

UPSC CURRENT AFFAIRS

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1. India's Cold Desert Biosphere Reserve Joins UNESCO's World Network, Two New Ramsar Sites Added in Bihar



- India's Cold Desert Biosphere Reserve in Himachal Pradesh has been included in UNESCO's World Network of Biosphere Reserves, Union Minister for Environment, Forest and Climate Change Bhupender Yadav announced.
- The recognition came during the 37th Session of UNESCO's International Coordinating Council – Man and the Biosphere.
- With this addition, India now has 13 biosphere reserves listed in the prestigious global network, underscoring the country's commitment to biodiversity conservation and community-driven sustainable development.

- The announcement follows closely on the heels of India's designation of two new Ramsar sites in Bihar—Gokul Jalashay, spanning 448 hectares in Buxar district, and Udaipur Jheel, covering 319 hectares in West Champaran district.
- With these additions, India's tally of Ramsar sites, recognized as wetlands of international importance, has risen to 93, covering a total area of 13,60,719 hectares.
- Yadav highlighted India's strengthened resolve to conserve its wetland ecosystems, emphasizing their role in supporting biodiversity, climate resilience, and sustainable livelihoods.
- He attributed these achievements to the country's unwavering commitment to ecosystem preservation, protection, and restoration under the leadership of Prime Minister Narendra Modi.

UNESCO's World Network of Biosphere Reserves (WNBR)

- UNESCO's World Network of Biosphere Reserves (WNBR) is a global program established under the Man and the Biosphere Programme (MAB), which was launched by UNESCO in 1971.
- The WNBR was formally created in 1976 and serves as a network of sites around the world that promote sustainable development, conservation of biodiversity, and research on the relationship between people and nature.

What is a Biosphere Reserve?

- A Biosphere Reserve is a designated area that promotes a balanced relationship between humans and nature through:
 - Conservation of biodiversity, ecosystems, species, and genetic variation.
 - Sustainable development that respects ecological and cultural values.
 - Logistic support for research, education, and monitoring related to environmental conservation and sustainability.

Structure of a Biosphere Reserve

- Each biosphere reserve typically has three interrelated zones:
 - **Core Area** – Strictly protected for conserving landscapes, ecosystems, species, and genetic diversity.
 - **Buffer Zone** – Surrounds or adjoins the core areas; activities are managed to help protect the core while supporting research, education, and recreation.
 - **Transition Area** – The outermost zone where sustainable economic and human activities are promoted.

Key Facts about the WNBR (as of 2025)

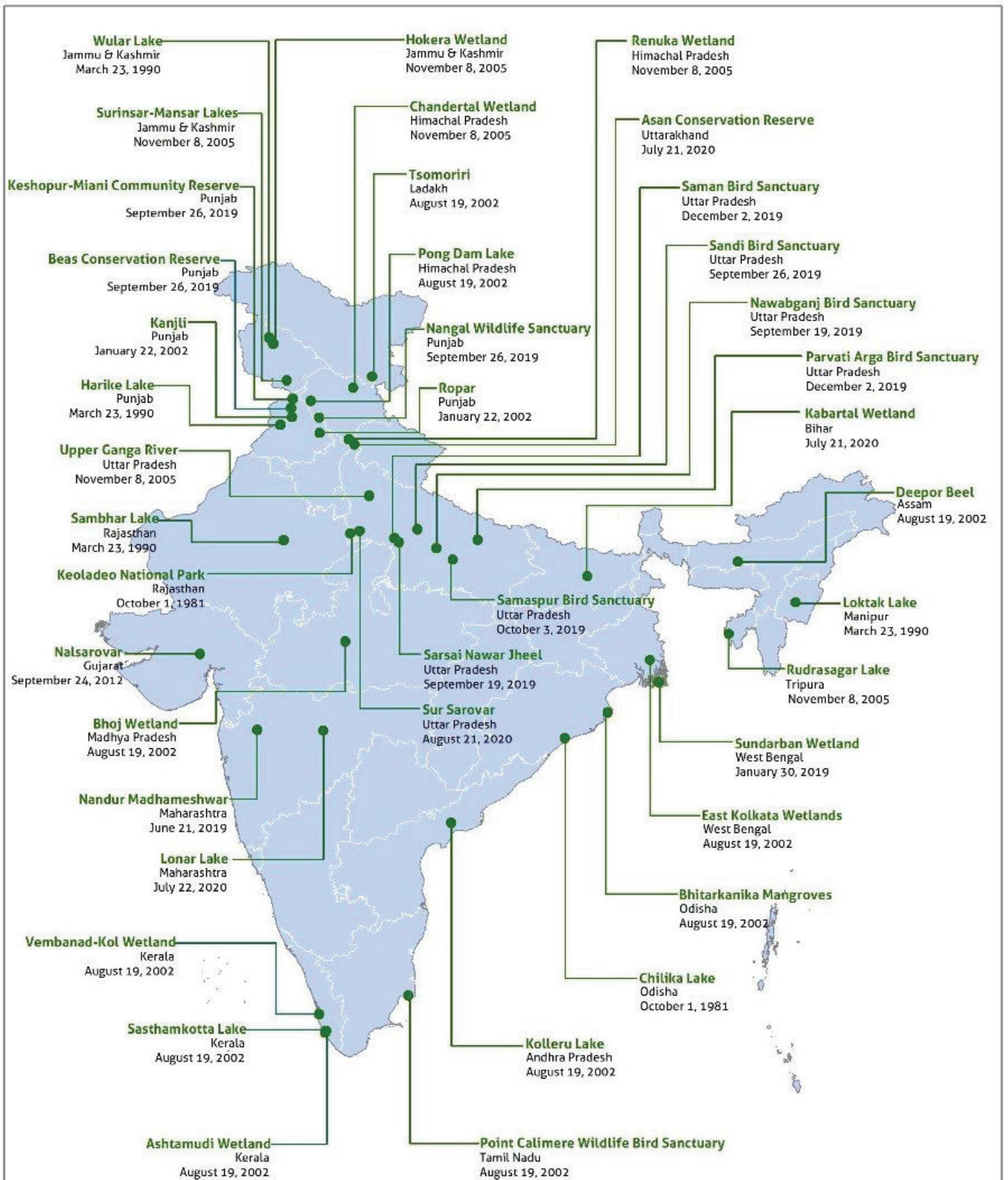
- Over 700 biosphere reserves in more than 130 countries.
- Includes transboundary reserves shared by multiple countries.

Examples:

- Sundarbans (Bangladesh/India)
- Serengeti-Ngorongoro (Tanzania)
- Noosa Biosphere Reserve (Australia)
- Kruger to Canyons (South Africa)

Functions of the WNBR

- **Conservation:** Protecting biodiversity and ecosystems.
- **Development:** Encouraging sustainable economic and human development.
- **Support:** Facilitating scientific research, environmental monitoring, and education.



Ramsar Sites of India



Why Is It Important?

- Acts as a “living laboratory” for testing and demonstrating integrated management of land, water, and biodiversity.
- Promotes community involvement and indigenous knowledge.
- Helps address climate change, land degradation, and sustainable livelihood.

Ramsar Sites

- Ramsar Sites are wetlands of international importance designated under the Ramsar Convention, an international treaty signed in 1971 in Ramsar, Iran.
- The goal of the convention is the conservation and sustainable use of wetlands to halt their degradation or loss.

Key Facts about Ramsar Sites:

- **Ramsar Convention full name:** “Convention on Wetlands of International Importance especially as Waterfowl Habitat”
 - **Signed:** 1971 in Ramsar, Iran
 - **Entered into force:** 1975
 - **Total Contracting Parties (as of 2025):** 170+ countries
 - **Total Ramsar Sites (globally):** Over 2,500
 - **Largest number of Ramsar Sites:** United Kingdom
 - **Country with largest wetland area under Ramsar:** Bolivia

World’s highest bridge opens in China

- The world’s tallest bridge opened in China’s Guizhou province.
- The Huajiang Grand Canyon Bridge towers 625 m above a river and vast gorge in the country’s rugged southern province.
- The province is also home to the 565-metre Beipanjiang Bridge that is now the world’s second highest.
- It is nine times the height of San Francisco’s Golden Gate Bridge.

QUESTIONS

1. Consider the following statements regarding India’s Cold Desert Biosphere Reserve:

1. It was declared a biosphere reserve in 2009 and is India’s first high-altitude cold desert biosphere reserve.
2. The Cold Desert Biosphere Reserve is part of the UNESCO’s World Network of Biosphere Reserves since 2025.
3. It integrates several protected areas, including Pin Valley National Park and Kibber Wildlife Sanctuary.
4. It is home to rare species like the snow leopard, Himalayan wolf, and Tibetan gazelle.

Which of the statements given above is/are correct?

- | | |
|-----------------|-------------------|
| A. 1 and 2 only | C. 1, 2, 3, and 4 |
| B. 2 and 3 only | D. 1 and 3 only |

2. Consider the following statements about the Ramsar Sites in India:

1. Gokul Jalashay and Udaipur Jheel in Bihar were designated as Ramsar sites in 2025.
2. With these new additions, India's Ramsar tally has increased to 93, covering a total area of 13,60,719 hectares.
3. Ramsar sites are wetlands of international importance and play a critical role in supporting biodiversity and climate resilience.
4. India now ranks first globally in terms of the number of Ramsar sites.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1, 2, and 3 only | C. 1, 3, and 4 only |
| B. 2, 3, and 4 only | D. All the four |

3. Consider the following statements regarding the World Network of Biosphere Reserves (WNBR):

1. The WNBR operates under the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Man and the Biosphere Programme.
2. The WNBR now includes over 700 biosphere reserves in 142 countries.
3. The WNBR promotes sustainable development, conservation of biodiversity, and research on the relationship between people and nature.
4. It was established in 1976 and has expanded to include over 1 million sq km of protected areas since 2018.

Which of the statements given above is/are correct?

- | | |
|-----------------|---------------------|
| A. 1 and 2 only | C. 1, 2, and 3 only |
| B. 3 and 4 only | D. All the four |

4. Consider the following statements about the Ramsar Convention:

1. The Ramsar Convention was signed in 1971 in Ramsar, Iran, to conserve wetlands globally.
2. The goal of the Ramsar Convention is to promote the conservation and sustainable use of wetlands.
3. India joined the Ramsar Convention in 1982.
4. India has wetlands like Keoladeo National Park and Loktak Lake listed in the Montreux Record due to their deteriorating ecological conditions.

Which of the statements given above is/are correct?

- | | |
|-----------------|---------------------|
| A. 1 and 2 only | C. 1, 3, and 4 only |
| B. 2 and 3 only | D. All the four |

5. Consider the following statements:

1. The boundaries of a National Park are defined by legislation.

2. A Biosphere Reserve is declared to conserve a few specific species of flora and fauna.
3. In a Wildlife Sanctuary limited biotic interference is permitted.

Which of the statements given above is/are correct?

- A. 1 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3 explain

6. Consider the following pairs:

1. Nokrek Biosphere Reserve: Garo Hills
2. Logtak (Loktak) Lake: Barail Range
3. Namdapha National Park: Dafla Hills

Which of the above pairs is/are correctly matched?

- A. 1 only
B. 2 and 3 only
C. 1, 2 and 3
D. None

2. Europe's 'drone wall'



- In response to increasing Russian drone incursions into European airspace, the European Union is developing a strategic defense initiative known as the “drone wall.”

- This effort aims to create a coordinated defense system along the EU's eastern border, designed to detect, track, and neutralize unmanned aerial threats.
- While still in its early stages, the project gained urgency following a series of alarming incidents, including Russian drones violating Polish and Romanian airspace, and Russian fighter jets flying over Estonia.
- The concept was publicly introduced by European Commission President Ursula von der Leyen during her annual State of the Union address. She described it as part of a broader "eastern flank watch," emphasizing the need for immediate action and a united European response.
- Her announcement coincided with a Russian drone incursion into Poland, underscoring the urgency of the situation.
- Rather than a physical structure, the "drone wall" would be a network of advanced anti-drone technologies and shared data systems.
- It would likely integrate tools such as radar systems, jammers, and acoustic sensors to create a real-time surveillance and interception grid across member states.
- The goal is to provide cost-effective defense solutions, given that Russian drones are often cheap and expendable, making it economically inefficient to counter them using expensive missiles. NATO, led by Secretary-General Mark Rutte, is collaborating with the EU on the project to ensure alignment and coordination among allies.
- The proposal draws heavily on Ukraine's battlefield experience, as it has become a frontline innovator in drone warfare.
- Ukrainian expertise will inform the EU's efforts in designing and deploying countermeasures.
- During a recent defense meeting in Copenhagen, leaders from across the 27-nation bloc expressed both hope and caution.
- Danish Prime Minister Mette Frederiksen confirmed the project's scope would include detection and neutralization capabilities, alongside broader efforts like improved maritime security and space-based surveillance.
- However, she also warned against placing too much faith in any single technological solution, noting that no system will completely eliminate drone threats.
- Former NATO Secretary-General Anders Fogh Rasmussen emphasized the urgency of the situation, stating that the EU cannot afford to wait a year or more to make the system operational.
- Nonetheless, skepticism remains about the feasibility and timeline of the project.
- German Defense Minister Boris Pistorius cautioned that a full realization of the concept could take years, highlighting the need to manage expectations.
- Financing the drone wall is another unresolved issue.
- The EU has promised to create a "comprehensive financial toolbox" to support the initiative, but specifics are lacking.
- Member states like Poland are pushing for direct grants and subsidies, not just loans, to ensure sufficient funding.
- Ultimately, European leaders agree on the importance of moving from rhetoric to action. Lithuanian President Gitanas Nausėda summed up the urgency by saying, "Documents do not defend. Documents do not detect drones."
- While the project faces technical, financial, and political challenges, the consensus is clear: Europe must act swiftly to bolster its eastern defenses in an era of escalating aerial threats from Russia.

Drone

- A drone, also known as an Unmanned Aerial Vehicle (UAV), is an aircraft that operates without a human pilot on board.
- It can be controlled remotely by a human operator or autonomously by onboard computers.

Functions of a Drone

- Drones have a wide range of applications across various industries. Here are some of their key functions:

1. Aerial Photography & Videography

- Used in filmmaking, journalism, real estate, and tourism.
- Captures photos and videos from unique angles and heights.

2. Surveillance & Security

- Employed by military, law enforcement, and private security for monitoring and reconnaissance.
- Used for border patrol, crowd control, and facility surveillance.

3. Delivery Services

- Used by companies like Amazon, Zipline, and UPS for delivering packages, medical supplies, or food to remote or urban locations.

4. Agriculture

- Used for crop monitoring, spraying pesticides, and assessing field health via multispectral imaging.

5. Disaster Management

- Deployed in search and rescue operations, damage assessment, and delivering aid in inaccessible areas.

6. Mapping & Surveying

- Used in construction, mining, and environmental research for creating accurate 3D maps and land surveys.

7. Military Applications

- Reconnaissance, surveillance, combat missions, and cargo transport in defense operations.

Characteristics of Drones

1. Remote or Autonomous Control

- Can be controlled manually via remote control or programmed for autonomous flight using GPS and sensors.

2. Propulsion System

- Usually powered by electric motors with propellers (quadcopters being the most common type).

3. Lightweight Design

- Made from materials like carbon fiber or plastic to ensure longer flight time and better maneuverability.

4. Onboard Sensors & Cameras

- Equipped with GPS, gyroscopes, accelerometers, altimeters, and sometimes thermal or multispectral cameras.

5. Flight Stability & Navigation

- Use flight controllers and GPS modules for maintaining balance and navigating complex routes.

6. Battery-Powered

- Most consumer and commercial drones use lithium-polymer (Li-Po) batteries; flight time typically ranges from 10 to 40 minutes.

7. Data Transmission

- Real-time video and telemetry are sent to the operator via radio or Wi-Fi links.

QUESTIONS

7. Consider the following statements regarding the European Union's "drone wall":

1. The "drone wall" is designed to create a physical wall along the EU's eastern border to stop drone incursions.
2. It aims to detect, track, and neutralize unmanned aerial threats using advanced anti-drone technologies and shared data systems.
3. The project was introduced by European Commission President Ursula von der Leyen in her annual State of the Union address.
4. The initiative focuses on making use of Russian drones' low cost and expendability to provide cost-effective defense solutions.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1 and 3 only | C. 1, 3, and 4 only |
| B. 2, 3, and 4 only | D. All the four |

8. Consider the following statements about India's Drone Rule 2021:

1. The Drone Rule 2021 eliminates the requirement for security clearance before registering drones for commercial use.
2. Drone taxis are covered under the rules, which now apply to drones up to 500 kg in weight.
3. The Digital Sky Platform enables unmanned flight operations and minimizes human interference through an online system.
4. The Drone Rule 2021 mandates that all drones require an airworthiness certificate, regardless of their size or purpose.

Which of the statements given above is/are correct?

- | | |
|---------------------|-----------------|
| A. 1, 2, and 3 only | C. 1 and 3 only |
| B. 2, 3, and 4 only | D. All the four |

9. Consider the following statements about drones:

1. Drones, or UAVs, are controlled remotely by a human operator or autonomously through onboard computers.

2. Micro drones are typically used for intelligence gathering and can carry out military surveillance due to their advanced AI capabilities.
3. Medium UAVs are versatile and used for applications such as aerial photography, mapping, and monitoring.
4. Large UAVs, exceeding 6 meters in length, are designed for long-endurance missions with heavier payloads for military surveillance or cargo transport.

Which of the statements given above is/are correct?

- | | |
|-----------------|---------------------|
| A. 1 and 4 only | C. 1, 2, and 4 only |
| B. 2 and 3 only | D. All the four |

10. Consider the following statements regarding the “drone wall” project in Europe:

1. The “drone wall” initiative aims to establish a physical structure along the EU’s eastern border to block drone incursions.
2. It integrates tools such as radar, jammers, and acoustic sensors to create a real-time surveillance grid across EU member states.
3. The proposal takes inspiration from Ukraine’s experiences with drone warfare on the battlefield.
4. It is part of a broader European initiative to improve maritime security and space-based surveillance.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1, 2, and 3 only | C. 1, 2, and 4 only |
| B. 2, 3, and 4 only | D. All the four |

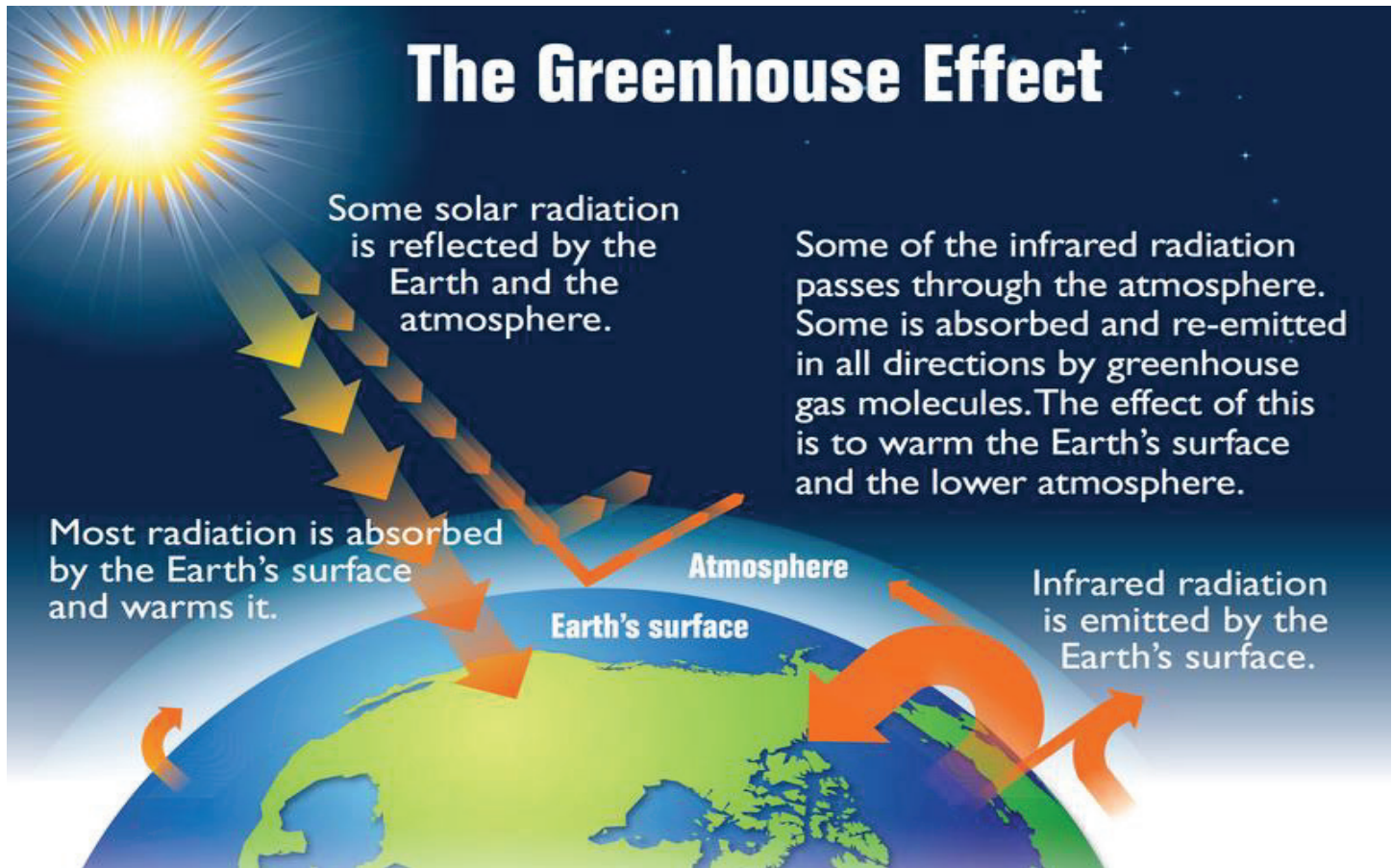
11. Consider the following statements about drone types:

1. Micro and nano UAVs are generally used for intelligence gathering but have limited military applications due to the lack of AI capabilities.
2. Small UAVs range from 2 to 4 meters in length and are commonly used for military surveillance.
3. Medium UAVs, typically weighing 150 to 600 kg, are capable of carrying heavier payloads for longer missions.
4. Large UAVs, which exceed 6 meters in length, are mainly used for reconnaissance and carrying heavy loads, including military surveillance and cargo transport.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1 and 4 only | C. 1, 3, and 4 only |
| B. 2, 3, and 4 only | D. All the four |

3. Amazon rainforest trees are getting bigger due to climate change



- The average size of trees in the Amazon rainforest has been steadily increasing due to the rising levels of carbon dioxide (CO₂) in the atmosphere, according to a new study.
- The trees are increasing in size by more than three per cent every ten years.

What did the study say?

- To carry out the study, scientists monitored trees across 188 permanent forest plots, with an average area of 12,000 square metres across the Amazon basin, to build the long-term dataset.
- Although monitoring periods varied, some were as long as 30 years. During this time, the researchers found that, on average, trees increased in diameter by about 3.3 per cent each decade.
- Usually, the average diameter of trees in an area of undisturbed old-growth forest stays roughly the same, as saplings take the place of fallen big trees and grow.
- Scientists believe that in the case of the Amazon rainforests, trees did not follow this trend due to a rise in atmospheric CO₂, which increased by nearly a fifth in the last 30 years.
- The rise of CO₂ levels can benefit tree growth because of a phenomenon known as the carbon fertilisation effect. More CO₂ in the atmosphere increases the rate of photosynthesis, leading to increased growth in some plants.

Why is this significant?

- The findings are significant as trees which have become bigger can absorb more carbon than in the past.
- “The important finding is that CO₂ has been acting as a fertiliser, increasing tree growth, and in many ways that is reassuring, because wood is a globally significant carbon sink.”
- However, scientists have said that the apparent benefits of CO₂ should not obscure the damage caused by deforestation.

What is the Amazon rainforest?

- The Amazon rainforest is the world’s largest tropical rainforest, spanning nine countries in South America: Brazil, Peru, Colombia, Bolivia, Ecuador, French Guiana, Guyana, Suriname, and Venezuela. However, nearly 60% of the rainforest is situated in Brazil.
- Despite covering around 1% of the planet’s surface, the Amazon rainforest is home to 10% of all the wildlife species known to humans. According to the conservation organisation World Wildlife Fund (WWF), the total number of known species in the rainforest includes: 427 mammals, 1,300 birds, 378 reptiles, more than 400 amphibians, and between 2,500 and 3,000 freshwater fish.
- Notably, scientists call the Amazon rainforest the “lungs of the planet” due to the role it plays in absorbing CO₂ and producing oxygen. It is estimated that around 150-200 billion tonnes of carbon are stored in the Amazon rainforest.

Climate Change

- Climate Change refers to long-term shifts and alterations in temperature and weather patterns, primarily caused by human activities.
- While natural processes can influence climate, the rapid changes observed since the Industrial Revolution are largely due to increased greenhouse gas (GHG) emissions, particularly from burning fossil fuels (coal, oil, and natural gas).

Key Causes of Climate Change:

Greenhouse Gas Emissions

- Carbon dioxide (CO₂) – From fossil fuel combustion, deforestation.
- Methane (CH₄) – From agriculture (*e.g.*, livestock), landfills, fossil fuel extraction.
- Nitrous oxide (N₂O) – From fertilizers, industrial processes.
- Fluorinated gases – From industrial applications (coolants, etc.).

Deforestation

- Reduces the planet’s capacity to absorb CO₂.
- Industrialization & Urbanization
- Increased energy consumption and waste.

Major Effects of Climate Change:

- Rising global temperatures
- Melting glaciers & polar ice caps

Rising sea levels

- More extreme weather events (heatwaves, hurricanes, droughts, floods)
- Loss of biodiversity and ecosystems

- Ocean acidification and warming
- Threats to food and water security

Consequences for Humans:

- Displacement due to rising seas or uninhabitable land
- Increased spread of diseases (*e.g.*, malaria, heat-related illnesses)
- Economic instability (especially in agriculture and coastal regions)
- Political and social conflict over resources

Mitigation:

- Reduce emissions (*e.g.*, switch to renewable energy, energy efficiency)
- Carbon pricing (carbon taxes, cap-and-trade)
- Reforestation and forest conservation
- Sustainable agriculture and waste management

Adaptation:

- Building resilient infrastructure
- Developing early warning systems
- Supporting vulnerable communities

Global Agreements:

- Paris Agreement (2015): International treaty to limit global warming to well below 2°C, aiming for 1.5°C.

Current Status (as of 2025):

- Global temperatures are nearing 1.5°C above pre-industrial levels.
- Many countries are off-track from meeting climate targets.
- Renewable energy capacity is growing but not yet enough to offset fossil fuel use.

QUESTIONS

12. Consider the following statements regarding the increase in tree size in the Amazon rainforest:

1. The average size of trees in the Amazon rainforest has been steadily increasing due to rising carbon dioxide (CO₂) levels in the atmosphere.
2. Trees in the Amazon rainforest are increasing in size by more than three per cent every ten years.
3. The increase in tree size is mainly attributed to the rise in atmospheric CO₂, which enhances photosynthesis through the carbon fertilization effect.
4. The growth in tree size has no effect on carbon absorption by the trees.

Which of the statements given above is/are correct?

- | | |
|---------------------|-----------------|
| A. 1, 2, and 3 only | C. 1 and 4 only |
| B. 2 and 3 only | D. All the four |

13. Consider the following statements regarding the Amazon rainforest:

1. The Amazon rainforest spans nine countries in South America, with nearly 60% of it located in Brazil.
2. The Amazon is home to about 10% of all wildlife species on the planet.
3. The Amazon rainforest is often referred to as the “lungs of the planet” due to its role in producing oxygen and absorbing CO₂.
4. The total number of species in the Amazon rainforest is still unknown and is constantly being updated by conservation organizations.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1 and 2 only | C. 2, 3, and 4 only |
| B. 1, 2, and 3 only | D. All the four |

14. Consider the following statements about climate change:

1. Climate change is primarily caused by human activities, including the burning of fossil fuels, deforestation, and increased greenhouse gas emissions.
2. The consequences of climate change include rising global temperatures, melting glaciers, and an increase in extreme weather events.
3. Climate change is mainly caused by natural processes like volcanic eruptions and changes in the Earth’s orbit.
4. One major consequence of climate change is the loss of biodiversity and disruption of ecosystems.

Which of the statements given above is/are correct?

- | | |
|-----------------|---------------------|
| A. 1 and 2 only | C. 1, 2, and 4 only |
| B. 3 and 4 only | D. All the four |

15. Consider the following statements regarding deforestation and its impact:

1. Deforestation reduces the planet’s capacity to absorb CO₂, exacerbating the effects of climate change.
2. Industrialization, urbanization, and increased energy consumption are the primary causes of deforestation.
3. Deforestation can lead to a decrease in biodiversity, disrupting ecosystems and threatening wildlife species.
4. The primary consequence of deforestation is the loss of agricultural land for food production.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1, 2, and 3 only | C. 1, 3, and 4 only |
| B. 2, 3, and 4 only | D. All the four |

16. “Leaf litter decomposes faster than in any other biome and as a result the soil surface is often almost bare. Apart from trees, the vegetation is largely composed of plant forms that reach up into the canopy vicariously, by climbing the trees or growing as epiphytes, rooted on the upper branches of trees.” This is the most likely description of
- A. coniferous forest
B. dry deciduous forest
C. mangrove forest
D. tropical rain forest

4. Musk becomes first person to hit \$500 billion net worth, Forbes list

- Tesla CEO Elon Musk became the first person in history to achieve a net worth of nearly \$500 billion, propelled by a rebound in the EV company's shares and surging valuations of the tech entrepreneur's other startups.
- Mr. Musk's net worth stood at \$499.5 billion according to Forbes' billionaires index.
- Tesla stock has been driving the increase in Mr. Musk's net worth.
- The shares have risen more than 14% so far this year and climbed nearly 4% on October 1, 2025, adding more than \$7 billion to his net worth.
- The Tesla board last month proposed a \$1 trillion compensation plan for Mr. Musk, underscoring the hold he has over the carmaker as it attempts to transform into an AI and robotics powerhouse.
- Oracle founder Larry Ellison follows Mr. Musk as the second richest person on Forbes' list, with a net worth of about \$351.5 billion.

Hurun Rich List 2025: Mukesh Ambani beats Gautam Adani to reclaim India's richest throne with Rs. 9.55 lakh crore wealth

- Mukesh Ambani and family have wrested back the crown as India's richest, with a staggering net worth of Rs. 9.55 lakh crore, according to the 14th edition of the M3M Hurun India Rich List 2025, released by M3M India in collaboration with the Hurun Research Institute.
- Gautam Adani and family trail closely behind at Rs. 8.15 lakh crore, making this a clear two-horse race at the very top.
- Roshni Nadar Malhotra and family storm into the top three for the first time, with a wealth of Rs. 2.84 lakh crore, becoming India's richest woman.

JPMorgan Chase Builds World's First Fully AI-Powered Megabank

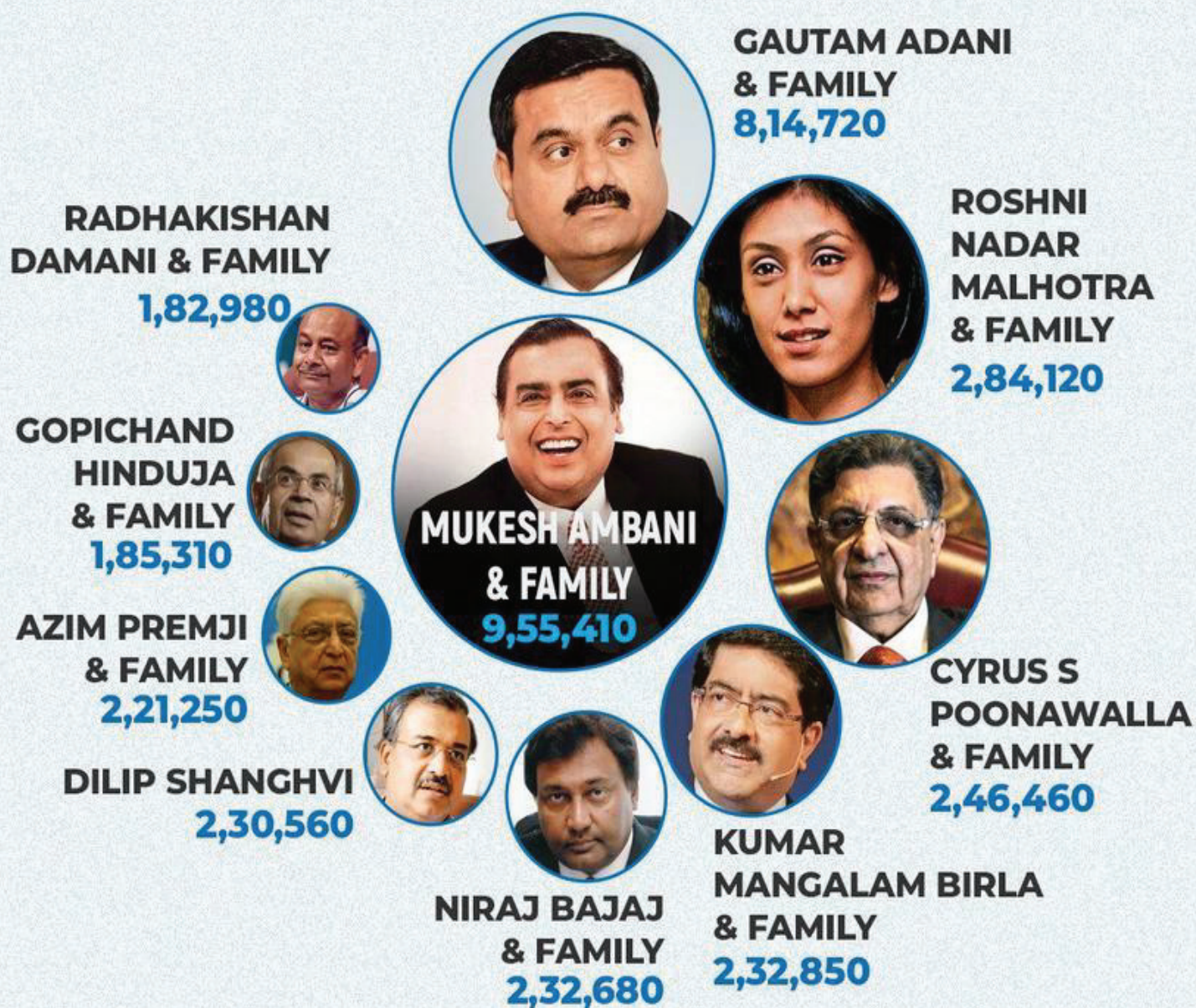
- In the heart of Wall Street, JPMorgan Chase & Co. is charting an ambitious course to redefine banking through artificial intelligence, positioning itself as the world's first fully AI-powered megabank.
- Under the leadership of CEO Jamie Dimon, the institution, already the largest by market capitalization, is undergoing what its executives describe as a fundamental rewiring of operations.
- This transformation aims to automate vast swaths of knowledge work, from fraud detection to personalized wealth advice, leveraging a custom-built large language model suite that integrates technologies from OpenAI and Anthropic.



HURUN INDIA RICH LIST 2025

TOP 10 RICHEST

Wealth (INR Cr)



- The blueprint, unveiled in recent announcements, involves embedding AI across every facet of the bank's sprawling operations, which span consumer banking, investment services, and global payments.
- With an annual technology budget exceeding \$15 billion, JPMorgan is pouring resources into AI agents that handle complex tasks, potentially displacing traditional roles while creating new opportunities in data science and AI oversight.

RBI constitutes Payments Regulatory Board headed by Governor

- The Reserve Bank of India (RBI) constituted the Payments Regulatory Board and appointed six-members to this board led by RBI Governor as Chairman.
- The Board is responsible for the regulation and supervision of all payment systems including electronic and non-electronic, domestic and cross-border systems.
- The other members include the Deputy Governor, RBI, in charge of Payment & Settlement Systems; Executive Director, RBI, in charge of Payment & Settlement Systems; Secretary Department of Financial Services; Secretary Ministry of Electronics and Information Technology and Aruna Sundararajan, IAS (Retd), the RBI said in a circular.
- The recent amendments to the Payment and Settlement Systems Act, 2007 came into effect from May 9, 2025. With the notification, the erstwhile Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), a committee of the Central Board of the RBI, has been replaced with the Payments Regulatory Board from May 9, 2025.

QUESTIONS

17. Consider the following statements about the Hurun India Rich List 2025:

1. Mukesh Ambani reclaimed the title of India's richest person, with a net worth of Rs. 9.55 lakh crore.
2. Gautam Adani ranked second on the list, with a net worth of Rs. 8.15 lakh crore.
3. Roshni Nadar Malhotra is India's richest woman, with a wealth of Rs. 2.84 lakh crore.
4. The Hurun India Rich List 2025 was released in collaboration with M3M India and the Hurun Research Institute.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1, 2, and 3 only | C. 2, 3, and 4 only |
| B. 1 and 2 only | D. All the four |

18. Consider the following statements about the Payments Regulatory Board (PRB) established by the RBI:

1. The Payments Regulatory Board was established to regulate and supervise all payment systems, including both electronic and non-electronic systems.
2. The Board is chaired by the RBI Governor, with members including the Deputy Governor, RBI, and executives from the Ministry of Electronics and Information Technology.
3. The PRB replaces the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), which was a committee of the Central Board of the RBI.
4. The PRB will also oversee the implementation of the Payments and Settlement Systems Act, 2007.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 3, and 4 only
- D. All the four

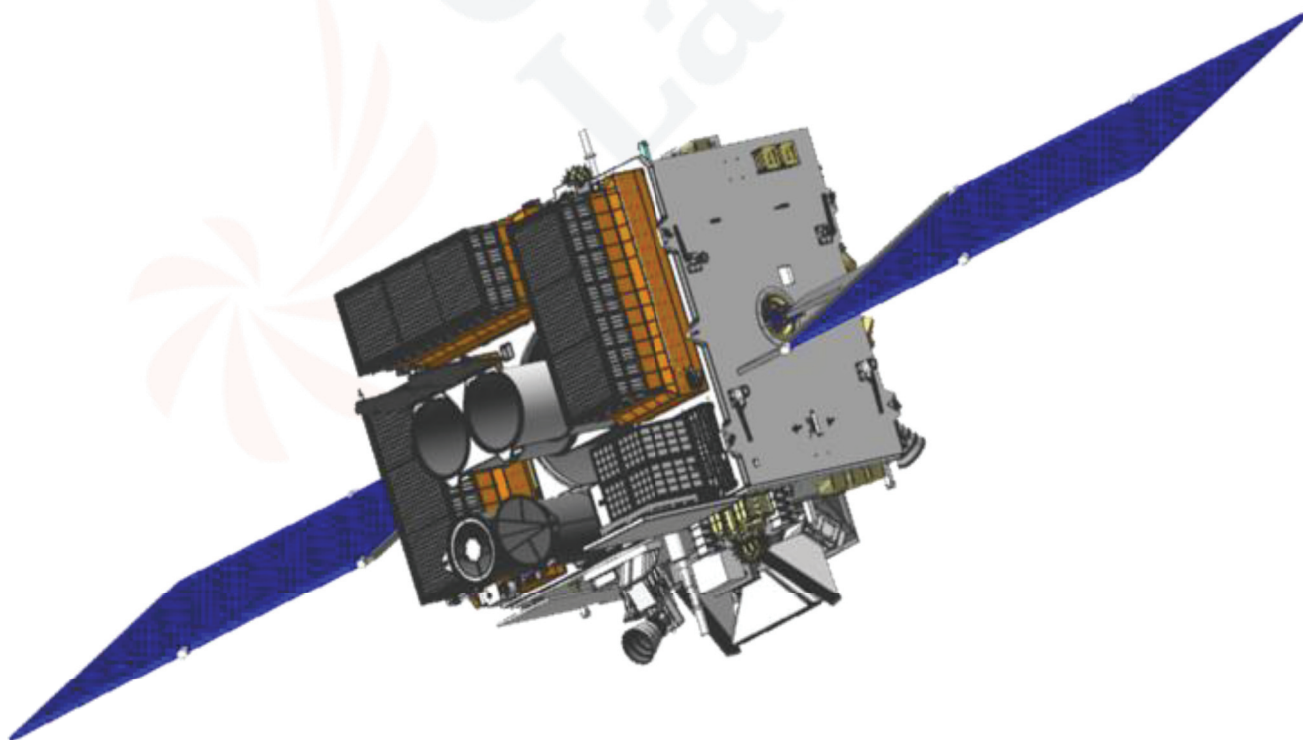
19. Consider the following statements about JPMorgan Chase's AI-powered megabank initiative:

1. JPMorgan Chase is developing the world's first fully AI-powered megabank, with a focus on automating vast portions of knowledge work.
2. The bank is working with OpenAI and Anthropic to build a custom large language model suite for this initiative.
3. JPMorgan Chase is spending an annual technology budget of over \$20 billion to integrate AI across its operations.
4. The project aims to automate tasks in areas such as fraud detection, personalized wealth advice, and global payments.

Which of the statements given above is/are correct?

- A. 1, 2, and 4 only
- B. 2, 3, and 4 only
- C. 1 and 4 only
- D. All the four

5. India's first space observatory AstroSat completes 10 years



- India's first dedicated Space Astronomy Observatory; AstroSat completed a decade of operations.
- Ten years ago, on September 28, 2015, the AstroSat was launched by PSLV-C30 (XL) rocket from Satish Dhawan Space Centre in Sriharikota with a mission life of five years.
- Though the designed mission life of AstroSat was five years it continues to provide valuable data.
- In the last decade, the multi wavelength space observatory with five payloads onboard has made major interesting discoveries.
- AstroSat, India's first multi wavelength astronomy observatory was launched by ISRO.
- From black holes to neutron stars, from the nearest star Proxima Centauri to first time detection of FUV photons from galaxies 9.3 billion light years away, AstroSat enabled groundbreaking insights across the electromagnetic spectrum from UV/Visible to high energy X-rays.

Five payloads

- AstroSat was designed to observe the universe in the Visible, Ultraviolet, low and high energy X-ray regions of the electromagnetic spectrum simultaneously with the help of its five payloads.
- The five scientific payloads onboard the satellite are Ultra Violet Imaging Telescope (UVIT), Large Area X-ray Proportional Counter (LAXPC), Cadmium–Zinc–Telluride Imager (CZTI), Soft X-ray Telescope (SXT) and Scanning Sky Monitor (SSM).
- Astrosat was realised by ISRO with the participation of all major astronomy institutions including Inter University Centre for Astronomy and Astrophysics (IUCAA) of Pune, Tata Institute of Fundamental Research (TIFR) at Mumbai, Indian Institute of Astrophysics (IIAP) and Raman Research Institute (RRI) of Bengaluru as well as some of the universities in India and two institutions from Canada and the UK.

Proxima Centauri

- Proxima Centauri is the closest known star to the Sun and part of the Alpha Centauri star system, which also includes Alpha Centauri A and Alpha Centauri B.
 - **Distance from Earth:** ~4.24 light-years (1.3 parsecs)
 - **Star Type:** Red dwarf (spectral type M5.5Ve)
 - **Mass:** ~12% of the Sun's mass
 - **Radius:** ~14% of the Sun's radius
 - **Luminosity:** ~0.17% of the Sun's luminosity — extremely dim
 - **Surface Temperature:** ~3,050 K (much cooler than the Sun)
 - **Location:** In the constellation Centaurus

Planets:

- Proxima Centauri has at least two confirmed exoplanets:

Proxima Centauri b

- Earth-sized planet
- Located in the habitable zone
- Orbits every 11.2 days
- May have surface temperatures allowing for liquid water, but...
- Subject to intense stellar flares from Proxima, which could strip its atmosphere

Proxima Centauri c

- A super-Earth or mini-Neptune
- Orbits farther out (~5.2 years)
- Likely too cold to be habitable
- There is also evidence for a third candidate planet (Proxima d), but it's still under investigation.

Interesting Features:

- Closest star to the Sun — making it a primary target in the search for life beyond our solar system.
- Flares frequently — which may impact any potential habitability of orbiting planets.
- Featured in several space exploration proposals, such as Breakthrough Starshot, a concept for sending laser-propelled nanocraft to visit the system.

QUESTIONS

20. Consider the following statements regarding India's first space observatory, AstroSat:

1. AstroSat was launched by ISRO in 2015 using the PSLV-C30 rocket from Sriharikota.
2. The designed mission life of AstroSat was five years, but it continues to provide valuable data beyond its intended lifespan.
3. AstroSat observes the universe across multiple wavelengths, including ultraviolet, visible, and X-ray regions.
4. The five payloads on AstroSat include instruments designed for observing only X-rays.

Which of the statements given above is/are correct?

- A. 1 and 2 only
B. 1, 2, and 3 only
C. 3 and 4 only
D. All the four

21. Consider the following statements about the five payloads of AstroSat:

1. The Ultra Violet Imaging Telescope (UVIT) is one of the five payloads aboard AstroSat.
2. The Scanning Sky Monitor (SSM) is designed to detect low-energy X-rays.
3. The Cadmium-Zinc-Telluride Imager (CZTI) is a part of AstroSat's payloads focused on high-energy X-ray regions.
4. The payloads of AstroSat were developed solely by ISRO without any collaboration with other institutions.

Which of the statements given above is/are correct?

- A. 1 and 3 only
B. 2, 3, and 4 only
C. 1, 3, and 4 only
D. All the four

22. With reference to 'Astrosat', the astronomical observatory launched by India, which of the following statements is/are correct?

1. Other than USA and Russia, India is the only country to have launched a similar observatory into space.

2. Astrosat is a 2000 kg satellite placed in an orbit at 1650 km above the surface of the Earth.

Select the correct answer using the code given below.

- A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

23. Consider the following statements regarding Proxima Centauri:

1. Proxima Centauri is the closest known star to the Sun, located about 4.24 light-years away.
2. Proxima Centauri is a red dwarf star with a surface temperature of around 5,000 K, which is hotter than the Sun.
3. Proxima Centauri b is an Earth-sized planet in the habitable zone, which may have conditions for liquid water.
4. Proxima Centauri c is a super-Earth or mini-Neptune located farther out and is likely too cold for habitability.

Which of the statements given above is/are correct?

- A. 1 and 3 only
B. 1, 3, and 4 only
C. 2 and 4 only
D. All the four

6. 2025 Asia Cup



- The 2025 Men's Asia Cup (also known as DP World Asia Cup for sponsorship reasons) was the 17th edition of the Asia Cup cricket tournament.
- It took place in the United Arab Emirates (UAE) from 9 to 28 September 2025.
- The matches were played in the Twenty20 International (T20I) format. India was the defending champions of 2023.
- The tournament featured eight teams. The five full members of the Asian Cricket Council, Afghanistan, Bangladesh, India, Pakistan, and Sri Lanka automatically qualified for the tournament and were joined by United Arab Emirates, Oman and Hong Kong, the teams which finished in the top three in the 2024 ACC Men's Premier Cup.
- In the final, India defeated Pakistan by 5 wickets to win their ninth title, and thus retained the title.
- The dates for the tournament were released in July 2024, with India initially set to act as host.
- However, following the Pahalgam attack in early 2025 and the subsequent escalation of political crisis and military conflict between India and Pakistan, concerns arose over the feasibility of hosting matches involving both nations in India.
- In July 2025, during the Asian Cricket Council's annual meeting in Dhaka, ACC chairman Mohsin Naqvi announced that the tournament would instead be held in the United Arab Emirates, with matches staged in Dubai and Abu Dhabi.
- The UAE was selected as a neutral venue due to its prior experience hosting high-profile multinational cricket tournaments under similar circumstances.
- The five full members of the Asian Cricket Council qualified automatically for the tournament.
- The United Arab Emirates, Oman and Hong Kong qualified following their top-three finish at the 2024 ACC Premier Cup.
- After India defeated Pakistan in the final by 5 wickets, the Indian team refused to accept the winning trophy from Asian Cricket Council president Mohsin Naqvi who also serves as Pakistan's Interior Minister and Chairman of the Pakistan Cricket Board.
- This led to a delay in handing out awards, and the team trophy was not formally presented on stage.

QUESTIONS

24. Consider the following statements regarding the 2025 Men's Asia Cup:

1. India was the defending champion of the 2023 Asia Cup and successfully retained their title by defeating Pakistan in the final.
2. The tournament took place from 9 to 28 September 2025, and matches were played in the T20I format.
3. The tournament featured eight teams, with India, Afghanistan, Bangladesh, Pakistan, and Sri Lanka automatically qualifying as full members of the Asian Cricket Council.
4. Due to security concerns, India was selected as the venue for the tournament, and the matches were held in multiple cities across the country.

Which of the statements given above is/are correct?

- | | |
|---------------------|-----------------|
| A. 1, 2, and 3 only | C. 1 and 2 only |
| B. 2, 3, and 4 only | D. All the four |

25. Consider the following statements regarding the 2025 Asia Cup:

1. The 2025 Asia Cup was initially set to be hosted by India, but it was moved to the UAE after security concerns following the Pahalgam attack.
2. The tournament was played in a 50-over format instead of the usual T20I format.
3. The final was played between India and Pakistan, where India won by 5 wickets.
4. The tournament was held in Dubai and Abu Dhabi due to the UAE's neutral status and experience in hosting multinational cricket tournaments.

Which of the statements given above is/are correct?

- | | |
|---------------------|-----------------|
| A. 1 and 3 only | C. 2 and 4 only |
| B. 1, 3, and 4 only | D. All the four |

26. Consider the following statements regarding the 2025 Asia Cup and the political climate surrounding the tournament:

1. The tournament was moved from India to the UAE due to the political crisis and military conflict between India and Pakistan following the Pahalgam attack.
2. The Asian Cricket Council's annual meeting in Dhaka confirmed that the tournament would be held in India despite the political situation.
3. The UAE was chosen as a neutral venue for the tournament due to its experience in hosting high-profile cricket tournaments.
4. The tournament saw the participation of eight teams, including the full members of the Asian Cricket Council and three teams that qualified through the 2024 ACC Men's Premier Cup.

Which of the statements given above is/are correct?

- | | |
|---------------------|-----------------|
| A. 1, 3, and 4 only | C. 1 and 4 only |
| B. 2, 3, and 4 only | D. All the four |

7. India Secures Second Deep-Sea Mineral Exploration Contract in Indian Ocean

India's Strategic Milestone

- India has become the first country in the world to hold two contracts for the exploration of Polymetallic Sulphides (PMS) in the international seabed, following the signing of a new agreement with the International Seabed Authority (ISA) in 2025.
- The latest contract grants India exclusive rights to explore a 10,000 sq km area in the Carlsberg Ridge of the Indian Ocean.
- This achievement gives India the largest PMS exploration area globally, reinforcing its position in deep-sea mining and maritime resource strategy.

The Role of NCPOR in Deep-Sea Exploration

- The National Centre for Polar and Ocean Research (NCPOR), based in Goa, will spearhead the exploration. Operations are scheduled to begin in 2026 with geophysical and hydrographic surveys.
- This project builds on India's prior PMS exploration efforts that began in 2016 under another ISA contract in different regions of the Indian Ocean. Over the past decade, NCPOR has gained critical expertise and infrastructure, thanks to India's Deep Ocean Mission, which supports scientific research, technology development, and resource mapping in the deep sea.

What Are Polymetallic Sulphides (PMS) and Why They Matter

- Polymetallic Sulphides are mineral-rich deposits found near hydrothermal vents on the ocean floor.
- These deposits are abundant in copper, zinc, lead, gold, silver, and trace elements like rare earth metals, which are vital for modern industries. India, with limited land-based reserves of such minerals, sees PMS as a strategic opportunity to boost resource security, especially for green energy technologies, electronics, and defense applications.
- The formation of PMS is linked to underwater volcanic activity. Seawater seeps through cracks on the ocean floor, interacts with hot magma, and is expelled back with dissolved minerals that later solidify as sulphide-rich deposits.

India's Three-Phased Exploration Strategy

- NCPOR's exploration plan for the Carlsberg Ridge is divided into three well-defined phases:
 - **Phase I:** Ship-based reconnaissance surveys to locate potential PMS-rich zones.
 - **Phase II:** Near-seabed investigations using Autonomous Underwater Vehicles (AUVs) and Remotely Operated Vehicles (ROVs) to confirm mineral presence.
 - **Phase III:** Comprehensive evaluation of PMS resources, including sampling and detailed mapping.
- Advanced tools, such as the under-development deep-sea vehicle Matsya, part of the Samudrayaan mission, will aid in navigating the rugged underwater terrain and collecting samples.

Strategic Importance of the Carlsberg Ridge

- The Carlsberg Ridge is a major mid-ocean ridge located much closer to India (near 2° N latitude) than previous exploration sites (near 26° S).
- It lies between the Indian and Somali Plates, and has been undergoing seafloor spreading for over 40 million years.
- Its slow-spreading nature, with a rate of 2.4–3.3 cm/year, creates rugged terrain ideal for hydrothermal vent systems, the prime locations for PMS deposits.
- India has a legacy of scientific research in the Carlsberg Ridge region, making it a natural choice for further exploration, both for its geological potential and strategic proximity.

Challenges in PMS Exploration

- Exploring PMS is significantly more difficult than other deep-sea mineral ventures.
- These deposits are found at depths of 2,000–5,000 meters in hard, rocky, and uneven terrain.
- Operations require highly specialised vessels equipped with dynamic positioning systems and advanced navigation tools.
- Furthermore, PMS exploration is multidisciplinary, involving marine geology, deep-sea technology, oceanography, and robotics. Surveys begin with ship-mounted sensors, followed by AUVs and ROVs for seabed sampling and mineral characterization.
- The complexity of the work demands precise planning, cutting-edge instruments, and a highly skilled scientific workforce.

ISA and the Legal Framework for Exploration

- The International Seabed Authority (ISA) operates under the United Nations Convention on the Law of the Sea (UNCLOS) and governs mineral exploration in international waters.
- Countries must submit a detailed application to secure exploration rights, including a work plan, environmental baseline, and proof of technical and financial capacity.
- The ISA's Legal and Technical Commission (LTC) evaluates applications, and if approved, forwards them to the ISA Council for final consent.
- India's successful bid for the Carlsberg Ridge license reflects its growing capability and credibility in the global seabed mining arena.

Future Plans: Expanding India's Deep-Sea Footprint

- India is actively pursuing additional mineral exploration sites as part of its broader Blue Economy vision.
- A major proposal under review involves exploring cobalt-rich ferromanganese crusts on the Afanasy-Nikitin Seamount in the Central Indian Ocean.
- These crusts are another key source of critical minerals, particularly cobalt, which is essential for battery technology and the energy transition.

QUESTIONS

27. Consider the following statements regarding India's deep-sea mineral exploration:

1. India has secured the world's first contract for polymetallic sulphides (PMS) exploration in the Indian Ocean.
2. The contract grants India the exclusive rights to explore a 10,000 sq km area in the Carlsberg Ridge of the Indian Ocean.
3. The National Centre for Polar and Ocean Research (NCPOR) will be in charge of this exploration, which will begin in 2025.
4. The exploration is divided into three phases: reconnaissance, near-seabed investigations, and comprehensive resource evaluation.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1, 2, and 4 only | C. 1, 3, and 4 only |
| B. 2 and 4 only | D. All the four |

28. Consider the following statements about polymetallic sulphides (PMS):

1. Polymetallic sulphides are mineral-rich deposits found near hydrothermal vents on the ocean floor.
2. PMS deposits are abundant in metals such as copper, zinc, lead, gold, and silver, essential for industries such as electronics and defense.
3. PMS formation occurs through underwater volcanic activity, where seawater interacts with hot magma and is expelled back with dissolved minerals.
4. PMS deposits are found only in the Indian Ocean, making them a rare resource in global deep-sea mining.

Which of the statements given above is/are correct?

- A. 1, 2, and 3 only
- B. 2 and 4 only
- C. 1, 3, and 4 only
- D. All the four

29. Consider the following statements about the Carlsberg Ridge:

1. The Carlsberg Ridge is located near 26° S latitude in the Indian Ocean and is known for its rich hydrothermal vent systems.
2. The ridge lies between the Indian and Somali Plates and has been undergoing seafloor spreading for over 40 million years.
3. The Carlsberg Ridge has a slow-spreading rate of 2.4–3.3 cm/year, making it ideal for PMS formation.
4. India has a strong legacy of scientific research in the Carlsberg Ridge, which was selected for the latest PMS exploration project.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2, 3, and 4 only
- C. 1, 3, and 4 only
- D. All the four

30. Consider the following statements regarding the challenges in polymetallic sulphides (PMS) exploration:

1. PMS exploration is easier than other deep-sea mineral ventures due to its shallow depths, making it less complex.
2. The deposits are located at depths of 2,000–5,000 meters, requiring specialized vessels with dynamic positioning systems for precise navigation.
3. PMS exploration involves multidisciplinary fields like marine geology, oceanography, robotics, and deep-sea technology.
4. Operations for PMS exploration are conducted using AUVs (Autonomous Underwater Vehicles) and ROVs (Remotely Operated Vehicles).

Which of the statements given above is/are correct?

- A. 1, 2, and 3 only
- B. 2, 3, and 4 only
- C. 1 and 4 only
- D. All the four

31. Consider the following statements about India's deep-sea exploration and the International Seabed Authority (ISA):

1. The International Seabed Authority (ISA) governs mineral exploration in international waters under the United Nations Convention on the Law of the Sea (UNCLOS).
2. India has secured exclusive exploration rights for a 10,000 sq km area in the Carlsberg Ridge as part of its second PMS contract.

3. The ISA requires countries to submit a detailed application with a work plan, environmental baseline, and proof of technical and financial capacity to secure exploration rights.
4. India's bid for the Carlsberg Ridge contract reflects its growing capability and credibility in the global seabed mining arena.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1, 2, and 4 only | C. 2, 3, and 4 only |
| B. 1, 3, and 4 only | D. All the four |

32. Consider the following statements:

1. The Global Ocean Commission grants licences for seabed exploration and mining in international waters.
2. India has received licences for seabed mineral exploration in international waters.
3. 'Rare earth minerals' are present on seafloor in the international waters.

Which of the statements given above are correct?

- | | |
|-----------------|-----------------|
| A. 1 and 2 only | C. 1 and 3 only |
| B. 2 and 3 only | D. 1, 2 and 3 |

8. Cabinet approves Rs. 11,440 crore mission to make India self-sufficient in pulses



- Union Cabinet Launches Rs. 11,440 Crore Mission to Achieve Self-Sufficiency in Pulses
- On October 1, 2025, the Union Cabinet, chaired by Prime Minister Narendra Modi, approved the “Mission for Aatmanirbharta in Pulses”, a six-year central scheme aimed at achieving self-sufficiency in pulse production. With a financial outlay of Rs. 11,440 crore, the scheme will be implemented from 2025-26 to 2030-31.

Key Objectives and Targets

- The mission focuses on increasing domestic production of key pulses — tur (pigeon pea), urad (black gram), and masur (lentils) — and reducing dependency on imports.
- The major targets include:
 - Pulses production to rise from 242 lakh tonnes (2023-24) to 350 lakh tonnes by 2030-31
 - Area under cultivation to expand from 242 lakh hectares to 310 lakh hectares
 - Yield to improve from 881 kg/ha to 1,130 kg/ha
 - Focus on Tur, Urad, and Masur with Assured Procurement
 - To instill confidence among farmers, the government will ensure 100% assured procurement of tur, urad, and masur for the next four years under the Price Support Scheme (PSS) of the PM-AASHA programme. Procurement will be carried out by Nafed and NCCF from farmers who register and sign agreements with these agencies.

Cluster-Based Implementation across 416 Districts

- The scheme will adopt a cluster-based approach, targeting 416 focused districts across India for tailored interventions. This model will allow region-specific strategies for improving productivity and increasing acreage.

Seed Distribution and Development Plan

- A strong emphasis is laid on ensuring availability and accessibility of high-quality seeds:
- 126 lakh quintals of certified seeds will be distributed to farmers, covering 370 lakh hectares by 2030-31.
- 88 lakh seed kits will be given free of cost, supporting an expansion of 35 lakh hectares, especially in rice fallow areas and through intercropping and crop diversification.
- States will develop rolling five-year seed production plans, with ICAR overseeing breeder seed production.
- All seed movement and quality will be tracked via the SATHI (Seed Authentication, Traceability & Holistic Inventory) portal.
- **Infrastructure Boost:** 1,000 New Units with Subsidy Support
 - The mission plans to establish 1,000 new packaging and processing units to reduce post-harvest losses and strengthen the value chain.
 - A maximum subsidy of Rs. 25 lakh will be provided for setting up each facility, promoting private participation and employment generation.

Adoption of Climate-Resilient and Pest-Resistant Varieties

- To improve productivity and resilience, the government will promote the development and dissemination of high-yielding, pest-resistant, and climate-resilient pulse varieties. Multi-location trials will be conducted to ensure regional adaptability of these improved strains.

Monitoring and Price Stability Mechanisms

- A dedicated mechanism will be developed to monitor global prices of pulses, helping the government respond proactively and ensure price stability in the domestic market, thereby safeguarding farmers' interests.

Capacity Building and Environmental Benefits

- The mission will include structured training programmes to upgrade farmers' knowledge in sustainable agriculture, modern technologies, and best practices. It is also expected to result in environmental benefits such as:
 - Improved soil health
 - Better use of fallow land
 - Promotion of climate-resilient agriculture

Expected Outcomes

The mission is designed to:

- Reduce import dependency and conserve foreign exchange
- Boost farmer incomes and productivity
- Generate employment across the agri-value chain
- Strengthen national food and nutritional security

QUESTIONS

33. Consider the following statements regarding the “Mission for Aatmanirbharta in Pulses”:

1. The mission aims to make India self-sufficient in pulse production and will be implemented from 2025-26 to 2030-31.
2. The main focus of the mission is on increasing the production of tur (pigeon pea), urad (black gram), and masur (lentils).
3. The mission is planned to be carried out in 100 districts across India.
4. The target is to increase pulse production from 242 lakh tonnes (2023-24) to 350 lakh tonnes by 2030-31.

Which of the statements given above is/are correct?

- A. 1, 2, and 4 only
B. 2 and 4 only
C. 1, 3, and 4 only
D. All the four

34. Consider the following statements regarding the implementation of the “Mission for Aatmanirbharta in Pulses”:

1. The scheme will adopt a cluster-based approach, targeting 416 districts for region-specific interventions.
2. The mission will provide free seed kits to farmers, with a total of 88 lakh seed kits distributed.

3. The mission focuses on expanding the area under cultivation from 242 lakh hectares to 350 lakh hectares by 2030-31.
4. The government will ensure 100% assured procurement of tur, urad, and masur for the next four years under the Price Support Scheme.

Which of the statements given above is/are correct?

- | | |
|---------------------|---------------------|
| A. 1, 2, and 4 only | C. 1, 2, and 3 only |
| B. 2 and 4 only | D. All the four |

35. Consider the following statements regarding the financial and infrastructure aspects of the “Mission for Aatmanirbharta in Pulses”:

1. The mission includes the establishment of 1,000 new packaging and processing units across the country.
2. A maximum subsidy of Rs. 50 lakh will be provided for setting up each packaging unit.
3. The mission plans to distribute 126 lakh quintals of certified seeds to farmers.
4. The mission has allocated Rs. 11,440 crore over six years for its implementation.

Which of the statements given above is/are correct?

- | | |
|-----------------|---------------------|
| A. 1 and 4 only | C. 1, 3, and 4 only |
| B. 2 and 3 only | D. All the four |

36. Consider the following statements regarding the environmental and capacity-building aspects of the “Mission for Aatmanirbharta in Pulses”:

1. The mission will include structured training programmes for farmers in sustainable agriculture and modern technologies.
2. The mission is expected to lead to improved soil health and better use of fallow land.
3. The mission will focus only on increasing the area under cultivation and not on increasing the yield per hectare.
4. The mission will have an environmental benefit by promoting climate-resilient agriculture practices.

Which of the statements given above is/are correct?

- | | |
|---------------------|-----------------|
| A. 1, 2, and 4 only | C. 1 and 4 only |
| B. 2 and 3 only | D. All the four |

37. With reference to pulse production in India, consider the following statements:

1. Black gram can be cultivated as both kharif and rabi crop.
2. Green-gram alone accounts for nearly half of pulse production.

3. In the last three decades, while the production of kharif pulses has increased, the production of rabi pulses has decreased.

Which of the statements given above is/are correct?

- A. 1 only
B. 2 and 3 only
C. 2 only
D. 1, 2 and 3

38. Consider the following crops:

1. Cotton
2. Groundnut
3. Rice
4. Wheat

Which of these are Kharif crops?

- A. 1 and 4
B. 2 and 3 only
C. 1, 2 and 3 only
D. 2, 3 and 4

ANSWER KEY AND EXPLANATION

1. C 1, 2, 3, and 4

- **Statement 1** is correct; the Cold Desert Biosphere Reserve was indeed declared in 2009 and is India's first high-altitude cold desert biosphere reserve.
- **Statement 2** is correct; it was included in the UNESCO World Network of Biosphere Reserves in 2025.
- **Statement 3** is correct; it includes areas like Pin Valley National Park and Kibber Wildlife Sanctuary.
- **Statement 4** is correct; it is home to endangered species like the snow leopard and Himalayan wolf.

2. A 1, 2, and 3 only

- **Statement 1** is correct as both Gokul Jalashay and Udaipur Jheel were designated as Ramsar sites in 2025.
- **Statement 2** is correct as India's Ramsar sites have risen to 93, covering over 13.6 million hectares.
- **Statement 3** is correct as Ramsar sites help in biodiversity conservation and climate resilience.
- **Statement 4** is incorrect; while India ranks high, it is third globally after the UK (176 sites) and Mexico (144 sites).

3. B All the four

- **Statement 1** is correct as the WNBR operates under UNESCO's Man and the Biosphere Programme.
- **Statement 2** is correct; the WNBR includes over 700 biosphere reserves in 142 countries.
- **Statement 3** is correct as it promotes sustainable development, biodiversity conservation, and research.
- **Statement 4** is correct; since 2018, over 1 million sq km has been brought under protection through WNBR.

4. D All the four

- **Statement 1** is correct as the Ramsar Convention was signed in 1971 in Ramsar, Iran.
- **Statement 2** is correct as the convention promotes conservation and sustainable use of wetlands.
- **Statement 3** is correct; India joined the Ramsar Convention in 1982.
- **Statement 4** is correct; India has wetlands like Keoladeo National Park and Loktak Lake listed in the Montreux Record due to their deteriorating ecological conditions.

5. C 1 and 3 only.

- **Statement 1: Correct: National Parks** are indeed established through **legislation**, usually by an Act of Parliament or State Legislature. The boundaries of National Parks are legally defined and cannot be altered easily, making them strictly protected areas. The process includes a formal notification and legal recognition. Thus, **Statement 1 is correct**.
- **Statement 2: Incorrect: A Biosphere Reserve** is not intended to conserve just a few specific species. Its primary goal is the **conservation of biodiversity** as a whole, including the ecosystem,

species, and genetic diversity. Biosphere Reserves aim to maintain a balance between **conservation of natural resources** and **sustainable development**, involving entire landscapes and multiple species. Therefore, **Statement 2 is incorrect**.

- **Statement 3:** In a **Wildlife Sanctuary**, some forms of **biotic interference** (like regulated grazing, collection of forest products, or community-based activities) are **permitted** as long as they don't threaten the wildlife or the habitat. This is in contrast to National Parks, where such interference is typically prohibited. The idea is to allow human activities in a controlled and sustainable manner. Thus, **Statement 3 is correct**.

6. A 1 only

- **Nokrek Biosphere Reserve – Garo Hills:**

Correct: Nokrek Biosphere Reserve is located in the **Garo Hills** of Meghalaya. This biosphere reserve is known for its rich biodiversity and is home to various species, including the **Red Panda** and **Hoolock Gibbons**. Thus, **Pair 1 is correctly matched**.

- **Loktak Lake – Barail Range:**

Incorrect: Loktak Lake is located in **Manipur**, specifically near **Moirang**, not in the **Barail Range**. The Barail Range is situated along the border between **Assam** and **Nagaland**, whereas Loktak Lake is in the **Imphal Valley** of **Manipur**. Thus, **Pair 2 is incorrectly matched**.

- **Namdapha National Park – Dafla Hills:**

Incorrect: Namdapha National Park is located in the **Dibrugarh District of Assam**, but the park is situated on the **Mishmi Hills**, not the **Dafla Hills**. The Dafla Hills are located in western **Arunachal Pradesh**, near the **Assam** border, whereas Namdapha is situated in the **eastern part of Arunachal Pradesh**, near the **Mishmi Hills**. Thus, **Pair 3 is incorrectly matched**.

7. B 2, 3, and 4 only

- **Statement 1** is incorrect. The “drone wall” is not a physical wall but a network of advanced technologies.
- **Statement 2** is correct. The “drone wall” aims to detect, track, and neutralize drones using radar, jammers, and sensors.
- **Statement 3** is correct. The concept was introduced by Ursula von der Leyen in her State of the Union address.
- **Statement 4** is correct. The EU aims to counter Russian drones economically by using cost-effective technologies, as Russian drones are cheap and expendable.

8. A 1, 2, and 3 only

- **Statement 1** is correct as the Drone Rule 2021 removes the need for security clearance before drone registration.
- **Statement 2** is correct; the rules now cover drones up to 500 kg, which includes drone taxis.
- **Statement 3** is correct; the Digital Sky Platform supports drone operations and minimizes human interference.
- **Statement 4** is incorrect; airworthiness certificates are only required for larger drones, and the issuance has been delegated to the Indian Quality Council.

9. C 1, 3, and 4 only

- **Statement 1** is correct as drones can be operated remotely or autonomously.
- **Statement 2** is incorrect as micro drones have limited AI capabilities and are not typically used for military surveillance.
- **Statement 3** is correct. Medium UAVs are versatile and used for various applications such as aerial photography.
- **Statement 4** is correct. Large UAVs are designed for long-endurance missions and carry heavier payloads.

10. B 2, 3, and 4 only

- **Statement 1** is incorrect. The “drone wall” is not a physical wall but a technological network.
- **Statement 2** is correct. The initiative will use radar systems, jammers, and sensors for surveillance.
- **Statement 3** is correct. The project is inspired by Ukraine’s use of drones in warfare.
- **Statement 4** is correct. The project also focuses on improving maritime and space-based surveillance.

11. C 1, 3, and 4 only

- **Statement 1** is correct as micro and nano UAVs are primarily used for intelligence gathering, with limited military applications.
- **Statement 2** is incorrect; small UAVs are used for various civilian applications, including aerial photography, but not typically for military surveillance.
- **Statement 3** is correct. Medium UAVs are capable of carrying heavier payloads for longer endurance missions.
- **Statement 4** is correct. Large UAVs are used for surveillance and transporting heavy payloads.

12. A 1, 2, and 3 only

- **Statement 1** is correct; the size of trees in the Amazon has been increasing due to rising CO₂ levels.
- **Statement 2** is correct; trees are increasing in size by about 3.3% every decade.
- **Statement 3** is correct; the rise in CO₂ leads to enhanced photosynthesis, promoting tree growth.
- **Statement 4** is incorrect because larger trees can absorb more carbon, making this effect significant in terms of carbon sequestration.

13. D All the four

- **Statement 1** is correct. The Amazon spans nine countries, with Brazil hosting the majority.
- **Statement 2** is correct. The Amazon is home to approximately 10% of all known wildlife species.
- **Statement 3** is correct. The Amazon is often called the “lungs of the planet” for its vital role in carbon absorption and oxygen production.
- **Statement 4** is correct. New species are continually being discovered, adding to the list of known species in the Amazon.

14. C 1, 2, and 4 only

- **Statement 1** is correct. Climate change is primarily driven by human activities, such as burning fossil fuels and deforestation.
- **Statement 2** is correct. Rising temperatures and extreme weather events are clear consequences of climate change.
- **Statement 3** is incorrect. While natural processes can influence climate, the rapid changes observed are largely caused by human activities.
- **Statement 4** is correct. Climate change leads to the loss of biodiversity and disrupts ecosystems.

15. A 1, 2, and 3 only

- **Statement 1** is correct. Deforestation reduces the Earth's ability to absorb CO₂, which contributes to climate change.
- **Statement 2** is correct. Industrialization, urbanization, and energy consumption are key drivers of deforestation.
- **Statement 3** is correct. Deforestation leads to a loss of biodiversity, disrupting ecosystems and threatening species.
- **Statement 4** is incorrect. While deforestation may impact agriculture, it is not the primary consequence; the main issues include climate change and biodiversity loss.

16. D tropical rain forest

Tropical rainforests fit the description perfectly. They have rapid decomposition due to constant warmth and humidity, leading to bare soil in many places. The dense canopy hosts a variety of climbing plants (vines, lianas) and epiphytes, which are crucial for reaching sunlight in the dense environment of the forest.

17. D All the four

- **Statement 1** is correct; Ambani reclaimed the title with a wealth of Rs. 9.55 lakh crore.
- **Statement 2** is correct; Adani ranks second with Rs. 8.15 lakh crore.
- **Statement 3** is correct; Roshni Nadar is the richest woman in India with Rs. 2.84 lakh crore.
- **Statement 4** is correct; the list was released by M3M India and the Hurun Research Institute.

18. D All the four

- **Statement 1** is correct; the PRB regulates and supervises all payment systems, both electronic and non-electronic.
- **Statement 2** is correct; the PRB is chaired by the RBI Governor, and members include relevant stakeholders from RBI and the Ministry of Electronics and IT.
- **Statement 3** is correct; the PRB replaces the BPSS committee.
- **Statement 4** is correct; the PRB oversees the implementation of the Payment and Settlement Systems Act, 2007.

19. A 1, 2, and 4 only

- **Statement 1** is correct; JPMorgan Chase is creating the first fully AI-powered megabank, automating large portions of knowledge work.

- **Statement 2** is correct; JPMorgan Chase is collaborating with OpenAI and Anthropic for the AI project.
- **Statement 3** is incorrect; JPMorgan Chase has an annual technology budget of \$15 billion, not \$20 billion.
- **Statement 4** is correct; the AI integration will focus on areas like fraud detection, wealth advice, and payments.

20. B 1, 2, and 3 only

- **Statement 1** is correct; AstroSat was indeed launched in 2015 using the PSLV-C30 rocket from Sriharikota.
- **Statement 2** is correct; although its designed mission life was five years, AstroSat has continued to provide valuable data.
- **Statement 3** is correct; AstroSat observes the universe in the ultraviolet, visible, and X-ray regions.
- **Statement 4** is incorrect; AstroSat's five payloads are designed to observe across multiple regions of the electromagnetic spectrum, not just X-rays.

21. A 1 and 3 only

- **Statement 1** is correct; UVIT is one of the payloads that observes ultraviolet radiation.
- **Statement 2** is incorrect; the Scanning Sky Monitor (SSM) is used to detect high-energy X-rays, not low-energy ones.
- **Statement 3** is correct; the CZTI is focused on high-energy X-ray regions.
- **Statement 4** is incorrect; the development of AstroSat's payloads involved collaboration with several institutions, including IUCAA, TIFR, and institutions from Canada and the UK.

22. D Neither 1 nor 2

- **Statement 1: "Other than USA and Russia, India is the only country to have launched a similar observatory into space."**

Incorrect: While India is indeed the only country after the USA and Russia to launch a dedicated space observatory, it is not the **only** country; **Japan** also has a similar space observatory (Suzaku), which makes this statement incorrect.

- **Statement 2: "Astrosat is a 2000 kg satellite placed in an orbit at 1650 km above the surface of the Earth."**

Incorrect: Astrosat has a lift-off mass of around **1513 kg**, not 2000 kg, and it was placed in a **650 km** orbit (not 1650 km).

23. B 1, 3, and 4 only

- **Statement 1** is correct; Proxima Centauri is indeed the closest star to the Sun at a distance of about 4.24 light-years.
- **Statement 2** is incorrect; Proxima Centauri is a red dwarf star with a surface temperature of about 3,050 K, which is cooler than the Sun.
- **Statement 3** is correct; Proxima Centauri b is an Earth-sized planet in the habitable zone, potentially allowing for liquid water.
- **Statement 4** is correct; Proxima Centauri c is a super-Earth and is too cold for habitability.

24. A 1, 2, and 3 only

- **Statement 1** is correct; India successfully defended their title by defeating Pakistan.
- **Statement 2** is correct; the tournament took place from 9 to 28 September 2025 in the T20I format.
- **Statement 3** is correct; the five full members of the ACC (India, Afghanistan, Bangladesh, Pakistan, Sri Lanka) qualified automatically, and three other teams (UAE, Oman, Hong Kong) qualified through the 2024 ACC Premier Cup.
- **Statement 4** is incorrect; due to political and security concerns between India and Pakistan, the tournament was held in the UAE instead of India.

25. B 1, 3, and 4 only

- **Statement 1** is correct; the tournament was initially set to be held in India, but it was moved to the UAE after concerns over the feasibility of hosting matches involving both India and Pakistan due to the Pahalgam attack.
- **Statement 2** is incorrect; the tournament was played in the T20I format, not 50 overs.
- **Statement 3** is correct; India won the final by 5 wickets against Pakistan.
- **Statement 4** is correct; the UAE was chosen as the neutral venue due to its prior experience in hosting multinational cricket events.

26. A 1, 3, and 4 only

- **Statement 1** is correct; the tournament was moved due to the political situation after the Pahalgam attack.
- **Statement 2** is incorrect; the tournament was moved to the UAE after concerns over hosting matches involving both India and Pakistan.
- **Statement 3** is correct; the UAE was selected due to its neutrality and experience in hosting multinational cricket events.
- **Statement 4** is correct; the tournament involved eight teams, including the full members of the ACC and three teams that qualified through the 2024 ACC Premier Cup.

27. A 1, 2, and 4 only

- **Statement 1** is incorrect; India has become the first country to hold two contracts for PMS exploration, not the first to secure a contract for PMS exploration.
- **Statement 2** is correct; the contract grants India exclusive exploration rights for a 10,000 sq km area in the Carlsberg Ridge.
- **Statement 3** is incorrect; the exploration will begin in 2026, not 2025.
- **Statement 4** is correct; the exploration is divided into three phases: reconnaissance, near-seabed investigations, and resource evaluation.

28. A 1, 2, and 3 only

- **Statement 1** is correct; PMS deposits are found near hydrothermal vents on the ocean floor.
- **Statement 2** is correct; PMS deposits are rich in important metals like copper, zinc, and gold.
- **Statement 3** is correct; PMS forms due to the interaction of seawater with hot magma.
- **Statement 4** is incorrect; PMS deposits are not exclusive to the Indian Ocean, they are found in other parts of the world's oceans as well.

29. B 2, 3, and 4 only

- **Statement 1** is incorrect; the Carlsberg Ridge is located near 2° N latitude, not 26° S.
- **Statement 2** is correct; it lies between the Indian and Somali Plates and has been spreading for over 40 million years.
- **Statement 3** is correct; its slow-spreading rate makes it an ideal site for PMS formation.
- **Statement 4** is correct; India has conducted significant research in the region.

30. B 2, 3, and 4 only

- **Statement 1** is incorrect; PMS exploration is significantly more challenging due to the great depths and difficult underwater terrain.
- **Statement 2** is correct; PMS deposits are found at depths of 2,000–5,000 meters, requiring specialized equipment.
- **Statement 3** is correct; the exploration is multidisciplinary, involving marine geology, robotics, and other fields.
- **Statement 4** is correct; AUVs and ROVs are used in the exploration for seabed sampling and mineral characterization.

31. D All the four

- **Statement 1** is correct; the ISA operates under UNCLOS and regulates mineral exploration in international waters.
- **Statement 2** is correct; India secured exclusive rights to explore the Carlsberg Ridge for PMS.
- **Statement 3** is correct; countries must submit a detailed application with the required documents to the ISA.
- **Statement 4** is correct; India's successful bid for the Carlsberg Ridge contract showcases its expertise in seabed mining.

32. B 2 and 3 only

- **Statement 1: "The Global Ocean Commission grants licences for seabed exploration and mining in international waters."**

Incorrect: The **Global Ocean Commission** is not responsible for granting licences for seabed exploration and mining in international waters. The **International Seabed Authority (ISA)** is the organization that grants exploration and exploitation licences for seabed resources, under the United Nations Convention on the Law of the Sea (UNCLOS). Therefore, this statement is **incorrect**.

- **Statement 2: "India has received licences for seabed mineral exploration in international waters."**

Correct: India has indeed received **exclusive rights** for seabed exploration in international waters. In 1987, India was the **first country** to be designated as a "Pioneer Investor" and was allocated about **1.5 lakh square km** in the **Central Indian Ocean Basin (CIOB)** for polymetallic nodule exploration. These rights have been **extended** for an additional five years. India has exclusive rights to explore **polymetallic nodules** in the CIOB, which is a significant achievement in seabed exploration.

- **Statement 3:** “‘Rare earth minerals’ are present on seafloor in the international waters.”

Correct: Rare earth minerals are indeed found on the seafloor in **international waters**. These minerals, including various elements like **lanthanides**, are critical for modern technology (*e.g.*, electronics, renewable energy technologies). For example, a significant **rare earth deposit** has been discovered in the **Pacific Ocean** off the coast of Japan, further emphasizing the potential of these seabed resources.

33. A 1, 2, and 4 only

- **Statement 1** is correct; the mission will be implemented from 2025-26 to 2030-31 with a financial outlay of Rs. 11,440 crore.
- **Statement 2** is correct; tur, urad, and masur are the main pulses targeted for increased production.
- **Statement 3** is incorrect; the mission focuses on 416 districts, not 100 districts.
- **Statement 4** is correct; the target is to increase pulse production to 350 lakh tonnes by 2030-31.

34. A 1, 2, and 4 only

- **Statement 1** is correct; the mission adopts a cluster-based approach, focusing on 416 districts.
- **Statement 2** is correct; 88 lakh seed kits will be given free of cost to farmers.
- **Statement 3** is incorrect; the area under cultivation will increase from 242 lakh hectares to 310 lakh hectares, not 350 lakh hectares. The yield per hectare will increase from 881 kg/ha to 1,130 kg/ha, not remain the same. The mission promotes climate-resilient and pest-resistant varieties to improve productivity.
- **Statement 4** is correct; 100% assured procurement will be provided for tur, urad, and masur.

35. C 1, 3, and 4 only

- **Statement 1** is correct; 1,000 new packaging and processing units will be established.
- **Statement 2** is incorrect; the subsidy for setting up each unit is Rs. 25 lakh, not Rs. 50 lakh.
- **Statement 3** is correct; 126 lakh quintals of certified seeds will be distributed to farmers.
- **Statement 4** is correct; Rs. 11,440 crore has been allocated for the mission’s implementation.

36. A 1, 2, and 4 only

- **Statement 1** is correct; the mission includes structured training programmes for farmers in modern technologies and sustainable agriculture.
- **Statement 2** is correct; the mission will lead to improved soil health and better use of fallow land.
- **Statement 3** is incorrect; the mission aims to increase both the area under cultivation and the yield per hectare.
- **Statement 4** is correct; the mission aims to promote climate-resilient agriculture practices.

37. A 1 only

- **Statement 1:**

Correct: Black gram (Urad) is indeed grown in both the **kharif** and **rabi** seasons in India.

- **Kharif:** Black gram is generally sown with the onset of the monsoon (June–July) and harvested in September–October.

- **Rabi:** Black gram can also be cultivated during the rabi season, usually from October to March, in regions with irrigation facilities.
- **Statement 2:** “Green-gram alone accounts for nearly half of pulse production.”
Incorrect: While green gram (moong) is an important pulse in India, it **does not account for nearly half** of the total pulse production. It is one of the key pulses, but other pulses like **pigeon pea (tur)**, **black gram (urad)**, and **lentils (masur)** also contribute significantly to the total pulse production.
 - **Green gram** (moong) contributes around **12-15%** of India’s total pulse production, not half. Thus, **Statement 2 is incorrect.**
- **Statement 3:**
Incorrect: The assertion that kharif pulse production increased while rabi pulse production decreased over the last three decades is incorrect. In fact, both kharif (*e.g.*, Tur) and rabi (*e.g.*, Gram, Masoor) pulse production have generally increased in India, driven by factors such as improved technology, enhanced government support, and increased areas under cultivation, although growth rates can vary between seasons and crops. Thus, **Statement 3 is incorrect.**

38. C 1, 2 and 3 only

- **Cotton:**
Kharif Crop: Cotton is a **Kharif crop**, as it is sown during the monsoon season (June-July) and harvested in October-November.
- **Groundnut:**
Kharif Crop: Groundnut (peanut) is also a **Kharif crop**, as it is sown in the monsoon season and harvested before the onset of winter.
- **Rice:**
Kharif Crop: Rice is a classic **Kharif crop**, grown in the monsoon season with abundant water requirements, and harvested at the end of the monsoon in **October-November**.
- **Wheat:**
Rabi Crop: Wheat is a **Rabi crop**, which is sown in **October-November** and harvested in **March-April**, requiring cooler temperatures for growth.

Thus, the correct answer is: [1, 2 and 3].