answer: (a). The 2023 Act's selection committee is chaired by the Prime Minister (with the Leader of Opposition and a Union Cabinet Minister nominated by the PM), not the President — replacing the Chief Justice of India that the Court's interim order had included, the central point of controversy.

9 October 2026 · Source: Election Commission of India; Doordarshan News

By-Elections and the Machinery Behind Them: RPA 1951, the Election Commission's Mandate, and the Anti-Defection Backdrop

Why in News: On 9 October 2026 the Election Commission of India declared results for byelections to five State Assembly seats and the Nagaon Lok Sabha seat in Assam, called to fill vacancies arising from resignation, death or disqualification. The ruling AINRC retained Puducherry's Thattanchavady Assembly seat, while the Tamil Nadu Vettri Kazhagam (TVK) contested its first Assembly byelection since registration. The results again exercise the decades-old statutory machinery that compels the ECI to fill a vacant seat within a fixed window, independent of any single seat's electoral arithmetic.

Background: Section 151A of the Representation of the People Act, 1951 obliges the ECI to fill a casual vacancy in a House within six months of its occurrence, unless the remainder of the term is less than one year or the Commission certifies that holding the poll within that period is difficult. Casual vacancies commonly arise from death, resignation, or disqualification — the last of these frequently triggered by the Tenth Schedule's anti-defection provisions (inserted by the 52nd Amendment, 1985) or by Section 8 of the RPA 1951 following a criminal conviction. Byelections draw on the same electoral rolls currently being revised under the ongoing Special Intensive Revision (SIR), linking this machinery directly to the roll-accuracy disputes before the Supreme Court.

⚡ KEY FACTS

- Section 151A, RPA 1951: a 6-month window to fill a vacancy, subject to the under-one-year exception and an ECI "difficulty" certification
- Casual-vacancy triggers: death, resignation, Tenth Schedule disqualification, or Section 8 RPA 1951 conviction-based disqualification
- 9 October 2026 byelections: five Assembly seats plus the Nagaon (Assam) Lok Sabha seat
- Puducherry's Thattanchavady Assembly seat retained by the ruling AINRC
- Tamil Nadu Vettri Kazhagam (TVK) fought its first Assembly byelection test since party registration
- The Tenth Schedule disqualifies a defector from the House, not from future candidature — a frequent source of "resign-and-recontest" litigation
- The ECI's byelection mandate flows from Article 324 (superintendence, direction and control of elections) read with the RPA 1951 and the RPA 1950 (electoral rolls)
- A byelection uses the same electoral-roll machinery as a general election, making it directly sensitive to the accuracy of the ongoing SIR exercise

MAINS DIMENSIONS / ANALYSIS

- Frequent byelections impose a recurring fiscal and administrative burden on the ECI — a standing argument in "one nation, one election"-style synchronisation debates, though casual-vacancy byelections fall outside that specific framework
- The anti-defection law's deterrent design is partly undercut by "resign and recontest" strategies, since the Tenth Schedule disqualifies from the House, not from future candidature
- Emerging regional parties (such as TVK) use Assembly byelections as low-cost electoral debuts to test organisational strength ahead of a general election, reshaping state-level multi-party competition
- The ECI's "difficulty" certification under the Section 151A proviso is a discretionary and largely unreviewed power — an accountability gap flagged repeatedly by election-law scholars
- Way forward: a statutory, time-bound and reasoned certification process for invoking the Section 151A proviso would strengthen the predictability of India's byelection calendar

LET'S REMEMBER THIS THROUGH A TRICK

Remember Section 151A as the '6-and-1' rule: SIX months to fill a vacancy, UNLESS less than ONE year of the term remains.

PYQ LINKAGE

GS2 2013 Mains — on simplifying the procedure for disqualification of persons found guilty of corrupt practices under the Representation of the People Act (direct linkage to the RPA's disqualification-and-vacancy architecture).

PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements about the Representation of the People Act, 1951:

1. A casual vacancy in a House of Parliament must be filled within six months of its occurrence in all circumstances.
2. The Election Commission may be exempted from holding a byelection if the remainder of the term of the vacant seat is less than one year.
3. A disqualification under the Tenth Schedule of the Constitution automatically bars the disqualified member from contesting any future election.

Which of the statements given above is/are correct?

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

Answer: (a). Statement 1 is wrong because of the under-one-year exception and the ECI's difficulty-certification proviso; statement 3 is wrong because the Tenth Schedule disqualifies a member from the House, not from future candidature.

03 International Relations

GS2

India and its Neighbourhood; Bilateral Groupings; India's Foreign Policy — Africa

6–12 October 2026 · Source: Ministry of External Affairs

India's Africa Outreach: EAM Jaishankar's Three-Nation Tour to Ghana, Côte d'Ivoire and Ethiopia

Why in News: Between 6 and 12 October 2026, External Affairs Minister S. Jaishankar undertook an official visit to Ghana, Côte d'Ivoire and Ethiopia, meeting Ghana's President and holding wide-ranging talks on deepening bilateral partnerships — continuing a sustained Indian diplomatic push across West, Francophone and Horn-of-Africa states within a single tour. The Ethiopia leg additionally allowed engagement with the African Union, headquartered in Addis Ababa, at a moment when AU institutional reform and a permanent African seat on an expanded UN Security Council remain live items on the multilateral agenda.

Background: India's institutional Africa engagement rests on the India-Africa Forum Summit (IAFS) process (first held 2008, last full summit 2015), the Indian Technical and Economic Cooperation (ITEC) programme (running since 1964), and more than \$12 billion in concessional Lines of Credit extended since 2015 across over 40 African nations for infrastructure, power and agricultural projects. India has consistently backed a reformed UN Security Council with permanent African representation, a position aligned with the African Union's own Common African Position (the Ezulwini Consensus, 2005).

⚡ KEY FACTS

- Tour dates: 6–12 October 2026; countries visited: Ghana, Côte d'Ivoire, Ethiopia
- Ghana leg: meeting with Ghana's President; talks on a comprehensive bilateral partnership
- Côte d'Ivoire leg: a rare ministerial-level EAM visit to a Francophone West African state
- Ethiopia leg: bilateral talks plus African Union engagement at the AU's Addis Ababa headquarters
- ITEC programme (since 1964): India's flagship Africa-wide capacity-building platform covering IT, agriculture and public-administration training
- India's cumulative concessional Lines of Credit to Africa: over \$12 billion since 2015, across 40+ countries

- India-Africa Forum Summit (IAFS) process: 2008 (New Delhi), 2011 (Addis Ababa), 2015 (New Delhi) — a fourth summit remains pending more than a decade later
- UNSC reform: India continues to back a permanent African seat, aligned with the AU's Ezulwini Consensus (2005)

MAINS DIMENSIONS / ANALYSIS

- South-South cooperation vs conditional financing: India's development-partnership model (grants, concessional credit and capacity-building) is pitched as demand-driven, though its scale still lags China's Belt and Road footprint in Africa
- Strategic-resource dimension: West Africa's mineral and commodity base (Ghana's bauxite and gold, Côte d'Ivoire's cocoa-led economy) is relevant to India's import-diversification and critical-mineral-security goals
- Multilateral payoff: sustained Africa outreach builds coalition support for India's own UNSC permanent-seat ambitions, reciprocal to India's backing of African representation
- Soft-power and diaspora angle: long-standing ITEC alumni networks and education/health partnerships anchor people-to-people ties independent of any single visit
- Criticism and way forward: the IAFS process has stalled since 2015 — critics argue episodic bilateral visits cannot substitute for a renewed, institutionalised summit mechanism

LET'S REMEMBER THIS THROUGH A TRICK

ITEC since '64, IAFS since '08 — remember India's Africa engagement as capacity (ITEC) plus community (IAFS).

PYQ LINKAGE

GS2 2018 Mains — "Africa could be the canvas where India could paint a befitting picture." Discuss India's strategic engagement with Africa in this light."

PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements regarding India's institutional engagement with Africa:

1. The India-Africa Forum Summit (IAFS) has been held only three times to date.
2. The Indian Technical and Economic Cooperation (ITEC) programme was launched in 1964.
3. The African Union's headquarters is located in Addis Ababa, Ethiopia.

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) 3 only

Answer: (c). All three statements are correct — IAFS has met in 2008, 2011 and 2015; ITEC was launched in 1964; and the AU is headquartered in Addis Ababa.

ITEC

IAFS

UNSC Reform

#IndiaAfrica

#Jaishankar

12–15 October 2026 · Source: Ministry of Defence

India's Mediterranean Outreach: Defence Secretary's Visit to Cyprus and Greece

Why in News: Defence Secretary Rajesh Kumar Singh visited Cyprus (12–13 October) and Greece (13–15 October) in October 2026, holding talks on defence-industrial cooperation and maritime security, building on the Cypriot President's visit to India in May 2026 and the Greek Defence Minister's visit in February 2026, and situating the trip within the wider India-EU Security and Defence Partnership launched in 2025.

Background: Greece sits as a European terminus of the India-Middle East-Europe Economic Corridor (IMEC), announced at the G20 New Delhi Summit of September 2023, which envisages an eastern India-Gulf sea corridor and a northern Gulf-Europe rail-and-sea corridor terminating at European ports such as Piraeus. Cyprus, an EU member divided since 1974 and hosting the UN Peacekeeping Force in Cyprus (UNFICYP) since 1964, sits at a separate but related Eastern Mediterranean strategic node relevant to India's extended maritime and energy-security interests, distinct from — but adjacent to — the IMEC route.

⚡ KEY FACTS

- Visit dates: Cyprus 12–13 October 2026; Greece 13–15 October 2026
- Builds on the Cypriot President's visit to India (May 2026) and the Greek Defence Minister's visit to India (February 2026)
- Overarching framework: the India-EU Security and Defence Partnership, launched in 2025
- Related connectivity project: the India-Middle East-Europe Economic Corridor (IMEC), announced at the G20 New Delhi Summit, September 2023, with Greece's Piraeus port as a key European node
- Discussion areas: defence-industrial cooperation, maritime security, and defence-technology collaboration
- Cyprus's distinct strategic relevance: EU and Eastern Mediterranean member, hosting UNFICYP peacekeeping since 1964
- Greece's strategic relevance: a NATO and EU member with its own maritime boundary disputes with Turkey in the Aegean/Eastern Mediterranean

🎯 MAINS DIMENSIONS / ANALYSIS

- IMEC's land-sea multimodal corridor depends on stable Eastern Mediterranean transit nodes, making defence-diplomacy outreach to Greece a quiet enabler of India's connectivity diversification away from a China-centred Belt and Road narrative

- Defence-industrial cooperation with EU/NATO-aligned states diversifies India's traditionally Russia-heavy defence-import profile, consistent with India's declared doctrine of strategic autonomy
- Balancing act: India's simultaneous naval exercise with Russia (Exercise INDRA-2026, see the Defence section) and defence outreach to NATO-aligned Greece in the same week is a live illustration of multi-alignment in practice
- Criticism: India's Mediterranean engagement remains nascent compared with its Gulf and Indo-Pacific partnerships, with limited concrete defence-contract outcomes announced so far
- Way forward: converting diplomatic visits into Mutual Logistics Support-type arrangements, as already done in the Indo-Pacific, would give India's Mediterranean posture operational depth

LET'S REMEMBER THIS THROUGH A TRICK

Remember IMEC's European leg as 'Gulf-to-Greece' — the sea-rail bridge India itself helped announce at its own G20 table in 2023; Cyprus is a separate Eastern Mediterranean node, not formally on the IMEC route.

PYQ LINKAGE

No past Mains question targets IMEC directly, since the corridor was only announced in September 2023; the closest linkage is GS2's recurring focus on India's connectivity diplomacy and extended maritime strategy.

PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements about the India-Middle East-Europe Economic Corridor (IMEC):

1. The India-Middle East-Europe Economic Corridor (IMEC) was announced on the sidelines of the G20 Summit held in New Delhi in 2023.
2. IMEC envisages both an eastern (India-Gulf) corridor and a northern (Gulf-Europe) corridor.
3. Greece's Piraeus port has been identified as a key European node under the corridor.

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

Answer: (d). All three statements are correct and well-documented since IMEC's September 2023 announcement.

IMEC

India-EU Partnership

#Mediterranean

#DefenceDiplomacy

04 Defence & Security

GS3

Security Challenges and their Management; Bilateral Defence Cooperation

8–18 October 2026 · Source: Indian Navy; Ministry of Defence

Two-Ocean Exercise Diplomacy: INDRA-2026 with Russia and KONKAN-26 with the United Kingdom

Why in News: The Indian Navy conducted two bilateral maritime exercises in the same week of October 2026 — INS Sahyadri joined the Russian Navy at Vladivostok for Exercise INDRA-2026 (13–18 October), while INS Trishul exercised with the UK's Royal Navy at Plymouth under Exercise KONKAN-26 (8–15 October) — a visible demonstration of India's simultaneous defence engagement across both traditional and newer partners.

Background: INDRA is the oldest bilateral naval exercise series India conducts, dating to 2003 and rooted in the 2000 India-Russia Strategic Partnership (upgraded to a "Special and Privileged Strategic Partnership" in 2010), reaffirmed through the MAHASAGAR vision articulated at the 23rd India-Russia Annual Summit (4–5 December 2025). KONKAN, running since 2004, reflects the UK-India Vision 2035 defence-industrial and maritime-security track, alongside the India-UK Comprehensive Economic and Trade Agreement signed in 2025.

⚡ KEY FACTS

- INDRA-2026: INS Sahyadri at Vladivostok, arrived 10 October, exercise phase 13–18 October, covering harbour and sea phases
- INDRA series origin: 2003, under the 2000 India-Russia Strategic Partnership
- India-Russia relationship upgraded to a "Special and Privileged Strategic Partnership" in 2010

- MAHASAGAR vision articulated at the 23rd India-Russia Annual Summit, 4–5 December 2025
- KONKAN-26: INS Trishul at Plymouth, UK, 8–15 October 2026; sea-phase drills covered air defence, surface firing and anti-submarine warfare
- KONKAN series origin: 2004
- Parallel UK framework: India-UK Vision 2035, alongside the India-UK Comprehensive Economic and Trade Agreement (2025)
- The same week also saw the Defence Secretary's separate Cyprus-Greece visit — Indian defence diplomacy was active in the Pacific, the Atlantic and the Mediterranean simultaneously

MAINS DIMENSIONS / ANALYSIS

- Demonstrates India's strategic-autonomy/multi-alignment doctrine in practice — high-visibility engagement with Russia and a NATO member in the same calendar week
- INDRA's continuity signals that pressure linked to the Russia-Ukraine conflict has not altered India's defence-exercise relationship with Russia, even as arms-import diversification continues elsewhere
- KONKAN's growth alongside the 2025 India-UK CETA reflects a broader "trade-plus-defence" bundling pattern in India's partnership with Western Europe
- Criticism: exercise diplomacy with divergent blocs risks diluting India's perceived consistency as a security partner within any single grouping
- Way forward: a publicly articulated rationale distinguishing capability-building exercises from diplomatic-signalling exercises would help explain India's parallel-engagement strategy to domestic and international audiences

LET'S REMEMBER THIS THROUGH A TRICK

INDRA (2003, Russia) is older than KONKAN (2004, UK) by exactly one year — same decade, same ocean-diplomacy logic, different oceans.

PYQ LINKAGE

GS3 2020 Mains (indicative) — on the comparative significance of India's defence deals with the United States and with Russia for India's strategic posture.

PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements:

1. Exercise INDRA is a bilateral naval exercise between India and Russia that has been conducted since 2003.
2. Exercise KONKAN is a bilateral naval exercise between India and the United Kingdom.
3. Both the 2026 editions of these exercises were conducted exclusively in Indian territorial waters.

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

Answer: (a). Statement 3 is false — the 2026 editions were hosted at Vladivostok, Russia and Plymouth, UK respectively, not in Indian waters.

Exercise INDRA

Exercise KONKAN

MAHASAGAR

#StrategicAutonomy

GS3

Indigenisation of Technology; Defence Manufacturing; Atmanirbhar Bharat

9–10 October 2026 · Source: Ministry of Defence; Indian Coast Guard; GRSE

Atmanirbhar at the Waterline: NGOPV 'Shreyas' and ICGS Ajit Join India's Patrol-Vessel Fleet

Why in News: India's indigenous patrol-vessel shipbuilding programme advanced on consecutive days in October 2026 — the Indian Coast Guard commissioned the indigenously-built Fast Patrol Vessel ICGS Ajit at Goa Shipyard Limited on 9 October, and Garden Reach Shipbuilders & Engineers (GRSE), Kolkata launched the Next-Generation Offshore Patrol Vessel (NGOPV) "Shreyas" on 10 October, with Vice Chief of the Naval Staff Vice Admiral Ajay Kochhar in attendance.

Background: India's offshore and coastal patrol fleet has historically depended on a mix of imported and licence-built hulls; the Next-Generation OPV programme, split between GRSE and Goa Shipyard Limited (GSL), and the Coast Guard's Fast Patrol Vessel series both fall under the Defence Acquisition Procedure's indigenous-design and "Buy (Indian)" categories that anchor the Atmanirbhar Bharat push in shipbuilding, alongside the Strategic Partnership model introduced in 2017.

⚡ KEY FACTS

- ICGS Ajit: commissioned 9 October 2026 at GSL, Goa; handed over by the yard on 25 August 2026
- ICGS Ajit specifications: length 51.43 m, displacement 330 tonnes, speed above 27 knots, endurance 1,500 nautical miles, crew of 41 (6 officers + 35 sailors), over 65% indigenous content by value, home-ported at Okha, Gujarat
- NGOPV "Shreyas" (Yard 3040): launched 10 October 2026 at GRSE, Kolkata
- NGOPV programme: split between GRSE (Kolkata) and Goa Shipyard Limited
- Planned NGOPV roles: maritime surveillance, search-and-rescue, offshore-asset protection, HADR and anti-piracy patrol
- "Shreyas" is Sanskrit for "the most excellent" or "the best"
- Both GRSE and GSL are Defence Public Sector Undertakings under the Department of Defence Production

- The Coast Guard's FPV series supports India's roughly 7,500 km coastline and EEZ-surveillance mandate under the Coast Guard Act, 1978

🎯 MAINS DIMENSIONS / ANALYSIS

- Twin launches within 24 hours illustrate the scaling of India's public-sector shipyard output under Atmanirbhar Bharat, though order-to-delivery timelines for comparable classes (such as the recently commissioned INS Samarthak MPV, delivered roughly 15 months late) remain a recurring criticism
- Indigenous-content metrics such as "over 65%" are typically calculated by value, which can understate continued dependence on imported propulsion, sensors or weapon systems — a methodological caveat worth flagging in any Mains answer
- Coast Guard and Navy patrol-vessel expansion directly supports India's SAGAR (Security and Growth for All in the Region) doctrine and its coastal/EEZ security architecture
- Private-shipyard participation remains limited relative to Defence PSU dominance — a structural constraint on capacity scaling flagged in the 2025 maritime infrastructure package (₹69,725 crore)
- Way forward: a steady, multi-year order pipeline — rather than one-off contracts — is needed to let private yards invest in dedicated OPV/FPV production lines

🧠 LET'S REMEMBER THIS THROUGH A TRICK

Pair the two: Shreyas (GRSE, Navy, offshore patrol) and Ajit (GSL, Coast Guard, fast patrol) — same week, same Atmanirbhar story, two different services.

📌 PYQ LINKAGE

GS3 (indicative, recurring theme) — on measures taken by the Government to promote indigenisation of defence production in India.

🎯 PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements regarding India's indigenous Offshore/Fast Patrol Vessel programmes:

1. Garden Reach Shipbuilders & Engineers (GRSE) and Goa Shipyard Limited are both Defence Public Sector Undertakings.
2. The Indian Coast Guard derives its statutory mandate from the Coast Guard Act, 1978.
3. "Indigenous content" in Indian shipbuilding is always calculated purely by the number of parts manufactured in India, never by value.

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

Answer: (a). Statement 3 is false — indigenous-content figures in Indian shipbuilding (such as ICGS Ajit's "over 65%") are typically reported by value, not by part-count alone.

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India running a Russia exercise and a NATO-aligned defence visit in the same week is a textbook test of strategic-autonomy ethics — exactly the kind of applied-ethics scenario built into the **EMP (Ethics & Moral Philosophy)** programme's GS4 case-study bank. theiasakademia.com

05 Science & Technology

GS3**Science & Technology — Space, Astrobiology, Achievements of Indians in Science**

16 October 2026 · Source: PIB; Ministry of Science & Technology (DST)

Reading Mars on Earth: India's New Planetary-Analogue Sites at Neyveli and the Tiruchirappalli Badlands

Why in News: A Department of Science & Technology (DST)-funded University of Kerala team, using a laser Raman spectrometer procured under the DST-FIST scheme, has identified melanterite at Neyveli (Tamil Nadu) and gypsum at the Tiruchirappalli Badlands (Tamil Nadu) and Chile's Atacama Desert, with the findings published in two papers in the *Journal of Geophysical Research: Planets* and reported by PIB on 16 October 2026. Both minerals are hydrous sulphates that record water-rock interaction, making these sites valuable terrestrial stand-ins for studying Martian geology.

Background: "Planetary analogue sites" are terrestrial locations whose geology, chemistry or climate resemble another planetary body closely enough to serve as a proxy for field research, instrument-testing and astrobiology study. Raman spectroscopy — the phenomenon discovered by Sir C.V. Raman in 1928, for which he won the 1930 Nobel Prize in Physics — is a standard mineral-identification tool on Mars rovers, making Earth-based Raman studies of analogue sites directly transferable to mission planning.

⚡ KEY FACTS

- Lead institution: University of Kerala, with DST-FIST (Fund for Improvement of Science & Technology Infrastructure) funding for the laser Raman spectrometer
- Sites studied: Neyveli lignite fields, Tamil Nadu (melanterite identified); Tiruchirappalli Badlands, Tamil Nadu and the Atacama Desert, Chile (gypsum identified)
- Publication: two papers in the *Journal of Geophysical Research: Planets*, reported via PIB on 16 October 2026
- Melanterite and gypsum are both hydrous sulphate minerals that form through water-rock interaction — a key biosignature-adjacent marker on Mars
- Raman spectroscopy: discovered by Sir C.V. Raman (1928); Nobel Prize in Physics, 1930 — used on NASA's Perseverance rover (SHERLOC instrument) for mineral identification
- India's Mars Orbiter Mission ("Mangalyaan," launched 2013, reached Mars orbit 2014) remains India's sole completed interplanetary mission to date
- Neyveli's active lignite-mining operations pose a risk of destroying the very geological exposures being studied
- Planned next step: surveying further extreme-environment Indian sites for astrobiology-relevant analogue research

MAINS DIMENSIONS / ANALYSIS

- Planetary-analogue research is a low-cost entry point for a developing space programme to contribute to astrobiology and mission-planning science without the expense of a dedicated interplanetary probe
- Strengthens the scientific case for India's prospective Mars lander/sample-study ambitions, building heritage beyond the orbiter-only Mangalyaan mission
- Highlights a university-DST funding model (DST-FIST) as a replicable pathway for regional universities to contribute to frontier space science, beyond ISRO-centric narratives
- Conservation-vs-research tension: active lignite mining at Neyveli threatens to destroy scientifically valuable exposures — an under-examined environmental-clearance gap for geologically significant but non-protected sites
- Way forward: sustained, ring-fenced funding for university-level scientific instrumentation, rather than one-off grants, is necessary to build a durable planetary-science research ecosystem outside ISRO's own laboratories

LET'S REMEMBER THIS THROUGH A TRICK

Remember the mineral pair: MELanterite at neyveli (an iron sulphate — 'mel' for 'metal'), GYPsum everywhere else (Trichy + Atacama) — both are water's fingerprint on rock.

PYQ LINKAGE

GS3 2019 Mains (thematic linkage) — on India's plans for its own space station and how it would benefit the space programme; no exact PYQ exists on planetary-analogue sites specifically, since this is an emerging research area.

 PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements:

1. The phenomenon of Raman scattering was discovered by Sir C.V. Raman in 1928.
2. National Science Day in India is observed on 28 February to commemorate this discovery.
3. Raman spectroscopy has been used as an onboard instrument on a NASA Mars rover mission.

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

Answer: (d). All three statements are correct — the Raman effect (1928) is commemorated on National Science Day (28 February), and Raman spectroscopy flies on NASA's Perseverance rover via its SHERLOC instrument.

Raman Spectroscopy

Mangalyaan

DST-FIST

#PlanetaryScience

06 Economy

GS3

Infrastructure — Ports, Waterways; Federalism and Union-State Legislative Lists

16 October 2026 · Source: PIB; Ministry of Ports, Shipping & Waterways

Declared on Paper, Not Yet on Water: Making India's 111 National Waterways Navigable

Why in News: A PIB backgrounder issued on 16 October 2026 by the Ministry of Ports, Shipping & Waterways flagged that of the 111 National Waterways (NWs) declared across 23 States and 4 Union Territories — spanning a combined 20,187 km — only 32 (roughly 29%) are currently operational, even as inland-waterway cargo crossed 218 million tonnes (MMT) in 2025–26, surpassing the Maritime India Vision 2030 target of 200 MMT five years ahead of schedule.

Background: The National Waterways Act, 2016 consolidated and expanded India's inland-waterway network from 5 to 111 declared NWs, placing waterway declaration under the Union List (Entry 24) while navigation and shipping on inland waterways sits on the Concurrent List (Entry 32) — a division that makes Centre-State coordination central to actually operationalising a "declared" waterway. The Inland Waterways Authority of India (IWAI, established 1986 under the IWAI Act, 1985) is the implementing body, supported

since 2021 by the Inland Vessels Act (a central law replacing fragmented State legislation) and the Marine Aids to Navigation Act (modernising lighthouse/buoy regulation).

KEY FACTS

- 111 National Waterways declared under the National Waterways Act, 2016; combined length 20,187 km across 23 States/4 UTs
- Only 32 NWs (≈29%) are currently operational
- 2025–26 inland-waterway cargo: ≈218 MMT, surpassing the Maritime India Vision 2030 target of 200 MMT; cargo CAGR of 20.13% since 2014–15
- Hydrographic surveys: Thalweg surveys covered 22 NWs as of September 2026; Least Available Depth (LAD) sets the permissible vessel draft
- Digital navigation stack: Electronic Navigational Charts (ENCs) cover 18 waterways, supported by the PANI portal, LADIS and the IWA I Vessel Tracker
- Riverine lighthouses on NW-2 (Brahmaputra), announced March 2026, at Pandu, Silghat, Biswanath Ghat and Bogibeel, Assam — a ₹74 crore outlay, 20 m solar-powered towers, implemented by IWA I
- NW-2 (Brahmaputra) cargo grew from 0.90 MMT (2024–25) to 1.29 MMT (2025–26)
- Governing legal framework: National Waterways Act 2016; Inland Vessels Act 2021; Marine Aids to Navigation Act 2021; the India-Bangladesh Protocol on Inland Water Transit and Trade (1972, periodically renewed)

MAINS DIMENSIONS / ANALYSIS

- "Declaration" under a Union-List entry does not equal "navigability" — the 29% operational figure exposes a persistent gap between legislative ambition (111 NWs) and engineering/institutional delivery, a useful illustration of India's wider infrastructure-execution challenge
- Federal coordination constraint: waterway operation straddles the Concurrent List, so last-mile dredging, land acquisition for terminals and environmental clearances depend on State cooperation that is not always forthcoming
- Ecological trade-off: maintaining Least Available Depth through dredging on the Ganga/Brahmaputra systems risks disturbing Gangetic river-dolphin habitat, requiring environmental safeguards integrated into navigation planning
- Strategic/connectivity angle: NW-2's growth and the India-Bangladesh Protocol route tie inland-waterway development to India's Act East and Northeast-connectivity priorities under PM Gati Shakti's multimodal logistics approach
- Way forward: prioritising a smaller number of high-traffic corridors for guaranteed year-round depth, rather than spreading investment thinly across all 111 NWs, would convert "declared" capacity into "usable" capacity faster

LET'S REMEMBER THIS THROUGH A TRICK

Remember the entries: Union List Entry 24 declares a waterway 'national'; Concurrent List Entry 32 governs who actually operates boats on it — declaration and operation live on two

different Lists of the Seventh Schedule.

PYQ LINKAGE

No Mains PYQ targets National Waterway navigability directly; the closest linkage is GS3's recurring focus on infrastructure/logistics bottlenecks and GS2's Seventh Schedule/Union-Concurrent List jurisdiction questions.

PROBABLE PRELIMS MCQ (STATEMENT-BASED)

Q. Consider the following statements about India's National Waterways:

1. The National Waterways Act, 2016 brought the number of declared National Waterways in India to 111.
2. Entry 24 of the Union List deals with the declaration of waterways as "national."
3. The Inland Waterways Authority of India (IWAI) was established under the Inland Vessels Act, 2021.

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

Answer: (a). Statement 3 is false — IWAI was established in 1986 under the IWAI Act, 1985, decades before the Inland Vessels Act, 2021.

National Waterways Act 2016

IWAI

PM Gati Shakti

#InlandWaterways

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