

Category 1: International News

Q1. Recently, which country's proposed comprehensive immigration reforms have raised concerns regarding the entry-level wage threshold for H-1B visa applications?

- (a) United Kingdom
- (b) Canada
- (c) United States of America
- (d) Australia

Answer: (c) United States of America

Detailed Explanation:

- **Context:** The United States government is set to introduce significant statutory changes to its employment- and education-based immigration framework.
- **Key Details:** The reforms heavily target the H-1B visa programme, Optional Practical Training (OPT), and employment-based Green Cards. The U.S. Department of Labor has proposed raising the entry-level wage benchmarks for H-1B applications and the Program Electronic Review Management (PERM) process.
- **Impact on India:** This development is highly significant for Indian IT services and consulting firms that heavily rely on onsite deployment models, as higher wage thresholds will drastically inflate their compliance and human resource operational costs.

Q2. Consider the following statements regarding the Global Liveability Index 2026 released by the Economist Intelligence Unit (EIU):

1. Copenhagen (Denmark) retained the top position for the second consecutive year.
2. Damascus (Syria) was ranked as the world's least liveable city.

3. No Indian city managed to secure a spot within the global top 100.

Which of the statements given above are correct?

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

Answer: (d) 1, 2, and 3

Detailed Explanation:

- **Rankings:** The EIU's Global Liveability Index 2026 placed Copenhagen, Denmark at the top spot due to perfect scores in stability, education, and infrastructure. It was followed closely by Vienna (Austria) and Melbourne (Australia). Damascus (Syria) anchored the bottom of the list at 173rd.
- **Indian Scenario:** All evaluated Indian cities finished well outside the top 100. New Delhi ranked 120th, followed by Mumbai at 121st, Chennai at 123rd, and Bengaluru at 127th.

Q3. The "Hummus Trail", which recently appeared in international legal news due to a war-crimes complaint filed by the Hind Rajab Foundation, refers to a popular travel circuit chosen by tourists from which country?

- (a) Lebanon
- (b) Israel
- (c) Greece
- (d) Turkey

Answer: (b) Israel

Detailed Explanation:

- **Context:** The Hind Rajab Foundation filed a criminal complaint with Indian authorities under the Geneva Conventions Act, 1960,

demanding the arrest of an Israeli military reservist holidaying in Himachal Pradesh.

- **What is the Hummus Trail?** It is an informal backpacking route spanning specific hotspots in India like Kasol, Manali, Goa, Pushkar, Rishikesh, and Hampi. It is traditionally frequented by young Israelis as part of "*Tiul HaGadol*" (the great travel tradition undertaken after completing compulsory post-military service).

Q4. Which international body announced operational modifications to its Video Assistant Referee (VAR) system in July 2026 following disputes in a match between Egypt and Argentina?

- (a) International Olympic Committee (IOC)
- (b) International Cricket Council (ICC)
- (c) FIFA (Fédération Internationale de Football Association)
- (d) FIH (International Hockey Federation)

Answer: (c) FIFA

Detailed Explanation:

- **Context:** Following heavy scrutiny and backlash during a high-stakes match in Atlanta where Egypt surrendered a lead to Argentina amidst claims of unreviewed foul play, soccer's world governing body stepped in.
- **New Measure:** FIFA has changed its protocol to mandatorily appoint **two in-house VAR officials** for every single tournament match from the quarterfinal stages through to the final to minimize communication gaps and bad calls.

Category 2: National News

Q5. Prime Minister Narendra Modi is scheduled to flag off India's first-ever hydrogen-powered

passenger train on July 17, 2026, from which of the following locations?

- (a) Gandhinagar, Gujarat
- (b) Jind, Haryana
- (c) Puri, Odisha
- (d) Secunderabad, Telangana

Answer: (b) Jind, Haryana

Detailed Explanation:

- **Significance:** In a massive leap toward zero-emission green mass transit, the PM will flag off the country's inaugural hydrogen fuel cell train in Jind, Haryana.
- **Global Footprint:** With the launch of these "H-trains", India enters an elite global bracket alongside innovators like Germany, Japan, South Korea, the US, and Canada who possess active hydrogen rail capabilities.

Q6. The Indian Council of Medical Research (ICMR) has laid the foundation stone for India's first-ever dedicated 'Centre for High-Altitude Medicine and Public Health Research' in which state/UT?

- (a) Jammu & Kashmir
- (b) Ladakh
- (c) Uttarakhand
- (d) Himachal Pradesh

Answer: (d) Himachal Pradesh

Detailed Explanation:

- **Context:** Union Health Minister Jagat Prakash Nadda officially laid the foundation stone for this first-of-its-kind high-altitude research facility at **Keylong in the Lahaul and Spiti district** of Himachal Pradesh.
- **Objective:** The apex centre will spearhead medical research into hypoxia, high-altitude pulmonary edema, and wellness issues

peculiar to tribal communities and military forces deployed in mountain ecosystems. It will collaborate deeply with the Armed Forces Medical Services (AFMS) and DRDO.

Q7. Consider the following statements regarding the Union Ministry of Environment, Forest and Climate Change's (MoEF&CC) latest institutional launch in July 2026:

1. A new Centre of Excellence (CoE) on Human-Wildlife Conflict was inaugurated.
2. The centre has been established at the Wildlife Institute of India-Sálim Ali Centre for Ornithology and Natural History (WII-SACON).
3. The facility is physically located in Wayanad, Kerala.

Which of the statements given above are correct?

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

Answer: (a) 1 and 2 only

Detailed Explanation:

- **Correction:** Statement 3 is incorrect because the newly minted Centre of Excellence (CoE) on Human-Wildlife Conflict is located in **Coimbatore, Tamil Nadu**, not Wayanad.
- **Details:** It was inaugurated by Union Minister Bhupender Yadav to systematically address escalating wildlife interface frictions across the country through technology, predictive mapping, and scientific community mitigations.

Q8. The "Sharavathi Valley Wildlife Sanctuary", which recently made headlines because an environmental expert committee strongly advised against a mega 2000 MW pumped

storage power project within its eco-sensitive zone, is located in which state?

- (a) Kerala
- (b) Karnataka
- (c) Maharashtra
- (d) Tamil Nadu

Answer: (b) Karnataka

Detailed Explanation:

- **Context:** The MoEF&CC's expert appraisal committee flatly rejected proposals to divert crucial forest tracts from the Sharavathi Valley Lion-Tailed Macaque Sanctuary in Karnataka.
- **Ecological Value:** This sanctuary holds paramount ecological value as it acts as a primary habitat for the **endangered lion-tailed macaque (*Macaca silenus*)**, housing close to 700 individuals—the densest known population of this species anywhere in a single protected zone.

Category 3: Economics and Banking

Q9. In July 2026, which of the following surveys was NOT among those launched simultaneously by the Reserve Bank of India (RBI) to gauge economic sentiments?

- (a) Inflation Expectations Survey of Households (IESH)
- (b) Rural Consumer Confidence Survey (RCCS)
- (c) Urban Consumer Confidence Survey (UCCS)
- (d) Corporate Profitability and Leverage Survey (CPLS)

Answer: (d) Corporate Profitability and Leverage Survey (CPLS)

Detailed Explanation:

- **Context:** The RBI officially rolled out its periodic rounds of the **Inflation Expectations**

Survey of Households (IESH), the Rural Consumer Confidence Survey (RCCS), and the Urban Consumer Confidence Survey (UCCS).

- **Methodology:** These surveys actively gather field data from across 19 major cities and over 31 distinct regions to capture public sentiment on price changes, household income, employment opportunities, and granular discretionary spending.

Q10. Australia's largest pension fund, AustralianSuper, announced a massive new capital deployment in July 2026. Which Indian entity is the recipient of this investment?

- (a) National Investment and Infrastructure Fund (NIIF)
- (b) Small Industries Development Bank of India (SIDBI)
- (c) National Bank for Financing Infrastructure and Development (NaBFID)
- (d) Life Insurance Corporation of India (LIC)

Answer: (a) National Investment and Infrastructure Fund (NIIF)

Detailed Explanation:

- **Context:** During high-level bilateral economic exchanges, AustralianSuper pledged a fresh **AUD 500 million** investment directly into India's master sovereign wealth fund framework, the National Investment and Infrastructure Fund (NIIF).
- **Cumulative Impact:** With this latest infusion, the Australian pension behemoth's absolute financial exposure in India scales up to a massive AUD 3.3 billion, highlighting institutional faith in India's long-term infrastructure assets.

Q11. To facilitate MSME working capital access, Central Public Sector Enterprises (CPSEs) have recently been strictly mandated to disclose and

certify invoices routed through which platform during their annual statutory audits?

- (a) GeM (Government e-Marketplace)
- (b) TReDS (Trade Receivables Discounting System)
- (c) PM-SVANidhi Portal
- (d) Udyam Registration Portal

Answer: (b) TReDS (Trade Receivables Discounting System)

Detailed Explanation:

- **Objective:** To address the severe issue of delayed payments crippling small businesses, the government made it mandatory for CPSEs to declare all transactions processed via the **Trade Receivables Discounting System (TReDS)**.
- **Mechanism:** CPSEs must now furnish an independent statutory auditor's certificate verifying active registration and prompt invoice clearing on TReDS. This platform allows MSMEs to discount their invoices drawn on corporate/government buyers to access immediate collateral-free working capital.

Category 4: Sports

Q12. The Indian Navy's premium sporting and tactical interface was recently highlighted when India and New Zealand reviewed their operational deployment under "Combined Task Force-150" (CTF-150). What is the main mandate of this international naval force?

- (a) Countering piracy in the South China Sea
- (b) Combating narcotics trafficking and maritime terrorism in the Western Indian Ocean
- (c) Antarctic ecological preservation patrols
- (d) Submarine rescue drills in the Pacific Rim

Answer: (b) Combating narcotics trafficking and maritime terrorism in the Western Indian Ocean

Detailed Explanation:

- **Context:** During Prime Minister Modi's talks with New Zealand leadership, their successful joint maritime command under **CTF-150** was lauded.
- **Details:** New Zealand successfully steered the task force as Commander, while the Indian Navy served as the Deputy Commander. The force operates in the Middle East and Western Indian Ocean waterways to disrupt non-state actors, illicit smuggling networks, and terror funding.

Category 5: Appointments & Resignations

Q13. Consider the following statements with reference to constitutional provisions regarding the resignation and removal of higher judiciary judges, a topic that trended due to legal debates on the Judges (Inquiry) Act, 1968:

1. The Constitution of India explicitly uses the term "Impeachment" to describe the ouster of a Supreme Court Judge.
2. Under Article 218, the removal provisions of Supreme Court judges apply identically to High Court judges.
3. The Judges (Inquiry) Act, 1968, explicitly allows a parliamentary removal inquiry to continue even if a judge resigns midway through proceedings.

Which of the statements given above is/are correct?

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

Answer: (b) 2 only

Detailed Explanation:

- **Statement 1 is incorrect:** The Constitution strictly uses the term "**Removal**", not "Impeachment" (the word impeachment is exclusively used for the President under Article 61).
- **Statement 2 is correct:** Article 218 extends the procedural architecture of Supreme Court removal identically to High Court benches.
- **Statement 3 is incorrect:** The Judges (Inquiry) Act, 1968, is completely **silent** on whether an ongoing parliamentary inquiry can legally survive if a judge steps down mid-process. However, resigned judges enjoy no immunity from asset seizures or separate prosecution under the Prevention of Corruption Act, 1988.

Category 6: Awards and Honors

Q14. India's digital public infrastructure initiative, the "Samridh Gram" project, won the prestigious global WSIS Prize 2026. Which body leads and awards this prize?

- (a) World Bank
- (b) International Telecommunication Union (ITU)
- (c) World Economic Forum (WEF)
- (d) NITI Aayog

Answer: (b) International Telecommunication Union (ITU)

Detailed Explanation:

- **Context:** The **Samridh Gram** project—an initiative by the Department of Telecommunications (DoT), India—won top honors at the World Summit on the Information Society (WSIS) Forum 2026 held in Geneva, Switzerland.

- **Category:** It won the Global Winner title under the "Action Line C6 – Enabling Environment" category. The project expands village digital access by layering Village Area Networks and public Wi-Fi hotspots on top of the BharatNet fiber backbone.

Category 7: Books and Authors

Q15. The comprehensive "World Intangible Investment Report 2026" was globally released in July 2026. According to the study, how has intangible asset investment (like IP, software, brand equity) grown compared to traditional tangible assets since 2008?

- (a) It has contracted by 12% due to global inflation.
- (b) It has grown at identical speeds to physical capital.
- (c) It has grown more than three times faster than tangible investment.
- (d) It has completely replaced physical asset calculation in G7 states.

Answer: (c) It has grown more than three times faster than tangible investment

Detailed Explanation:

- **Core Finding:** The report outlines a massive systemic paradigm shift in the global economy. Intangible capital creation has scaled over three times faster than tangible factory/machinery deployment since the 2008 crisis, breaching a record global volume of USD 10 trillion.
- **Significance:** For emerging markets like India, measuring these knowledge-economy assets is critical to charting path progressions toward the *Viksit Bharat 2047* blueprint.

Category 8: Defense News

Q16. Which country's "AN/FPS-115 Pave Paws" ultra-high-frequency long-range radar system was in the news for successfully tracking deep ballistic missile launches over the South China Sea?

- (a) Philippines
- (b) Taiwan
- (c) Japan
- (d) Vietnam

Answer: (b) Taiwan

Detailed Explanation:

- **Context:** Taiwan's strategic AN/FPS-115 Pave Paws radar infrastructure played a pivotal role in detecting and mapping real-time trajectories of recent ballistic missile testing over regional waters.
- **Technical Profile:** Developed originally by US defense contractor Raytheon, it is an ultrahigh-frequency (420–450 MHz) phased-array early warning mechanism designed primarily to counter submarine-launched ballistic missiles (SLBMs) and cruise threats at extreme operational ranges.

Q17. In July 2026, the Indian Navy's newly integrated advanced Uncrewed Aerial Vehicle (UAV), "Drishti-10", was in the news due to an operational accident in which state?

- (a) Odisha
- (b) Rajasthan
- (c) Gujarat
- (d) Tamil Nadu

Answer: (c) Gujarat

Detailed Explanation:

- **Context:** The Indian Navy's **Drishti-10 Starliner** Uncrewed Aerial Vehicle (UAV) suffered an in-flight malfunction and crashed during a routine maritime surveillance sortie in Gujarat.
- **About Drishti-10:** It is an advanced, indigenously manufactured long-endurance drone capable of all-weather operations, integrated to provide persistent Intelligence, Surveillance, and Reconnaissance (ISR) along India's vast maritime boundaries and littoral zones.

Transfer (DBT) subsidy later, which often excludes capital-poor marginal households.

Q19. A landmark Memorandum of Understanding (MoU) was executed in New Delhi between the Quality Council of India (QCI) and which organization to upgrade market access and quality competitiveness for Indian MSMEs?

- (a) NITI Aayog
- (b) National Small Industries Corporation (NSIC)
- (c) ASSOCHAM
- (d) Bureau of Indian Standards (BIS)

Answer: (b) National Small Industries Corporation (NSIC)

Detailed Explanation:

- **Context:** The MoU was signed at the World Trade Centre, New Delhi, by the heads of NSIC and QCI.
- **Mandate:** This strategic tie-up aims to integrate small manufacturing enterprises with national and global value chains by helping them achieve ZED (Zero Defect Zero Effect) quality certifications, improve standard operating audits, and streamline product compliance.

Q20. India and Australia officially launched a new cooperative framework titled "PACTS" in July 2026. What does the acronym "PACTS" stand for in this bilateral context?

- (a) Partnership on Aerospace, Clean Technology, and Shipping
- (b) Partnership on Cyber, Critical Technologies, and Supply Chains
- (c) Program for Advanced Carbon Tax Solutions
- (d) Protocol on Agricultural Cooperatives and Trade Standardization

Category 9: Govt Schemes & Bilateral MoUs

Q18. Under the "Sub-Mission on Agricultural Mechanisation" (SMAM), what percentage of financial assistance is granted to Self-Help Groups (SHGs) to establish village-level farm machinery banks?

- (a) 40%
- (b) 60%
- (c) 80%
- (d) 100%

Answer: (c) 80%

Detailed Explanation:

- **The Provisions:** SMAM provides an **80% financial subsidy** for projects up to ₹30 Lakhs when executed by grassroots Self-Help Groups (SHGs) looking to set up village machinery hubs. Conversely, Rural Entrepreneurs and FPOs get a **40% grant** for projects up to ₹250 Lakhs for high-capacity Custom Hiring Centres (CHCs).
- **The Bottleneck:** Current assessments reveal a "Liquidity Barrier"—farmers are forced to shell out 100% of the machinery asset cost upfront before receiving the Direct Benefit

Answer: (b) Partnership on Cyber, Critical Technologies, and Supply Chains

Detailed Explanation:

- **Context:** Solidifying their Comprehensive Strategic Partnership, India and Australia rolled out the **Australia-India Partnership on Cyber, Critical Technologies, and Supply Chains (PACTS)**.
- **Target Area:** The institutional framework is specifically curated to build resilient, secure supply chains for rare-earth minerals, foster cross-border cyber security defenses, and scale trusted digital communication infrastructure across the Indo-Pacific corridor.

Q21. During high-level bilateral deliberations, India and New Zealand formally launched the "Kiwifruit Action Plan". Under this, Centres of Excellence for Kiwifruit are being established in which states?

- (a) Himachal Pradesh and Sikkim
- (b) Jammu & Kashmir and Arunachal Pradesh
- (c) Nagaland and Uttarakhand
- (d) Assam and Meghalaya

Answer: (c) Nagaland and Uttarakhand

Detailed Explanation:

- **The Agreement:** To deepen agricultural technology transfer, both nations inked a comprehensive pact on dairying and high-value horticulture, giving birth to the **Kiwifruit Action Plan**.
- **Execution:** Specialized Centres of Excellence will be set up in **Nagaland and Uttarakhand**. These centers will use New Zealand's advanced post-harvest logistics and cold-chain expertise to boost domestic yields for Indian hill farmers.

Category 10: Important Days & Dates

Q22. The "Jal Sanchay Jan Bhagidari Initiative", which gained major national focus in July 2026 news cycles, operates as a flagship community-led sub-component under which wider national water campaign?

- (a) Jal Jeevan Mission (Urban)
- (b) Namami Gange Project
- (c) Jal Shakti Abhiyan: Catch the Rain (JSA: CTR)
- (d) Pradhan Mantri Krishi Sinchayee Yojana

Answer: (c) Jal Shakti Abhiyan: Catch the Rain (JSA: CTR)

Detailed Explanation:

- **Context:** Highlighting grassroot successes in regions like Balod, this model has gained immense attention for its participatory stewardship.
- **Core Philosophy:** Guided by a "Whole-of-Government and Whole-of-Society" approach, the initiative leverages local community work, corporate CSR assets, and traditional wisdom to construct rainwater harvesting check-dams and revive dying stepwells right before seasonal monsoons peak.

Category 11: Art, Culture & Festivals

Q23. A grand memorial dedicated to the legendary Maratha warrior 'Veer' Jivaji Mahale has been sanctioned at the foothills of the historic Pratapgad Fort. In which state is this fort located?

- (a) Madhya Pradesh
- (b) Gujarat
- (c) Goa

(d) Maharashtra

Answer: (d) Maharashtra

Detailed Explanation:

- **Context:** The Maharashtra Government sanctioned ₹1 crore for the first phase of a memorial dedicated to Jivaji Mahale, the loyal military associate of Chhatrapati Shivaji Maharaj who famously saved his life during his historic encounter with Afzal Khan.
- **Pratapgad Fort Profile:** Located in the Satara district of Maharashtra at an altitude of 1080 meters, this iconic hill fort is divided into an upper fort built on the crest and a lower fort defended by 10-12 meter high towers.

Q24. The Saryu River, which hosted grand traditional cultural festivals and religious prayers on July 12, 2026, features the historic city of Ayodhya on its banks. Through which two Indian states does this river primarily flow?

- (a) Himachal Pradesh and Punjab
- (b) Uttarakhand and Uttar Pradesh
- (c) Uttarakhand and Bihar
- (d) Uttar Pradesh and Madhya Pradesh

Answer: (b) Uttarakhand and Uttar Pradesh

Detailed Explanation:

- **Geographical Profile:** The ancient Saryu (also called Sarayu) River originates in the Himalayas of Uttarakhand, flows through deep gorges, and enters the plains of Uttar Pradesh, passing directly by the sacred city of Ayodhya. It eventually merges into the Sharda River.

Category 12: Birth & Death Anniversaries / Historical Milestones

Q25. "Indira Point", the southernmost point of India's territory, was frequently highlighted in maritime navigation updates this week. In which year was this point officially renamed from "Pygmalion Point" to honor former PM Indira Gandhi?

- (a) 1974
- (b) 1980
- (c) 1985
- (d) 1991

Answer: (c) 1985

Detailed Explanation:

- **History:** Originally known across British and maritime charts as **Pygmalion Point**, the landmark was officially renamed in **1985** following the demise of former Prime Minister Indira Gandhi.
- **Strategic Importance:** Located on Great Nicobar Island, its iconic lighthouse serves as a crucial navigational aid on the ultra-busy Singapore-to-Colombo international deep-sea shipping route.

Category 13: Advanced Analytical Conceptual Questions (UPSC/Banking Special)

Q26. With reference to the "Hindu Kush Himalaya" region—often dubbed the "Third Pole"—consider the following statements which surfaced due to flash floods stalling the Kwar Hydroelectric project:

1. It contains the largest volume of frozen water on Earth outside the polar ice caps.
2. It serves as the primary geographical water tower feeding 10 major river basins, including the Yangtze, Mekong, and Indus.
3. The region is experiencing a "Monsoon Paradox", where overall seasonal rainfall

volume is declining while short-duration cloudburst events are escalating.

Which of the statements given above are correct?

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

Answer: (d) 1, 2, and 3

Detailed Explanation:

- **The Third Pole:** The Hindu Kush Himalayan ice reserves are second only to the Arctic and Antarctic caps. It sustains crucial perennial river networks supporting billions of people across Asia.
- **Climate Risks:** Rapid warming has introduced dangerous climate volatility. Glacier retreat is creating expanding proglacial lakes, significantly raising the risk of Glacial Lake Outburst Floods (GLOFs). This threatens downstream infrastructure, as seen with the recent flash floods in the Chenab Valley.

Q27. Consider the following statements regarding "Flue-Cured Virginia (FCV) Tobacco", which has been heavily discussed in recent agricultural trade boards:

1. Flue-curing involves drying the tobacco leaf using indirect heat passed through a pipe system, preventing direct exposure to smoke.
2. FCV tobacco is predominantly cultivated in India during the Kharif season in heavy clayey soils.
3. India is one of the leading global exporters of this variety, primarily monitored via the Tobacco Board.

Which of the statements given above are correct?

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

Answer: (b) 1 and 3 only

Detailed Explanation:

- **Statement 2 is incorrect:** FCV tobacco requires well-drained, **light-textured sandy loam soils**, not heavy clayey soils, to achieve its characteristic texture and color. In India, it is primarily grown as a light-soil crop during the Rabi season in states like Andhra Pradesh and Karnataka.
- **Mechanism:** Flue-curing uses closed pipes (flues) that circulate radiant heat from external furnaces. This dries the leaves smoothly without exposing them to direct smoke, preserving their bright yellow-orange color and high sugar content.

Q28. From a biochemical and medical perspective, consider the following statements regarding the hormone "Oxytocin", which was in the news due to regulatory checks on synthetic drug misuse:

1. It is a neuropeptide hormone synthesized by the hypothalamus and released into the bloodstream by the posterior pituitary gland.
2. In clinical obstetrics, synthetic oxytocin is used to treat uterine atony and prevent uncontrolled postpartum bleeding.
3. It plays zero role in male physiological or reproductive functions.

Which of the statements given above is/are correct?

- (a) 1 only

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

Answer: (b) 1 and 2 only

Detailed Explanation:

- **Statement 3 is incorrect:** Oxytocin is present in males as well, where it facilitates sperm transport, influences testosterone production in the testes, and plays a vital behavioral role in social bonding and empathy.
- **Medical Use:** In emergency obstetrics, it remains an indispensable, lifesaving drug used to induce uterine contractions and prevent severe postpartum hemorrhaging.

Q29. Consider the following statements regarding "Cyanobacteria", which frequently feature in environmental current affairs due to dangerous toxic algal blooms in warming summer reservoirs:

1. They are primitive autotrophic organisms exhibiting a typical prokaryotic cellular organization.
2. They were historically responsible for the Great Oxidation Event in Earth's geological history.
3. Unlike green plants, they do not utilize chlorophyll-a for photosynthesis.

Which of the statements given above are correct?

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

Answer: (a) 1 and 2 only

Detailed Explanation:

- **Statement 3 is incorrect:** Cyanobacteria are unique precisely because they **do contain chlorophyll-a** (along with accessory pigments like phycobilins), allowing them to perform oxygenic photosynthesis just like land plants.
- **Evolutionary Significance:** They are the oldest known photosynthetic organisms on Earth. Their ancient metabolic activity produced the atmospheric oxygen that paved the way for complex life forms.

Q30. The "AIRAWAT-PSAI" cluster, which recently updated its operational metrics in national technological briefs, belongs to which of the following technological domains?

- (a) Deep-sea heavy metal mining rover
- (b) India's cloud-integrated public AI Supercomputer
- (c) Quantum cryptography key distribution channel
- (d) Nuclear fusion experimental reactor

Answer: (b) India's cloud-integrated public AI Supercomputer

Detailed Explanation:

- **Profile:** Housed and managed seamlessly at the **C-DAC facility in Pune**, AIRAWAT-PSAI stands as India's fastest and premier public AI supercomputing infrastructure.
- **Rankings:** It consistently features prominently on the global **TOP500** list of supercomputers. It provides high-performance parallel computing architecture to researchers, startups, and government departments to build indigenous AI models, train LLMs, and process massive digital datasets for public service delivery.