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DAILY QUIZ — SOLVED

Daily Quiz — April 1, 2026

1 April 2026



CURATED & WRITTEN BY

Bharat Choudhary

UPSC Educator & Content Creator

linkedin.com/in/epicbharat

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DAILY QUIZ — SOLVED ANSWER KEY

Daily Quiz — April 1, 2026

1 April 2026 · 30 Questions · Answers & Explanations Included

Question 1

of 30

[Source →](#)

Under India's Essential Requirements (ER) norms for IP-connected CCTV cameras, which body is responsible for issuing mandatory certification?

- A** Bureau of Indian Standards (BIS) through STQC Directorate ✓
- B Telecom Regulatory Authority of India (TRAI)
- C National Cyber Security Coordinator (NCSC) under PMO
- D Indian Computer Emergency Response Team (CERT-In)

ANSWER & ANALYSIS

EXPLANATION

FACT: STQC (Standardisation Testing and Quality Certification Directorate) under MeitY issues mandatory certification for IP-connected CCTVs under BIS's regime, notified via ER norms in April 2024 and effective from April 1, 2026. **ANALYSIS:** STQC's role extends to cybersecurity testing — backdoor access, unencrypted transmission, and firmware update vulnerabilities are all tested before certification.

CONCEPT NOTE

STQC operates under MeitY (Ministry of Electronics and Information Technology) and runs 20+ test/calibration labs across India. It certifies IT products under TEC/BIS schemes and now covers IoT/connected devices including CCTVs. The ER norms require manufacturers to declare the country of origin of the System-on-Chip (SoC) — the central processing unit controlling video encoding, motion detection, network connectivity, and remote access. As of April 1, 2026, only 507 camera models have cleared certification. Brands like Hikvision and Dahua — which dominate global CCTV manufacturing — have not obtained STQC certification, effectively barring their sale in India.

Q1  **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (S&T + internal security) + GS2 (digital sovereignty, governance).

 **MAINS KEYWORDS**

Supply chain security, hardware backdoor risk, digital sovereignty, Atmanirbhar surveillance, MeitY ER norms.

 **COMMON MISTAKE**

Students confuse STQC (under MeitY, for IT/electronics) with TEC (Telecom Engineering Centre, under DoT, for telecom equipment).

 **EXAM TIP**

STQC appears in Prelims as a body under MeitY. The CCTV ER mandate is new (2024-26) and high probability for 2026 Prelims.

 **INTERVIEW**

India bans Chinese CCTV cameras on security grounds but imports defence components from China. Is this policy coherent?

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Question 2

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The Chinese government holds approximately what percentage of stake in Hikvision — the world's largest CCTV manufacturer?

- A 21.5%
- B 31.2%
- C 41.86% ✓
- D 51.0%

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: The Chinese government holds 41.86% stake in Hangzhou Hikvision Digital Technology Co., making it a state-influenced enterprise. **ANALYSIS:** This ownership structure, combined with China's National Intelligence Law 2017 (requiring Chinese companies to assist state intelligence), creates a structural risk of government-mandated backdoor access — the legal basis for bans in USA (2022), UK (2022), Australia (2023), and India (2026).

📖 CONCEPT NOTE

Hikvision and Dahua (Zhejiang Dahua Technology) are the world's two largest CCTV manufacturers. The US FCC banned both under the Secure and Trusted Communications Networks Act (2022); the US NDAA 2019 had earlier banned federal procurement.

China's National Intelligence Law 2017 (Article 7) obligates all Chinese organisations and citizens to "support, assist and cooperate with state intelligence work" — creating a legal obligation that no Chinese company can refuse a government request for device access data. India's ban is part of a broader MeitY supply-chain security push that also includes the Trusted Telecom Portal (2022), which effectively excluded Huawei and ZTE from India's 5G rollout.

Q2  **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (S&T + cybersecurity) + GS2 (IR — India-China + digital diplomacy).

 **MAINS KEYWORDS**

Hardware supply chain security, SoC backdoor risk, Digital India security architecture, Trusted Telecom Portal.

 **COMMON MISTAKE**

Students confuse the ban's legal basis — it is not a specific import prohibition but a certification requirement that Chinese brands have not met.

 **EXAM TIP**

China's National Intelligence Law 2017 is a recurring fact in Prelims questions on digital sovereignty.

 **INTERVIEW**

India imports over 70% of its electronics components from China. Can a selective hardware ban on CCTVs provide meaningful security?

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Question 3

of 30

[Source →](#)

India's National Biodiversity Authority (NBA), the apex body implementing the Nagoya Protocol, is headquartered in which city?

A New Delhi

B Mumbai

C Chennai ✓

D Bengaluru

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: The National Biodiversity Authority (NBA) is a statutory body established in 2003 under the Biological Diversity Act, 2002, headquartered at Chennai. It issues Internationally Recognised Certificates of Compliance (IRCCs) on the ABS Clearing-House and approves access to biological resources for foreign entities.

ANALYSIS: As of 2026, India has issued 3,561 IRCCs — 56.43% of the global total of 6,311.

📖 CONCEPT NOTE

India's biodiversity governance operates at three tiers: National (NBA, Chennai) → State (33 State Biodiversity Boards) → Local (approximately 2.7 lakh Biodiversity Management Committees at every panchayat and urban local body). BMCs maintain People's Biodiversity Registers (PBRs) — local documentation of biodiversity.

The NBA's mandate under the Biological Diversity Act, 2002 includes benefit-sharing: between 2017 and 2025, India mobilised ₹216.31 crore in benefit-sharing and disbursed ₹139.69 crore. The three-tier structure is a model for decentralised biodiversity governance globally.

Q3
 **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (environment + biodiversity) + GS2 (IR — CBD + Nagoya) + GS1 (India biodiversity hotspots).

 **MAINS KEYWORDS**

Access and Benefit Sharing (ABS), Prior Informed Consent (PIC), Mutually Agreed Terms (MAT), megadiverse nation, biopiracy.

 **COMMON MISTAKE**

Students confuse NBA (apex body for biological diversity, under MoEFCC, Chennai) with NBFA (National Biodiversity Finance Authority — does not exist) or NBT (National Biodiversity Target).

 **EXAM TIP**

NBA, its headquarters, and the three-tier structure appear regularly in UPSC Prelims environment questions.

 **INTERVIEW**

India has 56% of global IRCCs but only 5% protected area coverage. How do you reconcile these?

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Question 4

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[Source →](#)

The Nagoya Protocol on Access and Benefit Sharing was adopted at the 10th Conference of Parties (COP10) to the Convention on Biological Diversity (CBD). When and where was it adopted?

A September 2002, Johannesburg, South Africa

B **October 2010, Nagoya, Japan ✓**

C December 2015, Paris, France

D December 2022, Montreal, Canada

ANSWER & ANALYSIS
 **EXPLANATION**

FACT: The Nagoya Protocol was adopted on October 29, 2010, at COP10 to the CBD held in Nagoya, Japan. It entered into force on October 12, 2014.

India ratified it in 2012. **ANALYSIS:** The Protocol addresses biopiracy — the use of a country's genetic resources without Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT).

India suffered high-profile biopiracy cases (turmeric, neem, basmati) before the Protocol's framework was in place.






 **CONCEPT NOTE**

The CBD framework has three landmark decisions: original CBD (1992, Rio Earth Summit) → Cartagena Protocol on Biosafety (2000) → Nagoya Protocol on ABS (2010). The Kunming-Montreal Global Biodiversity Framework (GBF) adopted at COP15 in December 2022 (Montreal, Canada) is a separate policy framework — it set 23 targets including the 30×30 target (protect 30% of land and oceans by 2030).

India's current protected area coverage is approximately 5.03% — far below the 30×30 goal. The CBD Secretariat is based in Montreal, Canada.

India's Traditional Knowledge Digital Library (TKDL) with 34 million pages of prior art in 5 languages was developed specifically to counter biopiracy patent applications.

Q4  **CONCEPT KIT**

 CROSS-PAPER	GS3 (environment + biodiversity) + GS2 (IR — multilateral environmental agreements).
 MAINS KEYWORDS	Nagoya Protocol, ABS Clearing-House, biopiracy, IRCC, 30×30 target, Kunming-Montreal GBF.
 COMMON MISTAKE	Students confuse Nagoya Protocol (2010, ABS) with Cartagena Protocol (2000, biosafety/GMOs) — both are CBD protocols but address entirely different issues.
 EXAM TIP	CBD-related protocols appear every year in UPSC Prelims. Memorise: CBD (1992) → Cartagena (2000) → Nagoya (2010).
 INTERVIEW	Should India push for ABS obligations on Digital Sequence Information at COP16?

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Question 5

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Under Article 324(5) of the Indian Constitution, the Chief Election Commissioner (CEC) can be removed from office by what procedure?

- A Presidential order on advice of Prime Minister alone
- B Same manner and on same grounds as a judge of the Supreme Court ✓
- C Simple majority in Lok Sabha passed as a Resolution
- D Joint sitting of both Houses of Parliament by special majority






ANSWER & ANALYSIS
EXPLANATION

FACT: Article 324(5) states the CEC shall not be removed from office except in like manner and on like grounds as a judge of the Supreme Court — requiring a motion, a judicial committee inquiry, and a special majority (majority of total membership + 2/3 of members present and voting) in each House. **ANALYSIS:** The current removal notice backed by ~190 MPs (130 LS + 63 RS) falls far short — the LS threshold alone requires 272+ of 543 members.

CONCEPT NOTE

The removal procedure under Article 124(4) read with the Judges (Inquiry) Act, 1968 has five stages: (1) motion by 100+ Lok Sabha MPs or 50+ Rajya Sabha MPs; (2) inquiry by a three-member Judicial Committee (2 judges + 1 jurist); (3) committee finds "proved misbehaviour or incapacity"; (4) each House passes the address by special majority; (5) Presidential order. This five-stage process has never been completed against any SC judge in India's history. The CEC's institutional security enabled T.N. Seshan (CEC 1990-96) to transform the ECI — implementing MCC enforcement, penalising candidates, and seizing illegal money/liquor during elections. He received the Ramon Magsaysay Award in 1996.

Q5  **CONCEPT KIT**

 CROSS-PAPER	GS2 (polity + constitutional bodies).
 MAINS KEYWORDS	Article 324(5), special majority, ECI independence, institutional security, constitutional safeguards.
 COMMON MISTAKE	Students confuse the removal of CEC (Article 324(5) — like SC judge) with removal of other Election Commissioners (who can be removed on recommendation of CEC alone — simpler procedure).
 EXAM TIP	Article 324 structure, CEC removal, and ECI independence are among the most frequently tested ECI questions in Prelims and Mains.
 INTERVIEW	Should constitutional watchdog bodies have even stronger security of tenure than judges?

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Question 6

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The Supreme Court in *Anoop Baranwal v. Union of India (2023)* directed that the selection committee for appointing Election Commissioners should include which independent member?

A Comptroller and Auditor General of India

B Chief Justice of India ✓

C Leader of the Opposition in Lok Sabha

D Attorney General of India

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: A 5-judge Constitution Bench of the Supreme Court in *Anoop Baranwal v. Union of India* (March 2023) directed that the CEC/EC appointment committee include the Chief Justice of India as an independent member.

ANALYSIS: Parliament overrode this within months — the CEC and Other Election Commissioners Act, 2023 (December 2023) replaced the CJI with a Cabinet Minister nominated by the PM, resulting in a 2:1 government majority on the selection committee.

 **CONCEPT NOTE**

The *Anoop Baranwal* judgment held that the appointment process for the ECI needed an independent element to prevent ruling-party capture. The Court's interim direction (PM + Leader of Opposition + CJI) was explicitly reversed by the CEC Act 2023 (PM + Cabinet Minister + Leader of Opposition).

The government's defence: Parliament is supreme in legislative matters; the SC cannot mandate a specific appointment process not explicitly in the Constitution. Critics argue Parliament used its majority to undermine the constitutional principle of ECI independence the court had just upheld.

The CEC Act 2023 is currently challenged before the Supreme Court.

Q6
 **CONCEPT KIT**
 **CROSS-PAPER**

GS2 (polity + constitutional law + separation of powers).

 **MAINS KEYWORDS**

Judicial review, parliamentary sovereignty, institutional independence, ECI appointment, checks and balances.

 **COMMON MISTAKE**

Students confuse Anoop Baranwal case (2023, ECI appointment) with S. Subramaniam Balaji case (2013, freebies) — both are important SC judgments but on entirely different issues.

 **EXAM TIP**

The CEC Act 2023 and Anoop Baranwal judgment are high-probability questions for UPSC 2026 given the CEC removal controversy.

 **INTERVIEW**

Does Parliamentary sovereignty extend to reversing Supreme Court directions on constitutional functionary appointments?

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Question 7

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INS Shachi — the first of 11 Next Generation Offshore Patrol Vessels (NGOPVs) launched on March 31, 2026 — was built at which shipyard?

- A Mazagaon Dock Shipbuilders (MDL), Mumbai
- B Cochin Shipyard Limited (CSL), Kochi
- C Goa Shipyard Limited (GSL), Vasco-da-Gama ✓
- D Garden Reach Shipbuilders and Engineers (GRSE), Kolkata

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: INS Shachi (Yard 1280) was launched at Goa Shipyard Limited (GSL) in Vasco-da-Gama, Goa. The Rs 9,781 crore NGOPV contract involves concurrent construction at two Defence PSUs — 6 vessels at GSL and 5 vessels at GRSE (Kolkata).

ANALYSIS: The dual-yard approach accelerates delivery and simultaneously builds capacity at both PSUs, consistent with India's objective of expanding Defence PSU output under Atmanirbhar Bharat.

📌 CONCEPT NOTE

India has 8 Defence Public Sector Undertakings (DPSUs) under the Ministry of Defence: HAL (aircraft), MDL (submarines/destroyers), GRSE (frigates/OPVs), GSL (OPVs/FPVs), BEL (electronics), BDL (missiles), BEML (vehicles), and Armoured Vehicles Nigam Ltd. The NGOPV programme — 11 vessels, Rs 9,781 crore, signed March 2023 — delivers vessels with ~76% indigenous content, exceeding the DAP 2020 minimum of 50% for Buy (Indian-IDDMM) category. Each vessel is 110m long, 2,900 tonnes displacement, 25+ knots speed, and carries a helicopter deck up to 15-tonne class. India's EEZ covers ~2.37 million sq km, the third largest globally after the USA and France.

Q7
 **CONCEPT KIT**
 **CROSS-PAPER**


GS3 (defence + economy + S&T) + GS2 (IR — Net Security Provider, Indo-Pacific).

 **MAINS KEYWORDS**

DAP 2020, Positive Indigenisation List, Buy (Indian-IDDMM), Net Security Provider, blue-water navy.

 **COMMON MISTAKE**

Students confuse GSL (Goa — OPVs/FPVs) with GRSE (Kolkata — frigates/corvettes/ASW) and MDL (Mumbai — submarines/destroyers).

 **EXAM TIP**

DPSU names + their specialisations appear in Prelims questions on defence indigenisation.

 **INTERVIEW**

India is building its own aircraft carrier but still imports jet engines. Where should India focus its defence R&D investment?

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Question 8

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Under Defence Acquisition Procedure (DAP) 2020, what is the minimum Indigenous Content required for a procurement to qualify under the "Buy (Indian — IDDM)" category?

A 30%

B 40%

C 50% ✓

D 60%

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: DAP 2020 mandates a minimum 50% indigenous content for the Buy (Indian-IDDM) category, where IDDM stands for Indigenously Designed, Developed and Manufactured. The NGOPV programme achieves ~76% indigenous content — well above the DAP minimum.

ANALYSIS: MoD's target is 70% of defence procurement from domestic sources by 2027; India's defence exports have grown from Rs 686 crore (2013-14) to Rs 21,083 crore (2023-24).

📌 CONCEPT NOTE

DAP 2020 replaced Defence Procurement Procedure (DPP) 2020 and is the primary framework for defence procurement. The Buy (Indian-IDDM) category is the highest preference tier — products must be designed, developed, and manufactured in India.

Lower-preference tiers include Buy (Indian) — 50% IC but no design requirement; Buy & Make (Indian) — transfer of technology for domestic production; Buy (Global-MII) — manufactured in India with 50% IC; Buy (Global) — no IC minimum. MoD has issued four Positive Indigenisation Lists (PIL I-IV) banning import of progressively sophisticated items — PIL IV (2024) added 98 items including ship systems, aerospace components, and missile sub-systems.

Q8
 **CONCEPT KIT**
 **CROSS-PAPER**


GS3 (defence + economy) + GS2 (governance — procurement policy).

 **MAINS KEYWORDS**

DAP 2020, IDDM, Positive Indigenisation List, iDEX, Make in India (defence).

 **COMMON MISTAKE**

Students confuse DAP 2020 (replaces DPP 2016/2020) with DPP 2016 — the procurement framework changed significantly in 2020 with new categories.

 **EXAM TIP**

DAP 2020 categories and their indigenisation requirements are frequently tested in Prelims. The distinction between IDDM (design+development in India) and simply "Buy Indian" (only IC requirement) is key.

 **INTERVIEW**

India's Positive Indigenisation List bans imports of certain defence items. What happens when domestic alternatives are not yet ready?

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Question 9

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The India Semiconductor Mission (ISM) provides a fiscal incentive of what percentage of project cost for approved semiconductor facilities?

A 25%

B 35%

C 50% ✓

D 65%

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: Under ISM, the government provides 50% of project cost as fiscal incentive for semiconductor fabs, display fabs, compound semiconductor/sensor/MEMS fabs, and OSAT facilities. The Design Linked Incentive (DLI) provides 50% cost support plus 6% of net revenue for up to 5 years for chip design startups.






ANALYSIS: ISM was launched in December 2021 under MeitY with a total incentive outlay of Rs 76,000 crore.

📖 CONCEPT NOTE

ISM-approved projects as of 2026: Tata Electronics + PSMC (Taiwan) for the Dholera fab (Rs 91,000 crore, 28nm logic, Gujarat); Tata Electronics for Assam OSAT (Rs 27,000 crore); CG Power + Renesas (Japan) + Stars Micro (Thailand) for Sanand OSAT (Rs 7,600 crore); Kaynes Technology for Sanand OSAT (Rs 3,307 crore — first to reach commercial production). The Dholera fab is India's first silicon wafer fabrication plant.

OSAT (Outsourced Semiconductor Assembly and Test) is the packaging and testing stage — it receives finished wafers from fabs and packages them for use in products. Kaynes's first commercial product is Intelligent Power Modules (IPMs) for EVs, industrial drives, and renewable energy inverters.

Q9  **CONCEPT KIT**

 CROSS-PAPER	GS3 (S&T + economy + supply chain security).
 MAINS KEYWORDS	Semiconductor value chain, OSAT, fab, ISM, DLI, supply chain resilience, Atmanirbhar electronics.
 COMMON MISTAKE	Students confuse OSAT (assembly+packaging+testing of wafers from external fabs) with FAB (actual wafer fabrication — etching circuits on silicon). India currently has OSAT but is only building its first FAB (Tata-PSMC, Dholera).
 EXAM TIP	ISM was a major Budget announcement. Know: launched 2021, MeitY, Rs 76,000 crore, 50% incentive, DLI for design startups.
 INTERVIEW	India is strong in chip design but weak in fabrication. Can OSAT plants alone provide strategic autonomy in semiconductors?

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Question 10

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Which Kunming-Montreal Global Biodiversity Framework (GBF) target is known as the "30×30" target?

- A Target 1 — end harmful subsidies to biodiversity by 2030
- B Target 2 — restore 30% of degraded ecosystems by 2030
- C Target 3 — protect at least 30% of land, inland waters, coastal areas, and oceans by 2030 ✓
- D Target 4 — halt species extinction caused by humans by 2030

ANSWER & ANALYSIS

EXPLANATION

FACT: Target 3 of the Kunming-Montreal GBF (adopted at CBD COP15, December 2022, Montreal, Canada) requires protecting at least 30% of land, inland water, coastal areas, and oceans by 2030. **ANALYSIS:** India's current protected area coverage is approximately 5.03% — making the 30×30 goal extremely ambitious. Achieving it would require bringing nearly 25% more of India's land under formal protection.

CONCEPT NOTE

The Kunming-Montreal GBF (2022) replaced the Aichi Biodiversity Targets (2010-2020). It has 23 targets across 4 goals. Beyond Target 3 (30×30), key targets include: Target 2 (restore 30% of degraded ecosystems); Target 15 (businesses assess and disclose biodiversity impacts); Target 19 (mobilise \$200 billion/year for biodiversity finance). The GBF also established the Kunming-Montreal Biodiversity Fund for developing country support.

India's 4 biodiversity hotspots are: Himalayas, Indo-Burma, Western Ghats-Sri Lanka, and Sundaland. Forest cover is 25.17% of geographic area (FSI 2023), but formal protected area (National Parks + Wildlife Sanctuaries) is only 5.03%.

Q10  **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (environment + ecology) + GS2 (IR — multilateral environment) + GS1 (geography — biodiversity hotspots).

 **MAINS KEYWORDS**

30×30 target, Kunming-Montreal GBF, Aichi Targets, CBD COP15, protected area, biodiversity hotspot.

 **COMMON MISTAKE**

Students confuse GBF adopted at COP15 (December 2022, Montreal) with the Kunming Declaration (October 2021, COP15 Part 1, held online due to COVID) — both are called COP15 but the GBF was adopted at Part 2 in Montreal.

 **EXAM TIP**

30×30 and the GBF are extremely high probability for UPSC 2026 environment questions. Know: adopted December 2022, Montreal, 23 targets, Goal 3 = 30×30.

 **INTERVIEW**

India's 30×30 commitment would require converting vast agricultural or forest-fringe land to protected areas.
Is this feasible without harming local livelihoods?

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Question 11

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[Source →](#)

India has issued 3,561 out of 6,311 Internationally Recognised Certificates of Compliance (IRCCs) globally under the Nagoya Protocol — a 56.43% share. Which country is ranked second in IRCC issuance?

- A Spain
- B Australia
- C France ✓
- D Brazil

ANSWER & ANALYSIS
EXPLANATION

FACT: France ranks second with 964 IRCCs, followed by Spain (320), Argentina (257), Panama (156), and Kenya (144). India's 3,561 IRCCs represent 56.43% of the global total.

Only 34 of 142 registered parties to the Nagoya Protocol have issued any IRCCs — making India's functional dominance even more significant. **ANALYSIS:** India's lead reflects both its megadiverse status (one of 17 megadiverse countries) and its proactive NBA that has been operationally active since 2003.






CONCEPT NOTE

India is one of 17 megadiverse countries globally — hosting approximately 7-8% of the world's biodiversity despite covering only 2.4% of land area. India has 4 biodiversity hotspots: Eastern Himalayas, Indo-Burma, Western Ghats-Sri Lanka, and Sundaland.

Wildlife highlights: 3,682 tigers (2022 census), approximately 12,000-14,000 leopards, and about 4,000 one-horned rhinos. An IRCC (Internationally Recognised Certificate of Compliance) is a record on the ABS Clearing-House confirming that access to a genetic resource complied with the source country's ABS legislation (Prior Informed Consent + Mutually Agreed Terms).

India's benefit-sharing mobilised Rs 216.31 crore and disbursed Rs 139.69 crore between 2017 and 2025.

Q11  **CONCEPT KIT**

 CROSS-PAPER	GS3 (environment + biodiversity) + GS2 (IR — CBD, Global South advocacy).
 MAINS KEYWORDS	Megadiverse nation, IRCC, ABS Clearing-House, biopiracy prevention, Digital Sequence Information (DSI).
 COMMON MISTAKE	Students often cannot name the 17 megadiverse countries — key ones for UPSC: India, Brazil, China, Colombia, Congo DRC, Australia, Indonesia, Mexico, Peru, South Africa.
 EXAM TIP	India's IRCC leadership is new 2026 data — very likely to appear in Prelims as a static fact about India's environmental governance.
 INTERVIEW	India leads in IRCC issuance but faces biopiracy in digital genetic sequences (DSI). How should India approach DSI governance at CBD COP16?

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Question 12

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[Source →](#)
ASSERTION (A)

The CEC and Other Election Commissioners Act, 2023 effectively reversed a Supreme Court direction given in the Anoop Baranwal judgment of the same year.

REASON (R)

The Act replaced the Chief Justice of India in the ECI selection committee with a Cabinet Minister nominated by the Prime Minister.

A Both A and R are true and R is the correct explanation of A ✓

B Both A and R are true but R is NOT the correct explanation of A

C A is true but R is false

D A is false but R is true

ANSWER & ANALYSIS
EXPLANATION

FACT: Both A and R are true and R correctly explains A. The Anoop Baranwal judgment (March 2023, 5-judge Constitution Bench) directed that the CJI join the selection committee (PM + Leader of Opposition + CJI). The CEC Act 2023 (December 2023) replaced the CJI with a Cabinet Minister nominated by the PM — creating a 2:1 government majority.






This directly reversed the SC's direction, making R the correct explanation of A.

CONCEPT NOTE

The sequence of events is critical: (1) Prior to 2023 — no statutory selection committee; President appointed CEC on PM's advice (executive monopoly); (2) March 2023 — Anoop Baranwal judgment adds CJI to bring independent oversight; (3) December 2023 — CEC Act 2023 removes CJI, adds Cabinet Minister (government retains 2:1 majority). The Act is challenged before the Supreme Court.

The government's defence is based on parliamentary sovereignty — Parliament can legislate on matters where the Constitution grants it authority, even if this has the effect of overriding interim SC directions. Critics argue this violates the separation of powers and undermines ECI independence.

Q12  **CONCEPT KIT**

 CROSS-PAPER	GS2 (polity + constitutional law + separation of powers + judicial review).
 MAINS KEYWORDS	Parliamentary sovereignty, judicial review, ECI independence, constitutional morality, checks and balances.
 COMMON MISTAKE	Students treat the CEC Act 2023 as simply "reversing" the Anoop Baranwal judgment — technically it is legislation on appointment procedure, which is Parliament's domain; the SC can review it but the outcome is legally uncertain.
 EXAM TIP	Assertion-Reason questions on ECI independence combining Article 324, Anoop Baranwal, and CEC Act 2023 are highly probable.
 INTERVIEW	When Parliament legislates to override a Supreme Court direction on constitutional institution appointments, which branch should prevail?

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Question 13

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[Source →](#)

The Tata Electronics-PSMC semiconductor fabrication plant at Dholera, Gujarat will produce chips at which technology node?

A 5nm

B 7nm

C 14nm

D 28nm ✓

ANSWER & ANALYSIS

✓ EXPLANATION

FACT: The Tata Electronics-PSMC (Taiwan) Dholera fab will produce 28nm logic chips, targeting automotive electronics, IoT devices, power management, and industrial controls. The Rs 91,000 crore project is India's first silicon wafer fabrication plant, expected to produce first wafers by 2027-28.

ANALYSIS: 28nm is a mature but critical node — it cannot compete with TSMC's 3nm/5nm chips used in smartphones and AI processors, but is strategically important for the sectors it serves.

📌 CONCEPT NOTE

The global semiconductor node landscape: 3nm/5nm (TSMC, Samsung) for high-end mobile chips and AI accelerators; 7nm for premium mobile SoCs; 14nm/28nm (mature nodes) for automotive, IoT, industrial; 40nm+ for legacy devices. India's Dholera fab targeting 28nm is a realistic and strategically appropriate entry point — approximately 40% of global chip demand by volume is in the 28nm and above segment.

PSMC (Powerchip Semiconductor Manufacturing Corp, Taiwan) is a foundry specialising in mature nodes. TSMC controls approximately 60% of global foundry capacity.

The US CHIPS Act (2022, \$52.7 billion), EU Chips Act (2023, €43 billion), and Japan's RAPIDUS project are all part of the same global semiconductor onshoring wave that ISM belongs to.

Q13  **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (S&T + economy + supply chain) + GS2 (IR — technology diplomacy, Quad).

 **MAINS KEYWORDS**

Semiconductor node, fab vs OSAT, TSMC, supply chain resilience, technology transfer.

 **COMMON MISTAKE**

Students assume India will immediately manufacture cutting-edge chips — the Dholera fab targets 28nm (mature node), not the 5nm/3nm chips used in smartphones and AI. This is a deliberate strategic choice, not a failure.

 **EXAM TIP**

Know the four stages of the semiconductor value chain: Design → Fab → OSAT → Equipment. India is strongest in Design, now building OSAT and first Fab.

 **INTERVIEW**

Should India invest in 28nm fabs now or wait and invest directly in advanced nodes?

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Question 14

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[Source →](#)

India's Safe City Mission — which deployed surveillance cameras in 8 cities — is funded under which government fund?

A Modernisation of Police Forces (MPF) Fund

B Nirbhaya Fund ✓

C Smart Cities Mission Fund

D Central Victim Compensation Fund

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: India's Safe City Mission is a component of the Nirbhaya Fund, which was established after the December 2012 Delhi gang rape case to fund projects for women's safety. The mission has deployed surveillance cameras in 8 cities: Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad, and Lucknow.

ANALYSIS: With Chinese CCTV brands now barred from certification, replacement and new procurement for these cities must use BIS/STQC-certified alternatives.






📌 CONCEPT NOTE

The Nirbhaya Fund was established by the Union government in 2013 with an initial corpus of Rs 1,000 crore. It funds projects across multiple ministries for women's safety — including Safe City Mission (MHA/MoWCD), emergency response systems (112), fast-track courts for sexual violence, and one-stop crisis centres.

The 8 Safe City Mission cities were selected based on crime data and population. The surveillance infrastructure of these cities was historically dominated by Hikvision and Dahua equipment.

Post-April 2026, all new procurement must use STQC-certified alternatives — domestic brands like CP Plus or international brands like Axis Communications (Sweden) or Avigilon (Motorola, USA).

Q14  **CONCEPT KIT**

 CROSS-PAPER	GS2 (governance + women safety) + GS3 (S&T + internal security).
 MAINS KEYWORDS	Nirbhaya Fund, Safe City Mission, surveillance infrastructure, digital security, women safety governance.
 COMMON MISTAKE	Students confuse Nirbhaya Fund (established 2013, women's safety projects) with Nirbhaya case judgment (2020, death sentence execution) — both "Nirbhaya" but different things.
 EXAM TIP	Nirbhaya Fund and its components (Safe City Mission, fast-track courts, One Stop Centres) are regularly tested in Prelims GS3/GS2.
 INTERVIEW	Surveillance cameras deployed for women's safety may themselves have been compromised by Chinese state backdoors. What does this reveal about integrated security planning?

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Question 15

of 30

[Source →](#)

India's Exclusive Economic Zone (EEZ) covers approximately how much area, making it one of the largest in the world?

A 1.37 million sq km

B 2.37 million sq km ✓

C 3.37 million sq km

D 4.37 million sq km

ANSWER & ANALYSIS
EXPLANATION

FACT: India's EEZ covers approximately 2.37 million sq km — one of the world's largest. India also has a coastline of 7,516 km and 1,382 islands (Andaman and Nicobar + Lakshadweep).

ANALYSIS: The NGOPV programme — 11 vessels with 8,500 nautical mile range — is designed specifically for offshore surveillance and protection of this vast EEZ, filling the gap left by ageing 1990s-era OPVs.

CONCEPT NOTE

India's maritime domain spans three stratagems: the coastline (7,516 km — 5th longest in the world), the EEZ (2.37 million sq km — exclusive rights to explore and use marine resources), and strategic choke points monitored by the Indian Navy and Coast Guard: Strait of Malacca, 10-degree Channel (between Car Nicobar and Sumatra), and Six-degree Channel (between India and Andaman Islands). The Indian Coast Guard, established in 1978 and under MHA, has 156+ ships and 60+ aircraft.

The Navy and Coast Guard have overlapping roles in EEZ patrol, anti-piracy, and humanitarian assistance. The NGOPV's 8,500 nm range means each vessel can cover the entire Indian Ocean without refuelling.

Q15  **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (defence + security) + GS2 (IR — Indian Ocean, Net Security Provider) + GS1 (geography — Indian Ocean).

 **MAINS KEYWORDS**

EEZ, UNCLOS, Net Security Provider, maritime domain awareness, blue-water vs brown-water navy.

 **COMMON MISTAKE**

Students confuse EEZ (200 nm from baseline, exclusive economic rights) with territorial sea (12 nm, sovereign territory) and contiguous zone (24 nm, customs/immigration enforcement).

 **EXAM TIP**

India's EEZ area (2.37 million sq km), coastline (7,516 km), and island count (1,382) are standard Prelims facts.

 **INTERVIEW**

India aspires to be the Net Security Provider of the Indo-Pacific. What does this mean in practice for naval deployment?

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Question 16

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[Source →](#)

Match List I (Semiconductor Company/Project) with List II (Detail):

LIST I	LIST II
<p>A 1-C, 2-A, 3-D, 4-B ✓</p>	
<p>B 1-A, 2-C, 3-B, 4-D</p>	
<p>C 1-B, 2-D, 3-A, 4-C</p>	
<p>D 1-D, 2-B, 3-C, 4-A</p>	

ANSWER & ANALYSIS

 **EXPLANATION**






FACT: Correct matching: (1) Kaynes Technology — C (Sanand OSAT, first commercial production under ISM); (2) Tata Electronics + PSMC — A (Dholera fab, 28nm, Rs 91,000 crore); (3) CG Power + Renesas — D (Sanand OSAT, Rs 7,600 crore); (4) Tata Electronics (solo) — B (Assam OSAT, Rs 27,000 crore). All four are ISM-approved projects under MeitY with 50% government fiscal incentive.

 **CONCEPT NOTE**

The full ISM-approved project list is a standard data table for UPSC. All four projects are at different stages: Kaynes (Rs 3,307 crore, Sanand) is already at commercial production; CG Power + Renesas (Rs 7,600 crore, Sanand) is under construction; Tata Assam OSAT (Rs 27,000 crore) and Tata Dholera Fab (Rs 91,000 crore) are at earlier stages. The total ISM outlay is Rs 76,000 crore.

PSMC (Powerchip Semiconductor Manufacturing Corp) is a Taiwanese foundry specialising in mature nodes — a key technology partner for India's first fab. Renesas is a Japanese chip company, one of the world's largest automotive semiconductor makers, making CG Power's OSAT partnership strategically relevant for India's EV sector.

Q16  **CONCEPT KIT**

 CROSS-PAPER	GS3 (S&T + economy + supply chain).
 MAINS KEYWORDS	India Semiconductor Mission, OSAT vs fab, Dholera, technology partnership, supply chain resilience.
 COMMON MISTAKE	Students remember Kaynes and Tata but forget CG Power's OSAT partnership with Renesas (Japan) and Stars Micro (Thailand) — a less-discussed but approved project.
 EXAM TIP	Match-the-following on ISM projects (company, location, partner, outlay) is a classic Prelims format. Memorise the four projects as a set.
 INTERVIEW	Is India putting too many eggs in Gujarat's basket by locating two OSATs and the first fab all in Sanand/Dholera?

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Question 17

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Which of the following correctly describes the term "OSAT" in the semiconductor industry?

- A Original Semiconductor Architecture and Technology — design of chip architecture
- B Outsourced Semiconductor Assembly and Test — packaging and testing of wafers from external fabs ✓
- C Offshore Semiconductor Automation and Transfer — offshore manufacturing via technology transfer
- D Open Source Architecture and Tooling — open-source chip design framework

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: OSAT stands for Outsourced Semiconductor Assembly and Test. It is the third stage of the semiconductor value chain — receiving finished wafers from fabs, cutting them into individual chips, packaging them in protective housings, and testing for defects before they go into products.






ANALYSIS: India now has its first commercial OSAT facility (Kaynes, Sanand) but is still building its first FAB (Tata+PSMC, Dholera).

 **CONCEPT NOTE**

The four-stage semiconductor value chain: Stage 1 — Design (USA, UK ARM architecture; India has ~20% of global chip designers); Stage 2 — Fabrication/FAB (Taiwan TSMC ~60%, South Korea Samsung ~17%; India's Dholera fab under construction); Stage 3 — OSAT (Assembly+Packaging+Testing: Taiwan, Malaysia, China; India's Kaynes operational, Tata Assam upcoming); Stage 4 — Equipment (Netherlands ASML for EUV machines, USA Applied Materials; India has minimal presence). India's semiconductor import dependency is approximately 85% — consuming about \$30 billion of chips annually (2024) against a 2030 target of \$100 billion market.

The global OSAT market is dominated by ASE (Taiwan), Amkor (USA), and JCET (China).

Q17  **CONCEPT KIT**

 CROSS-PAPER	GS3 (S&T + economy + supply chain security).
 MAINS KEYWORDS	Semiconductor value chain, OSAT, fab, design, equipment, Make in India electronics.
 COMMON MISTAKE	Students conflate OSAT (packaging/testing) with FAB (actual fabrication/etching). India has OSAT now but not FAB — this is a common confusion in MCQs.
 EXAM TIP	UPSC tests knowledge of the semiconductor supply chain in the context of India's ISM. The Design → FAB → OSAT → Equipment chain is the mental model to memorise.
 INTERVIEW	India's strength is in chip design (20% of global designers) but it lacks fabrication. Is this an opportunity or a vulnerability?

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Question 18

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India's Traditional Knowledge Digital Library (TKDL) was specifically created to counter which problem?

- A Illegal wildlife trade documented in traditional medicinal knowledge
- B **Biopiracy — preventing patents on India's traditional knowledge by proving prior art ✓**
- C Digital divide in accessing tribal biodiversity information
- D Export of biological resources without government permission

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: TKDL was created to prevent biopiracy patents by providing 34 million pages of documented traditional knowledge in 5 languages to patent offices globally as prior art evidence. Classic biopiracy cases it helped counter include turmeric (1995 US patent revoked 1997), neem (EPO fungicidal patent revoked 2005), and basmati (RiceTec US patent partially revoked).






ANALYSIS: TKDL is a preventive legal tool — once prior art is documented and provided to patent examiners, biopiracy patents fail the novelty requirement.

 **CONCEPT NOTE**

TKDL was developed by CSIR and the Department of AYUSH and contains traditional knowledge formulations from Ayurveda, Unani, Siddha, and Yoga in English, Hindi, German, French, Spanish, and Japanese. It has been shared with patent offices in over 20 countries.

Key biopiracy timeline: 1995 — NRI researchers patent turmeric's wound-healing properties at USPTO; 1997 — India challenges, USPTO revokes (32 prior art documents produced); 1994 — EPO grants patent on neem's fungicidal properties; 2005 — India + Greenpeace challenge, EPO revokes; 1997 — RiceTec (US) patents "basmati-like" rice; India challenges, partial revocation. These cases directly motivated India's Biological Diversity Act 2002 and its proactive NBA engagement.

Q18  **CONCEPT KIT**

 CROSS-PAPER	GS3 (environment + IPR + S&T) + GS2 (IR — TRIPS, WTO).
 MAINS KEYWORDS	Biopiracy, TKDL, prior art, TRIPS Agreement, biological diversity, Access and Benefit Sharing.
 COMMON MISTAKE	Students confuse TKDL (digital library of traditional knowledge, prevents patents) with PBR (People's Biodiversity Register, maintained by BMCs, documents local biodiversity — not for patent prevention).
 EXAM TIP	TKDL, biopiracy cases (turmeric/ neem/basmati), and their connection to Nagoya Protocol are standard UPSC GS3 environment syllabus questions.
 INTERVIEW	TKDL documents traditional knowledge to prevent patents — but does this also restrict communities from commercialising their own knowledge?

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Question 19

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ASSERTION (A)

The Keynes OSAT facility in Sanand, Gujarat marks a milestone for India's semiconductor ambitions.

REASON (R)

It is the first semiconductor assembly and test facility in India to achieve commercial production under the India Semiconductor Mission.

A Both A and R are true and R is the correct explanation of A ✓

B Both A and R are true but R is NOT the correct explanation of A

C A is true but R is false

D A is false but R is true

ANSWER & ANALYSIS
EXPLANATION






FACT: Both A and R are true and R correctly explains A. Keynes Technology's OSAT facility (Rs 3,307 crore, Sanand, Gujarat), inaugurated by PM Modi on March 31, 2026, is the first semiconductor assembly and test facility in India to reach commercial production under the India Semiconductor Mission (launched December 2021, MeitY). Its first products are Intelligent Power Modules (IPMs) for electric vehicles and industrial applications.

CONCEPT NOTE

The significance of Keynes's commercial production is that it marks India's first step from "design-only" to "design + assembly" in the semiconductor value chain. India has had chip design centres for decades (approximately 20% of global chip designers are of Indian origin or India-based).

But until Keynes, India had zero semiconductor manufacturing — all chips used in Indian products were imported (approximately 85% import dependency, ~\$30 billion/year). The Keynes facility's 6.3 million unit/day full-scale capacity for IPMs will initially substitute imports of power modules from Japan, South Korea, and China (India imported approximately Rs 12,000 crore of IPMs and similar products in FY 2024-25).

Q19  **CONCEPT KIT**

 CROSS-PAPER	GS3 (S&T + economy + supply chain).
 MAINS KEYWORDS	India Semiconductor Mission, import substitution, value chain integration, Atmanirbhar electronics, Sanand industrial corridor.
 COMMON MISTAKE	Students sometimes assume India has been making chips for years because Indian companies like Wipro or TCS work in the chip design space — these are design services companies, not manufacturers. <i>Kaynes</i> is genuinely the first manufacturing.
 EXAM TIP	Assertion-Reason questions testing whether students can distinguish "milestone" from "routine progress" are common. The first facility = milestone, which makes R the correct explanation of A.
 INTERVIEW	<i>Kaynes</i> makes IPMs for EVs. India's EV market is at early stage. Will there be enough domestic demand for the facility to operate profitably?

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Question 20

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What is the primary mandate of the "Trusted Telecom Portal" launched by the Department of Telecommunications (DoT) in 2022?

- A Certifying cybersecurity standards for Indian mobile applications
- B Ensuring only telecom equipment from approved vendors is deployed in Indian networks ✓
- C Registering all telecom tower operators for radiation compliance
- D Providing single-window clearances for spectrum allocation

ANSWER & ANALYSIS

✓ EXPLANATION

FACT: The Trusted Telecom Portal (2022, DoT) ensures that only telecom equipment from approved (trusted) vendors can be deployed in Indian networks. While India did not formally ban Huawei and ZTE by name for 5G, the portal's vendor approval process effectively excluded them.

ANALYSIS: This is structurally analogous to the MeitY CCTV certification regime — both use a certification/approval framework to exclude equipment from geopolitically sensitive origins without an explicit named ban.

📌 CONCEPT NOTE

The Trusted Telecom Portal is part of India's broader hardware supply-chain security architecture: (1) Trusted Telecom Portal 2022 — blocks Huawei/ZTE from 5G networks via vendor approval; (2) CCTV ER norms 2024/2026 — blocks Chinese cameras via STQC certification; (3) BIS certification for smart meters — IoT electricity meters; (4) Router certification (proposed) — BIS for home/enterprise routers. India's approach — certification frameworks rather than explicit bans — is strategically cautious, maintaining the legal position that Chinese firms are welcome to certify, while setting standards they find difficult to meet (especially SoC declaration and backdoor testing).

This mirrors the US approach under the Secure and Trusted Communications Networks Act (2022) for Hikvision/Dahua.

Q20  **CONCEPT KIT**

 CROSS-PAPER	GS3 (S&T + cybersecurity + national security) + GS2 (IR — India-China digital relations).
 MAINS KEYWORDS	Trusted Telecom Portal, supply chain security, hardware sovereignty, 5G security, digital infrastructure.
 COMMON MISTAKE	Students often say "India banned Huawei from 5G" — technically incorrect. India used the Trusted Telecom Portal's approval framework to exclude Huawei without a formal named ban.
 EXAM TIP	The Trusted Telecom Portal and its role in India's 5G security architecture is a high-probability Prelims question given the China-tech-security nexus.
 INTERVIEW	Should India formally name and ban specific Chinese tech companies, or is the current certification approach more strategically flexible?

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Question 21

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INS Vikrant (IAC-1) — India's first indigenously built aircraft carrier — was commissioned in which year and at which shipyard?

- A September 2020, Mazagaon Dock Shipbuilders (MDL), Mumbai
- B **September 2022, Cochin Shipyard Limited (CSL), Kochi ✓**
- C September 2023, Garden Reach Shipbuilders and Engineers (GRSE), Kolkata
- D September 2024, Goa Shipyard Limited (GSL), Goa

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: INS Vikrant (IAC-1) was commissioned on September 2, 2022, at Cochin Shipyard Limited (CSL), Kochi by PM Narendra Modi. It is 45,000 tonnes displacement, 262m long, and can carry 30+ aircraft.

ANALYSIS: INS Vikrant makes India one of the few nations (alongside USA, UK, France, Russia, China) to design and build an aircraft carrier domestically — a capability benchmark for a blue-water navy.






📖 CONCEPT NOTE

Key milestones in INS Vikrant's construction: keel laid 2009; first basin trials 2011; sea trials began 2021; commissioned September 2022. Total construction time: approximately 13 years, total cost approximately Rs 20,000 crore.

Vikrant can operate MiG-29K fighters and helicopters. India plans a second indigenous carrier (IAC-2) at CSL, currently in design stage.

The name INS Vikrant is historically significant — the original INS Vikrant (acquired 1961, British-built Majestic class) played a decisive role in the 1971 Bangladesh Liberation War by blockading East Pakistan ports. The new Vikrant carries forward this legacy as a symbol of India's growing blue-water ambition.

Q21  **CONCEPT KIT**

 CROSS-PAPER	GS3 (defence + S&T) + GS2 (IR — Net Security Provider, Indo-Pacific security).
 MAINS KEYWORDS	Aircraft carrier, CSL Kochi, blue-water navy, power projection, IAC programme.
 COMMON MISTAKE	Students confuse INS Vikrant (aircraft carrier, CSL Kochi, 2022) with INS Vikramaditya (acquired from Russia, modified Kiev-class, commissioned 2013) — India currently operates both.
 EXAM TIP	INS Vikrant commissioning (September 2, 2022, CSL, Kochi, 45,000 tonnes, first domestic carrier) is a confirmed Prelims fact.
 INTERVIEW	What does India's first domestic aircraft carrier signal to China and other Indo-Pacific nations about India's strategic intentions?

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Question 22

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[Source →](#)

Which of the following is **INCORRECTLY** matched regarding India's biodiversity governance institutions?

- A National Biodiversity Authority (NBA) — Statutory body under MoEFCC — Chennai
- B State Biodiversity Boards (SBBs) — Regulate access by Indian citizens for non-commercial local use — 33 boards
- C Biodiversity Management Committees (BMCs) — Maintain People's Biodiversity Registers — approximately 2.7 lakh established
- D Biological Diversity Act — Enacted in 2006 — Preceded India's ratification of CBD (1992) ✓

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: Option D is INCORRECTLY matched. The Biological Diversity Act was enacted in 2002 (not 2006), and it followed (not preceded) India's ratification of CBD — India signed CBD at Rio Earth Summit in 1992 and the Biological Diversity Act 2002 was India's domestic implementation of CBD obligations. All other options (A, B, C) are correctly matched.

 **CONCEPT NOTE**

The Biological Diversity Act, 2002 and its timeline: passed by Parliament 2002; NBA established 2003 under Chennai. India signed CBD in 1992, which obligated India to enact domestic ABS legislation — hence the 2002 Act followed the 1992 CBD commitment.

India ratified the Nagoya Protocol in 2012 (the Protocol was adopted in 2010). State Biodiversity Boards (SBBs) operate in all 28 states and 5 UTs with legislature = 33 SBBs.

BMCs must be established at every local body level — gram panchayats, municipalities, municipal corporations — and maintain PBRs (People's Biodiversity Registers) documenting local species, traditional knowledge, and cultivation practices. Approximately 2.7 lakh BMCs are established as of 2026.

Q22  **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (environment + biodiversity) + GS2 (governance — multilevel governance).

 **MAINS KEYWORDS**

Biological Diversity Act 2002, three-tier biodiversity governance, People's Biodiversity Register, ABS.

 **COMMON MISTAKE**

Students often say the Biological Diversity Act was passed in 2006 (the year a key amendment was considered) — it was actually enacted in 2002, with NBA established in 2003.

 **EXAM TIP**

Negative/incorrectly-matched questions on NBA/SBB/BMC structure test fine details. Know: Act = 2002, NBA = 2003, HQ = Chennai, SBBs = 33, BMCs = 2.7 lakh.

 **INTERVIEW**

With 2.7 lakh BMCs across India, why does biodiversity loss continue at such a rapid pace?

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Question 23

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[Source →](#)

T.N. Seshan — widely regarded as the CEC who transformed the Election Commission of India — held the post of Chief Election Commissioner during which period and received which international award for his work?

- A 1987-1990; Magsaysay Award 1993
- B 1990-1996; Ramon Magsaysay Award 1996 ✓**
- C 1995-2001; Padma Vibhushan 1999
- D 1996-2001; Nobel Peace Prize nomination 1998

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: T.N. Seshan served as CEC from 1990 to 1996 and received the Ramon Magsaysay Award in 1996 — Asia's equivalent of the Nobel Prize — for his transformation of the ECI. He implemented the Model Code of Conduct rigorously, penalised candidates and parties, and used the constitutional security of the CEC tenure to enforce election norms that had previously been honoured in the breach. **ANALYSIS:** His tenure demonstrated that institutional independence is necessary but not sufficient — a strong individual willing to use that independence determines actual outcomes.






 **CONCEPT NOTE**

T.N. Seshan's transformation of the ECI involved: enforcing the Model Code of Conduct (MCC) with unprecedented rigour; introducing photo identity cards for voters; confiscating illegal money and liquor; postponing elections in constituencies where rules were violated; repeatedly clashing with the ruling government of the day (both Congress and BJP). His tenure became the template for what an independent CEC could achieve.

Before Seshan, the MCC was largely symbolic. He made it an enforcement tool.

The current CEC removal controversy must be seen against this backdrop — the independence Seshan used constructively is what the Opposition says is now compromised.

Q23  **CONCEPT KIT**

 CROSS-PAPER	GS2 (polity + constitutional bodies + ECI).
 MAINS KEYWORDS	Model Code of Conduct, ECI independence, institutional integrity, constitutional safeguards.
 COMMON MISTAKE	Students confuse T.N. Seshan (CEC 1990-96, Magsaysay 1996) with S.Y. Quraishi (CEC 2010-12, known for voter registration drives) — different tenure periods and different achievements.
 EXAM TIP	T.N. Seshan is a standard UPSC Polity GS2 personality. Know: CEC 1990-96, MCC enforcement, Magsaysay 1996. He also wrote a book titled "A Heart Full of Burden".
 INTERVIEW	T.N. Seshan used constitutional security to transform the ECI. What prevents future CECs from using the same security to favour the government instead?

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Question 24

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[Source →](#)

India's CCTV camera market (approximately Rs 7,000 crore/year as of 2024) ranks third globally in terms of installed cameras. Approximately how many cameras are installed in India?

- A 30 million
- B 80 million
- C 130 million ✓
- D 200 million

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: India has 130+ million CCTV cameras installed — the third largest installed base globally (after China and the USA). The market is approximately Rs 7,000 crore/year.

Domestic market share has grown from approximately 20% in 2020 to over 80% by April 2026 — driven by the two-year compliance window created by the MeitY ER norms. CP Plus (Aditya Infotech, Delhi) is India's largest domestic CCTV manufacturer.






ANALYSIS: The Rs 5,000 crore equivalent market share previously held by Chinese brands is now being captured by domestic and Western certified manufacturers.

📌 CONCEPT NOTE

India's surveillance infrastructure growth is driven by: Smart City Mission (100 smart cities with integrated surveillance); Safe City Mission (Nirbhaya Fund, 8 cities); private residential and commercial security demand; and government tender activity for public spaces, railways, airports, and highways. The banned Chinese brands — Hikvision, Dahua, TP-Link — had collectively dominated India's CCTV market before the certification mandate.

TP-Link is primarily known as a Wi-Fi router and IoT company, but its CCTV products were widely used in home/small-business security. US government reports had documented TP-Link routers being compromised for Chinese state-sponsored cyber operations — India extended this security logic to TP-Link cameras.

Q24  **CONCEPT KIT**

 CROSS-PAPER	GS3 (S&T + security) + GS2 (digital governance).
 MAINS KEYWORDS	Surveillance infrastructure, Safe City Mission, Atmanirbhar surveillance, CP Plus, digital security.
 COMMON MISTAKE	Students underestimate India's CCTV installed base — 130 million cameras (3rd globally) is a surprisingly large number that places India ahead of all European countries combined.
 EXAM TIP	Market size data (Rs 7,000 crore, 130 million cameras, 3rd globally, >80% domestic) are all Prelims-testable quantitative facts from the 2026 mandate.
 INTERVIEW	India now has 130 million surveillance cameras, many in public spaces. What are the privacy implications of this infrastructure?

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Question 25

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[Source →](#)

Which of the following is the CORRECT description of "Digital Sequence Information (DSI)" in the context of the Convention on Biological Diversity (CBD)?

- A A biometric database of endangered species maintained by CITES for identification
- B Genetic sequence data of organisms uploaded to public databases like GenBank, whose benefit-sharing status is disputed ✓**
- C Digital records of biodiversity surveys maintained under People's Biodiversity Registers
- D Satellite-based remote sensing data used to monitor forest cover changes

ANSWER & ANALYSIS






 **EXPLANATION**

FACT: DSI (Digital Sequence Information) refers to genetic sequence data — DNA, RNA, protein sequences — of organisms uploaded to public databases like GenBank, EMBL-EBI, and DDBJ. When pharma companies use a pathogen's genetic sequence (e.g., from India) to develop a vaccine without accessing the physical sample, DSI raises the question of whether India should receive benefit-sharing. **ANALYSIS:** India argues DSI should attract ABS obligations like physical genetic resources; USA and industry argue DSI is freely available scientific data. This debate will define CBD COP16.

 **CONCEPT NOTE**

The DSI debate has enormous financial stakes for India: every time a pharmaceutical company uses genetic sequence data from an Indian pathogen or plant to develop a drug or diagnostic, India potentially loses royalty income if DSI is exempt from ABS. Examples: during COVID-19, SARS-CoV-2 sequence data (from China) was used worldwide for vaccine development — under DSI ABS rules, source countries could demand benefit-sharing. The Kunming-Montreal GBF (2022) called for creating a multilateral benefit-sharing mechanism for DSI, but the modalities are still being negotiated. CBD COP16 (scheduled 2024, Cali, Colombia) is the key venue for DSI negotiation outcomes. India's TKDL (Traditional Knowledge Digital Library) documents traditional knowledge as prior art — DSI is the reverse: sequencing traditional biological resources into databases.

Q25  **CONCEPT KIT**

 CROSS-PAPER	GS3 (environment + S&T + biodiversity) + GS2 (IR — North-South divide at multilateral forums).
 MAINS KEYWORDS	Digital Sequence Information, ABS, GenBank, North-South divide, CBD COP16, benefit-sharing, biopiracy 2.0.
 COMMON MISTAKE	Students confuse DSI (genetic sequence data in databases) with bioinformatics tools or satellite biodiversity monitoring — DSI specifically refers to sequenced genetic data from biological specimens.
 EXAM TIP	DSI is an emerging UPSC topic — expect it in Mains GS3 or as a Prelims option in 2026-27. Know India's position: DSI should attract ABS obligations.
 INTERVIEW	If all genetic sequence data must comply with ABS rules, would this slow down global pandemic response? How should India weigh national interest against global health security?

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Question 26

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Consider the following statements about India's Next Generation Offshore Patrol Vessel (NGOPV) programme:

1. The contract (Rs 9,781 crore) involves concurrent construction at Goa Shipyard Limited (GSL) and Garden Reach Shipbuilders and Engineers (GRSE).
2. Each NGOPV has an approximate indigenous content of 76%, meeting the DAP 2020 Buy (Indian-IDDM) minimum.
3. The primary mission of NGOPVs is offensive blue-water power projection beyond the Indian Ocean.

Which of the above statements is/are correct?

A 1 and 2 only ✓

B 2 and 3 only

C 1 and 3 only

D 1, 2, and 3

ANSWER & ANALYSIS
EXPLANATION

FACT: Statements 1 and 2 are correct. The NGOPV contract is Rs 9,781 crore with 6 vessels at GSL and 5 at GRSE (concurrent build).

The ~76% indigenous content exceeds the DAP 2020 Buy (Indian-IDDM) minimum of 50%. Statement 3 is **INCORRECT** — NGOPVs are not offensive blue-water platforms.






They perform grey-zone missions: EEZ surveillance, anti-piracy, humanitarian assistance. They free up frigates and destroyers for high-end offensive missions.

CONCEPT NOTE

NGOPVs are classified as offshore patrol vessels — a category below frigates/destroyers in capability but essential for sustaining maritime domain awareness. Their 8,500 nautical mile range and helicopter deck make them versatile multi-role vessels for the Indian Ocean. "Blue-water capability" refers to the ability to operate in the open ocean far from home ports — India's frigates (P17A), destroyers (P15B), and aircraft carriers (Vikrant) provide blue-water power projection.

NGOPVs are "green-water" (littoral + EEZ) to "blue-water transition" platforms. The distinction matters for UPSC Mains where questions on India's naval doctrine require precision about vessel roles.

Q26  **CONCEPT KIT**

 CROSS-PAPER	GS3 (defence) + GS2 (IR — Indian Ocean, Indo-Pacific).
 MAINS KEYWORDS	Blue-water navy, grey-zone mission, maritime domain awareness, EEZ patrol, indigenisation.
 COMMON MISTAKE	Students assume all new naval vessels contribute to "blue-water" capability — NGOPVs are maritime security (EEZ patrol) vessels, not power-projection platforms.
 EXAM TIP	Statement-based questions on DAP 2020 + NGOPV specs are probable. Key: Rs 9,781 crore, 11 vessels, GSL+GRSE, 76% IC, NOT blue-water.
 INTERVIEW	India has a large EEZ but limited patrol vessels. How does the NGOPV programme change India's maritime security posture?

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Question 27

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[Source →](#)

Consider the following statements about the Nagoya Protocol on Access and Benefit Sharing:

1. It was adopted at the 10th Conference of Parties (COP10) to the Convention on Biological Diversity, held in Nagoya, Japan in 2010.
2. India has issued the most Internationally Recognised Certificates of Compliance (IRCCs) globally, with over 56% of the world total.
3. The Protocol's parent treaty — the CBD — was adopted in 1992 at the Rio Earth Summit and entered into force in 1993.

Which of the above statements is/are correct?

A 1 and 2 only

B 2 and 3 only

C 1 and 3 only

D 1, 2, and 3 ✓

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: All three statements are correct. (1) Nagoya Protocol adopted October 29, 2010 at COP10 to CBD, Nagoya, Japan — entered into force October 12, 2014. (2) India has issued 3,561 IRCCs — 56.43% of the global 6,311 total. Only 34 of 142 registered parties have issued any IRCCs. (3) CBD adopted June 1992 at Rio Earth Summit (UNCED) — entered into force December 29, 1993.

India ratified CBD in 1994.

📖 CONCEPT NOTE

Key dates in the CBD family: UNCED/Rio Earth Summit (June 1992) → CBD adopted; December 1993 → CBD enters into force; 2000 → Cartagena Protocol on Biosafety (GMO movement); 2010 → Nagoya Protocol on ABS adopted; 2014 → Nagoya enters into force; 2022 → Kunming-Montreal GBF adopted at COP15. India's biodiversity credentials: 17 megadiverse countries (India is one), 4 biodiversity hotspots, 7-8% of global species on 2.4% land area, 3,682 tigers (2022), 4,000 one-horned rhinos, 12,000-14,000 leopards.

India submitted its first National Report on Nagoya Protocol implementation in March 2026.

Q27  **CONCEPT KIT**

 CROSS-PAPER	GS3 (environment + biodiversity) + GS2 (IR — multilateral environmental agreements).
 MAINS KEYWORDS	CBD, Nagoya Protocol, ABS, IRCC, megadiverse, COP timeline.
 COMMON MISTAKE	Students confuse "CBD entered into force 1993" — many think it entered force at Rio 1992 when it was just adopted, not in force. Entry into force requires ratification by 50 parties, which happened in December 1993.
 EXAM TIP	All-three-correct statements are designed as traps — students who know 2 out of 3 and guess wrong lose marks. Verify all three independently.
 INTERVIEW	The Nagoya Protocol gives source countries like India rights over their genetic resources. But pharmaceutical companies argue this slows drug discovery. How would you balance these interests?

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Question 28

of 30

[Source →](#)

Consider the following statements about the CEC and Other Election Commissioners Act, 2023:

1. The selection committee for appointing the CEC comprises the Prime Minister, a Cabinet Minister nominated by the PM, and the Leader of the Opposition.
2. The Act was passed to implement the Supreme Court's direction in *Anoop Baranwal v. Union of India (2023)* which required the Chief Justice of India to be on the selection committee.
3. The CEC can be removed by the President on the recommendation of the selection committee under the 2023 Act.

Which of the above statements is/are correct?

A 1 only ✓

B 1 and 2 only

C 2 and 3 only

D 1, 2, and 3

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: Only Statement 1 is correct. The 2023 Act's selection committee is PM + Cabinet Minister (PM's nominee) + Leader of Opposition.

Statement 2 is **INCORRECT** — the Act was not passed to implement the SC's direction; it actually reversed it by excluding the CJI. Statement 3 is **INCORRECT** — CEC removal procedure (Article 324(5)) is entirely separate from the appointment selection committee; removal requires special majority in both Houses of Parliament, not a selection committee recommendation.






📖 CONCEPT NOTE

The 2023 Act covers appointment, not removal. Removal of the CEC remains governed by Article 324(5) — like a Supreme Court judge — requiring motion, judicial committee inquiry, and special majority in both Houses.

The selection committee under the 2023 Act (3 members, PM having 2 votes effectively) was challenged in the Supreme Court as unconstitutional. The SC in *Anoop Baranwal* had specifically said the executive should not have a majority in appointments to a constitutional body that oversees elections — the 2023 Act does the opposite.

This structural tension between parliamentary sovereignty and judicial oversight of constitutional institution appointments is the core constitutional issue.

Q28  **CONCEPT KIT**

 CROSS-PAPER	GS2 (polity + constitutional bodies + separation of powers).
 MAINS KEYWORDS	ECI independence, selection committee, Article 324, Anoop Baranwal, separation of powers.
 COMMON MISTAKE	Students conflate the appointment mechanism (selection committee, 2023 Act) with the removal mechanism (Article 324(5), parliamentary special majority). These are entirely separate constitutional processes.
 EXAM TIP	Statement-based questions that mix true statements with false ones about the same Act are a classic UPSC format. Read each statement carefully — Statement 2 is a deliberate inversion of the actual history.
 INTERVIEW	If Parliament has the right to legislate on appointment procedures, can it also legislate to make the CEC appointed by the ruling party alone?

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Question 29

of 30

[Source →](#)

Consider the following statements about India's Semiconductor ecosystem:

1. India's Dholera semiconductor fab (Tata Electronics + PSMC) will produce chips at the 28nm technology node, making it suitable for automotive and IoT applications.
2. India Semiconductor Mission was launched in December 2021 under MeitY with a total incentive outlay of Rs 76,000 crore and a 50% project-cost subsidy.
3. India currently imports approximately 85% of the semiconductors it consumes, with annual consumption of approximately \$30 billion (2024).

Which of the above statements is/are correct?

A 1 and 2 only

B 2 and 3 only

C 1 and 3 only

D 1, 2, and 3 ✓

ANSWER & ANALYSIS

EXPLANATION

FACT: All three statements are correct. (1) Dholera fab targets 28nm, suitable for automotive, IoT, industrial, and power management — not cutting-edge mobile/AI chips. (2) ISM launched December 2021, MeitY, Rs 76,000 crore total outlay, 50% fiscal incentive for approved facilities. (3) India imports approximately 85% of chips consumed, with semiconductor consumption at approximately \$30 billion/year (2024) and a 2030 market target of \$100 billion.

CONCEPT NOTE

The global semiconductor onshoring race: US CHIPS Act 2022 (\$52.7 billion) → Intel, TSMC, Samsung fabs in USA; EU Chips Act 2023 (€43 billion target) → TSMC Dresden fab; Japan RAPIDUS (TSMC Kumamoto partnership); India ISM (Rs 76,000 crore). All major democracies are simultaneously trying to de-risk semiconductor supply chains from Taiwan (TSMC, ~60% global foundry capacity) and China.

India's natural advantage is design talent — approximately 20% of global chip designers are of Indian origin, with Bengaluru, Hyderabad, and Pune as major design hubs. Indian-origin CEOs currently lead Intel (Pat Gelsinger retired, Lip-Bu Tan), Google (Sundar Pichai), AMD (Lisa Su), and Microsoft (Satya Nadella).

Q29  **CONCEPT KIT**
 **CROSS-PAPER**


GS3 (S&T + economy + supply chain security) + GS2 (IR — technology diplomacy, Quad semiconductor supply chain).

 **MAINS KEYWORDS**

Semiconductor supply chain, import substitution, 28nm node, ISM, design talent, Make in India electronics.

 **COMMON MISTAKE**

Students often assume TSMC's Taiwan concentration risk is India's primary motivation for ISM — while true, the COVID-19 chip shortage (2021, Rs 20,000 crore auto output lost) was the immediate trigger.

 **EXAM TIP**

All-three-correct is a high-difficulty statement.
Verify each: ISM date (Dec 2021) + outlay (Rs 76,000 crore) + 28nm node + 85% import dependency are all confirmed.

 **INTERVIEW**

India aims for a \$100 billion semiconductor market by 2030.
Is this realistic given that even the first fab will not be operational until 2027-28?

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Question 30

of 30

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Consider the following statements about India's CCTV certification mandate (effective April 1, 2026):

1. The mandatory certification framework for IP-connected CCTV cameras was notified by MeitY in April 2024 and gave manufacturers a 24-month compliance window.
2. Manufacturers must declare the country of origin of the System-on-Chip (SoC) — the central processing unit embedded in the camera.
3. Both Hikvision (world's largest CCTV maker) and Axis Communications (Sweden) have been denied BIS/STQC certification on national security grounds.

Which of the above statements is/are correct?

A 1 and 2 only ✓

B 2 and 3 only

C 1 and 3 only

D 1, 2, and 3

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: Statements 1 and 2 are correct. ER norms notified April 2024 with a 24-month window (→ April 1, 2026 effective date).

SoC country-of-origin declaration is a mandatory requirement. Statement 3 is INCORRECT — Axis Communications (Sweden), unlike Hikvision and Dahua, is a compliant brand that certifies and does not use Chinese SoCs.

Axis and Avigilon (Motorola Solutions, USA) are among the international brands that have obtained certification and are permitted for sale in India.






📖 CONCEPT NOTE

The key distinction in the certification framework is not nationality of the brand but whether the device uses a Chinese SoC (System-on-Chip). A Chinese-branded camera with a non-Chinese SoC could theoretically certify; a non-Chinese brand using a Chinese SoC would face the same scrutiny.

In practice, Hikvision and Dahua use SoCs from HiSilicon (Huawei's chip division) — making certification effectively impossible under the framework. Axis Communications uses non-Chinese SoC suppliers.

As of April 2026, 507 camera models are certified for sale in India. India's domestic CCTV market share rose from approximately 20% in 2020 to over 80% by early 2026 — CP Plus (Aditya Infotech, Delhi) is the largest domestic player.

Q30  **CONCEPT KIT**

 CROSS-PAPER	GS3 (cybersecurity + supply chain) + GS2 (digital sovereignty).
 MAINS KEYWORDS	STQC certification, SoC declaration, hardware backdoor, digital sovereignty, Atmanirbhar surveillance.
 COMMON MISTAKE	Students assume the certification ban is a blanket ban on Chinese brands — it is a certification requirement that Chinese brands have chosen not to meet, and non-Chinese brands (including Western ones) that use Chinese SoCs would face the same barrier.
 EXAM TIP	Statement 3 is a classic UPSC trap — testing whether students know which brands are compliant. Axis (Swedish) = certified; Hikvision/Dahua (Chinese state-owned) = not certified.
 INTERVIEW	The CCTV ban relies on SoC origin declaration. How can India verify that declared SoC origins are accurate?

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CURATED & WRITTEN BY

Bharat Choudhary

UPSC Educator & Content Creator

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