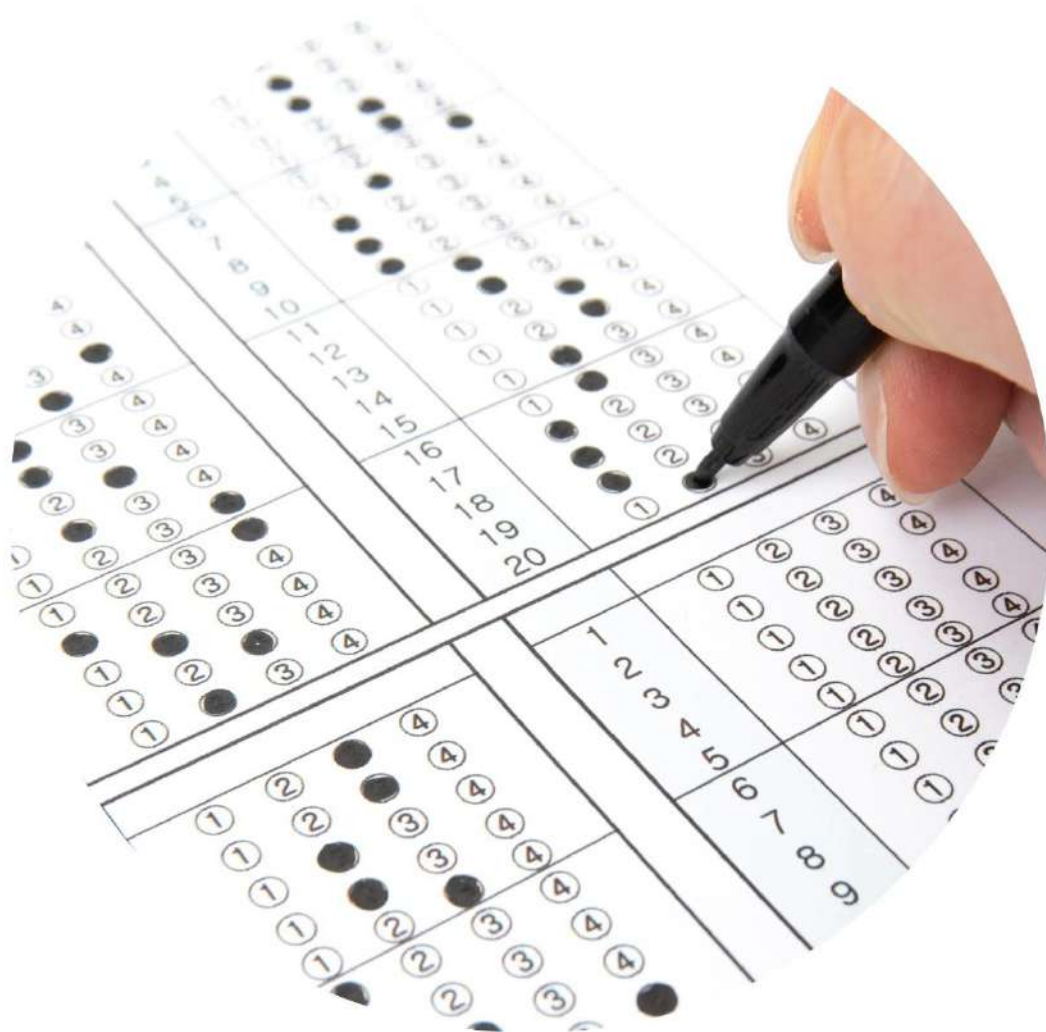




# IAS PARLIAMENT

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# MONTHLY PRESTORMING

**MARCH  
2024**

A compilation of Prelims MCQs with solutions  
from Current Affairs of the month



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## MONTHLY PRESTORMING

MARCH 2024

01-03-2024

1) Consider the following statements with respect to Very Short-Range Air Defence System (VSHORADS) Missile

1. It is a Man Portable Air Defence System (MANPAD) developed by India in collaboration with Israel.
2. It is designed to destroy hostile aircraft, drones and helicopters with a range up to 60 km.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Consider the following statements with respect to Pey Jal Survekshan Awards

1. It is a component under Jal Shakti Abhiyan.
2. It is an initiative of the Ministry of Jal Sakhti.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to Planum Boreum

1. They are the layers that can be found in the north pole of the earth.
2. It is a mix of dust, water ice and frost settled on the ground over time.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2

d. Neither 1 nor 2

4) Consider the following statements with respect to Hydrogen Fuel Cells

1. It generates electricity by utilising the chemical energy contained in hydrogen and releases only pure water.
2. Proton exchange membrane (PEM) fuel cell is a type of Hydrogen Fuel Cells.
3. The hydrogen fuel cell-powered vessels generate zero emission and zero noise.

How many of the statement(s) given above is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following passage:

It can be commonly spotted in the Himalayan region and east and central Asia. It is known as the "Rice Bird" in China due to its habit of wintering in rice fields. It has been categorised as a critically endangered species by the IUCN Red list.

The above passage best describes which of the following birds?

- a. Chinese Grouse
- b. Himalayan Quail
- c. Yellow-Breasted Bunting
- d. Asian Koel

### Answers

1. d

**Very Short-Range Air Defence System (VSHORADS) Missile**

*Recently the DRDO conducted two successful flight tests of Very Short-Range Air Defence System*

(VSHORADS) missiles off the coast of Odisha from integrated test range.

- VSHORADS - Very Short-Range Air Defence System.
- The VSHORADS is a Man Portable Air Defence System (MANPAD) indigenously developed by **Research Centre Imarat (RCI)** in collaboration with other DRDO laboratories and other industry partners.
- It is designed to destroy hostile aircraft, drones and helicopters at very short ranges.
- The design of the missile including launcher has been highly optimized to ensure easy portability.
- **The range of the missile is upto 6km.**
- The missile incorporates many novel technologies including *miniaturised Reaction Control System (RCS)* and integrated avionics.
- A **reaction control system (RCS)** is a spacecraft system that uses thrusters to control attitude and translation. It can also provide torque to control rotation.
- **Research Centre Imarat (RCI)** is a premier laboratory of Dr APJ Abdul Kalam Missile Complex, DRDO spearheading R&D in a wide range of Avionics Systems for diversified defence and aerospace applications.

2. d

### Pey Jal Survekshan Awards

President Droupadi Murmu is all set to present the 1st Pey Jal Survekshan Awards to cities and States for their excellence in the Water sector.

- Pey Jal Survekshan (PJS) is part of [AMRUT 2.0 mission](#) and aims to evaluate the service level achievements for the following:
  - Quality, quantity, and coverage of water supply,
  - Sewerage and septage management,
  - Extent of reusing and recycling of wastewater and
  - The conservation of water bodies within the city.
- This initiative also **aims to foster a healthy competition among cities** and serve as a **monitoring tool and catalyst for the AMRUT mission's progress.**

- The 1st edition of awards focuses on the provision of water-linked services and covers all 485 AMRUT cities.
- **It is an initiative of the Ministry of Housing & Urban Affairs (MoHUA).**
- The the **criteria** for assessing the cities include:
  - Access and Coverage (tap connection at Household level),
  - Water Quality of samples at household & water treatment plants,
  - Performance on Sustainability Parameters which includes:
    - Health of water bodies,
    - Availability of SCADA (Supervisory Control and Data Acquisition) & Flowmeters,
    - Water quality of samples taken from STPs and
    - Extent of reuse of treated used water.
- **Award categories** – Pey Jal Gold, Silver, and Bronze City Awards.
- Gold signifies top performers in their population categories, Silver denotes the 2nd position, and Bronze the 3rd.
- The awards extend to commendations for Best Water Body, Sustainability Champion, Reuse Champion, Water Quality, City Saturation, and the coveted AMRUT 2.0 Rotating Trophy of the Year.
- **Special awards** are being given to cities for good quality water bodies, reuse of treated used water and pioneers in sustainable water use. Certificates for appreciation.

3.b

### Planum Boreum

Recently Mars Express, a European space craft captured massive dunes colliding with several layers of dusty ice covering the north pole of Mars.

- The North Pole of the Mars is covered in layers and layers of fine dust and water ice that are several kilometers thick and stretch out for around 1000 kilometers.
- **The North Pole of Mars is known as Planum Boreum formed as a mix of dust, water ice and frost settled on the Martian ground over time.**



- In Martian winter, the layers are topped by a thin cap of dry ice (carbon dioxide ice) a couple of meters thick.
- This cap completely disappears into the atmosphere each Martian summer.
- **Mars Express** of European space agency (ESA) has been orbiting the Red Planet since 2003.
- It is imaging Mars's surface, mapping its minerals, identifying the composition and circulation of its tenuous atmosphere, probing beneath its crust.

4. d

### Hydrogen Fuel Cells

*Recently Prime Minister Narendra Modi launched the indigenously built hydrogen-powered ferry will be deployed for service in Varanasi.*

- A hydrogen fuel cell generates electricity by utilizing the chemical energy contained in hydrogen.
- It releases **only pure water**, not discharging pollutants. Hydrogen is loaded into cells.
- The energy within the hydrogen is converted into electricity and heat, which is then used to power the vessel's propulsion mechanism.
- In the fuel cell, the hydrogen reacts with the oxygen in the air to produce electricity.
- Unlike batteries, hydrogen fuel cells do not require recharging and keep generating electricity as long as they have hydrogen and oxygen.
- **Hydrogen-powered ferry/ vessel** – *The hydrogen fuel cell-powered vessel has zero emission, zero noise and is energy-efficient, which makes it more environment-friendly.*
- Since there are no moving parts, the ferry requires less maintenance than combustion vessels.
- The vessel is a 24-meter-long catamaran, which can carry 50 people in its air-conditioned passenger area.
- Hydrogen fuel cell vessels do not use conventional batteries as the primary storage house of electrical energy.
- This vessel uses a 50-kW PEM (proton-exchange membrane) fuel cell, with Lithium-Ion Phosphate batteries.

### **The PEM (proton-exchange membrane) fuel cell is a type of hydrogen fuel cell.**

- The vessels run on hydrogen fuel, which is stored in cylinders. This boat has five hydrogen cylinders that can carry 40kg of hydrogen and support eight hours of operations.
- The ferry will be handed over to the Inland Waterways Authority of India by the Cochin Shipyard Limited after rigorous trials.
- India has now indigenously developed hydrogen fuel cells and their related systems.
- It is built under the '**Harit Nauka**' (green boat) initiative of the Ministry of Ports, Shipping and Waterways envisages a green transition of inland vessels.

5. c

### **Yellow-Breasted Bunting (Emberiza aureola)**

*The yellow-breasted bunting was recently spotted at Nal Sarovar Bird Sanctuary near Ahmedabad, Gujarat.*

- Yellow-Breasted Bunting is a medium sized migratory bird that was formerly found in Finland/Siberia to China and Southeast Asia.
- It has disappeared from Eastern Europe and the European population declining by 80% in 10 years, 25% in 3 years.
- The population has been decreasing and it has been categorised as a **critically endangered** species by the International Union for Conservation of Nature Red list.
- It is known as the "Rice Bird" in China due to its habit of wintering in rice fields.
- Red-headed and black-headed buntings migrate to India from central Asia during winters. But yellow-breasted buntings are not known to winter in Gujarat.
- It can be commonly spotted in the Himalayan region and east and central Asia.
- **Flyway** – African-Eurasian and East Asian-Australasian.
- **Habitat and ecology** – Shrubland, Grassland, Wetlands (inland), Artificial/Terrestrial.
- **Main Threats** – Overharvesting, illegal hunting/trapping.
- Habitat loss from Land Reclamation.

**02-03-2024**

1) Consider the following statements with respect to National Bank for Financing Infrastructure and Development (NaBFID)

1. It is an All India Financial Institution (AIFI) established by an Act of Parliament.
2. In India, All India Financial Institutions are regulated and supervised by the Reserve Bank of India.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Agalega Island, sometimes seen in the news recently, is latitudinally located between which of the following countries/islands?

- a. Seychelles and Maldives
- b. Maldives and Mauritius
- c. Madagascar and South Africa
- d. Maldives and Lakshadweep

3) India has recently deployed the World's first portable hospital under?

- a. Project BHISHM
- b. Project VARTAK
- c. Project JEEVAN
- d. Project RAAHAT

4) Consider the following pairs:

**Critical Minerals**                      **Major Applications**

1. Beryllium                      –                      Manufacture of computer, electronic and optical products.
2. Tellurium                      –                      Solar power, thermoelectric devices and Rubber vulcanising.
3. Zircon                      –                      High value chemical manufacturing and electronics sector.
4. Germanium                      –                      Optical fibres, satellites and solar cells.

How many of the pair(s) given above is/are correct?

- a. Only one
- b. Only two
- c. Only three
- d. All four

5) Consider the following statements with respect to Humpback Whales

1. It is one of the four species of baleen whales that can be found every ocean in the world.
2. It is categorised as Least Concern in the International Union for Conservation of Nature Red List.
3. The Arabian Sea humpback whales are the only sedentary whales in the world, feeding and breeding in the same area.

How many of the statement(s) given above is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

## Answers

1. c

### National Bank for Financing Infrastructure and Development (NaBFID)

Recently Union Minister for Finance and Corporate Affairs Smt. Nirmala Sitharaman chaired the meeting to review the performance of the NaBFID.

- **Established** - 2021
- **Statutory body** - Established by National Bank for Financing Infrastructure and Development Act, 2021.
- **Aim**
  - To bridge the finance gap in the infrastructure sector.
  - To support the development of long-term non-recourse infrastructure financing in India.
- It enables credit flow through instruments such as longer tenor loans, blended finance, partial

credit enhancement, takeout financing, and facilitate crowding-in of infrastructure finance.

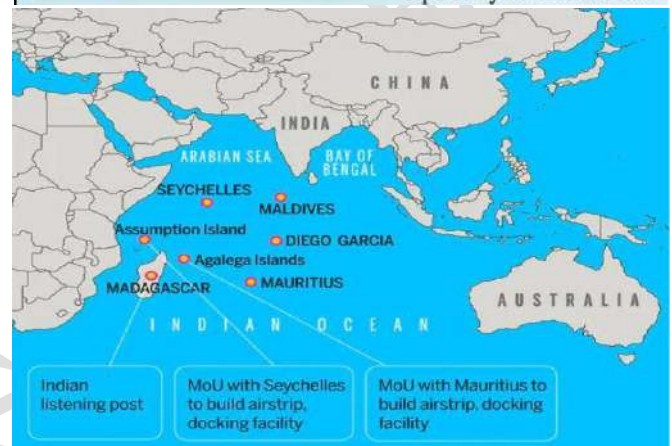
- It was set up in **2021** as **India's 5th** All India Financial Institution in the country
- **Capital** – The authorised share capital of the Institution is **1 lakh crore rupees**
- **Regulation** – Regulated and supervised by the **Reserve Bank of India** as an All India Financial Institution (AIFI) under the **RBI Act, 1934**.
- **Governance** – It is governed by a Board of Directors.
- The members of the Board include:
  1. The Chairperson appointed by the central government in consultation with RBI
  2. A Managing Director
  3. Maximum of 3 Deputy Managing Directors
  4. 2 directors nominated by the central government
  5. Maximum of 3 directors elected by shareholders
  6. A few independent directors (as specified)

2. b

### Agalega Island

Recently Prime Minister Narendra Modi attended the inauguration ceremony of several India-assisted development projects at the Agalega Island in Mauritius, via a video conference.

- Agalega Islands is a two-island dependency of **Mauritius**, in the western Indian Ocean.
- It consists of North Island and South Island.
- **It is located Latitudinally between Maldives and Mauritius.**
- It is located in the southern hemisphere to the north of Mauritius and east to the Madagascar.
- It is located south to Seychelles Latitudinally.
- **India** – India signed a Memorandum of Understanding for the “improvement in sea and air transportation facilities” at Agalega Island in 2015.
- Recently Prime Minister Narendra Modi inaugurated the India-built airstrip in the island.
- The airstrip contributes to the India’s strategic significance in the Indian Ocean.



3. a

### BHISHM Cube Initiative

The Indigenous Mobile Hospital (BHISHM) or Arogya Maitri Cube was recently deployed at the Pran Pratishtha ceremony in Ayodhya to mitigate any unexpected disaster events.

- BHISHM Cube is an Arogya Maitri Disaster Management Cube.
- It is the world’s first portable disaster hospital.
- This cube is a part of the broader initiative named “Project BHISHM” – Bharat Health Initiative for Sahyog, Hita and Maitri.
- **Arogya Maitri Cube** is equipped with cutting-edge technology which is tailored to treat up to 200 casualties, emphasizing rapid response and comprehensive care.
- **Features** – Arogya Maitri Cube is a completely made-in-India and each cube cage has three frames.
- It consists of mini cubes and master cubes.
- These cubes are robust, waterproof, and light, designed for various configurations, making them ideal for diverse emergency scenarios.

- The cube can be rapidly deployed anywhere, ensuring immediate response to several activities ranging from airdrops to ground transportation.
- **AI and data analytics** – It integrates Artificial Intelligence (AI) and data analytics to facilitate effective coordination, real-time monitoring, and efficient management of medical services in the field.
- Even though India has not received any commercial orders for the portable hospital kit, the country is already supplying the BHISHM Cube to neighbouring nations like Sri Lanka, Myanmar and Bangladesh.

4. d

### Critical Minerals and its Major Applications

- Critical minerals are elements that are the building blocks of essential modern-day technologies.
- To know more about the critical minerals [click here](#).
- The **major applications** for few of the Critical minerals are given below:
- **Bismuth** – Chemicals, Pharmaceuticals and Casting of Iron.
- **Cadmium** – Batteries, Pigments and Coatings.
- **Cobalt** – Electric Vehicle, Batteries, corrosion resistant alloys, aerospace applications and Pigments and Dyes.
- **Copper** – Electrical and electronics products, Electrical Wiring, Solar Panel and Automotive industry.
- **Gallium** – Semiconductors, Integrated Circuits and LEDs.
- **Germanium** – Optical fibres, satellites, solar cells.
- **Graphite** – Batteries, Lubricants, fuel cells for EVs, Electric Vehicle.
- **Hafnium** – Super alloy, Catalyst precursor, Semiconductors, Oxide for Optical and Nuclear reactors.
- **Indium** – Electronics (Laptops, LED Monitors/TVs, Smartphones), and semi-conductors.
- **Lithium** – Electric Vehicle, Batteries, glassware, ceramics, fuel manufacturing and Lubricant.

- **Molybdenum** – Steel alloys, Pigment and Dyes, Catalyst, Electrical and Electronic
- **Niobium** – Construction, transportation
- **Nickel** – Stainless steel, solar panels, batteries, aerospace, defence applications and Electric Vehicle.
- **Rhenium** – Super-alloys, aerospace and machinery uses, Catalysts in petroleum industry
- **Tellurium** – Solar power, thermoelectric devices and Rubber vulcanising.

5. d

### Humpback Whales (*Megaptera novaeangliae*)

*Recently Researchers have, for the first time observed and captured images of humpback whales having sexual intercourse. And as it turns out, both the individuals involved in the act were male.*

- Humpback whale (*Megaptera novaeangliae*) is one of the four baleen whale known for its elaborate courtship songs and displays.
- **It can be found in every ocean in the world.**
- They are powerful swimmers, and they use their massive tail fins, called flukes, to propel themselves through the water and sometimes completely out of it.
- These baleen whales are found near coastlines, feeding on tiny shrimp-like krill, plankton, and small fish.
- Humpback whales live along the coasts of all oceans, occasionally swimming close to shore, even into harbours and rivers.
- **The Arabian Sea humpback whales are the only sedentary whales in the world, feeding and breeding in the same area.**
- **Whale songs** – They are known for their magical songs, which travel for great distances through the world's oceans.
- These sequences of moans, howls, cries, and other noises are quite complex and often continue for hours on end.
- **Migration** – They migrate annually from summer feeding grounds near the poles to warmer winter breeding waters closer to the Equator.
- **Conservation** – It is categorised as Least Concern in the International Union for Conservation of Nature Red List.



- The numbers were severely reduced before the 1985 ban on commercial whaling, but the numbers in many population groups have since improved.
- **The population trend is increasing for the species.**
- **Threats** – Today, the biggest threats to humpback whales are collisions with ships and entanglement in fishing gear.

### 03-03-2024 & 04-03-2024

1) Consider the following statements with respect to Auroras

1. Auroras occurs only in Polar Regions.
2. Even though auroras are visible only during night, they are actually caused by the Sun.
3. Auroras were also seen in Jupiter and Saturn.

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to International Space Station (ISS)

1. It is the largest human-made object ever to orbit Earth.
2. It is assembled largely by the United States and Russia, with assistance and components from a multinational consortium including India.
3. It is placed in geosynchronous orbit (GEO).

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

3) Consider the following passage:

It has almost the same density that of gold. The two important mineral sources of the element are Scheelite and Wolframite. It has melting point higher than those of tantalum and platinum. It is the element with the highest atomic number to be found naturally in some living beings.

The above passage best describes which of the following element?

- a. Rhenium
- b. Titanium
- c. Tungsten
- d. Vanadium

4) Consider the following statements with respect to Hangul

1. It is the only surviving Asiatic member of the red deer family.
2. It is enlisted as critically endangered under the IUCN Red List.
3. The population of Hangul has steadily decreased in the recent years.

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) The Swachhata Green Leaf Rating (SGLR) Initiative, sometimes seen in the new is related to which of the following?

- a. To Rank and provide incentive to the start-ups that supports sustainable green energy.
- b. To improve sanitation practices in India's tourism sector.
- c. To provide rating to the hospitals based on the maintenance of Swachhata (cleanliness) in their campus.
- d. To improve sanitation in all railway station in India.

## Answers

1. b

### Auroras in Ladakh

*The Indian Astronomical Observatory in Hanle, Ladakh, operated by the Indian Institute of Astrophysics, recently captured breathtaking images of the resultant auroras in the Ladakh.*

- Auroras are a phenomenon more commonly associated with Polar Regions.
- Auroras are dazzling light that are actually billions of charged particles moving into space at ultra-high speeds.
- To know more about Auroras [click here](#) .
- **Auroras in Ladakh** – Auroras recently seen in Ladakh was a **stable auroral red (SAR)** arc. An SAR arc is a band of reddish light seen in the sky.
- **Unlike auroras where various colors appear in moving patterns, SAR displays are static and monochromatic.**
- Both appear during periods of geomagnetic activity triggered by a wave of charged matter blasted out of the Sun, but their mechanism of formation is slightly different.
- The **source** of this extraordinary event was traced back to the Sun, where a **massive coronal mass ejection (CME)** erupted from Active Region 13283 near the solar disk centre.
- The impact of this collision initiated a geomagnetic storm that quickly escalated to a "G4 severe" classification.

2. a

### International Space Station (ISS)

*The Russian space officials recently confirmed that they are safe and poses no danger due to the air leak at the International Space Station.*

- International Space Station (ISS), space station assembled in **low Earth** orbit largely by the United States and Russia, with assistance and components from a multinational consortium.
- **It is the largest human-made object ever to orbit Earth.**
- **India is not part of the International Space Station (ISS).**
- It is a partnership between 11 European countries (represented by ESA), the United

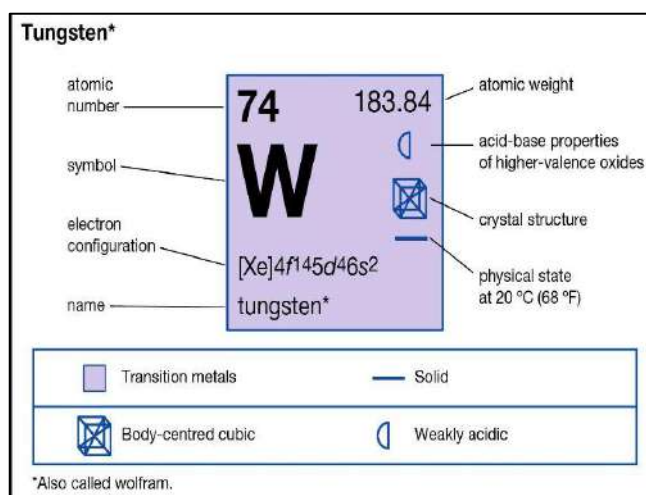
States (NASA), Japan (JAXA), Canada (CSA) and Russia (Roscosmos).

- The project, which began as an American effort, was long delayed by funding and technical problems.
- **Originally called Freedom** in the 1980s by U.S. Pres. Ronald Reagan, who authorized the National Aeronautics and Space Administration (NASA) to build it within 10 years.

3. c

### Tungsten

- Tungsten (W) is chemical element, an exceptionally strong refractory metal of Group 6 (VIb) of the periodic table.
- It is used in steels to increase hardness and strength and in lamp filaments.
- **Source** – Scheelite and Wolframite are two important mineral sources of tungsten.
- **Melting point** – Among all elements, **tungsten has the highest Melting point, around 3,700 kelvin, a value higher than those of tantalum and platinum.**
- This property rendered tungsten the most suitable element to use in the incandescent light bulb.
- **Atomic number** – Tungsten is the element with the highest Atomic number to be found naturally in some living beings.
- The atomic number of Tungsten is **74**.
- It is found in some archaea and bacteria. In more complex organisms, it is mildly toxic.
- **Density** – Tungsten has a density of 19.3 grams per cubic centimeter (g/cm<sup>3</sup>).



**Tungsten\***

atomic number — 74 — atomic weight — 183.84

symbol — W — acid-base properties of higher-valence oxides —

electron configuration — [Xe]4f<sup>14</sup>5d<sup>4</sup>6s<sup>2</sup> — crystal structure —

name — tungsten\* — physical state at 20 °C (68 °F) —

Transition metals — Solid

Body-centred cubic — Weakly acidic

\*Also called wolfram.

- This is comparable to the density of **uranium and gold** and about 1.7 times the density of lead.
- Tungsten has been used to make counterfeit bars of gold, which are otherwise very valuable.

4. b

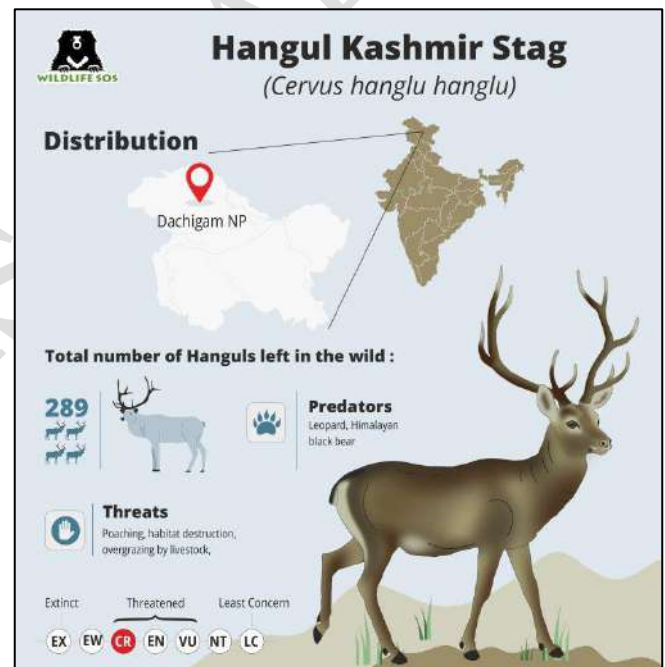
### Hangul (*Cervus elaphus hanglu*)

*Experts recently suggested that the roars or calls made by hangul during rutting indicate that their number will cross 300 this spring, the first time in more than three decades.*

- The hangul is also known as the Kashmir stag, is a subspecies of the Central Asian red deer.
- The scientific name for the hangul is *Cervus elaphus hanglu* and they are, by nature, high-altitude forest dwellers.
- **The hangul is the only surviving Asiatic member of the red deer family and the state animal of Jammu and Kashmir.**
- The Hangul was widely found in the hilly and mountainous regions of Kashmir in the early 20th century with their numbers estimated to be around 5000.
- **Threats** – Due to hunting and encroachment of their natural habitat, the number fell to just around 150 in 1970.
- Multiple disturbances, including stress on forest areas and human intervention, did disturb the habitat of hangul.
- **Protection** – It is enlisted as a **critically endangered** species in the International Union for Conservation of Nature Red List.
- *It is placed under Schedule I of the Indian Wildlife (Protection) Act, 1972.*
- In the 1970s, the Government of Jammu and Kashmir along with the support of IUCN and World Wildlife Fund (WWF) prepared a project for the protection of the habitat of Hangul.
- **Radio-collaring** of hanguls in 2013 and 2020 is proving pathbreaking for the conservation plans.
- **Distribution** – Their distribution had earlier spanned over Dachigam National Park and its nearby areas, Rajparian Wildlife Sanctuary, Overa Aru, Sind Valley, and the forests of Kishtwar and Baderwah.
- **But now, they are mostly spotted in the protected areas of Dachigam National**

### Park and Tral Wildlife Sanctuary in Jammu and Kashmir.

- **Population trend** – Since 1947, the population of hangul witnessed a sharp decline.
- In 1947, around 2000 were spotted and the number fell to 384 by 1968.
- In 1988, the population was estimated to be around 1,000 and fell drastically to 140 to 160 in 1992, as militancy raged in Kashmir and the movement of large columns of security forces and also of militants increased in the area.
- The hangul population was estimated at a mere 197 in 2004, touched the lowest of 183 in 2015.
- According to Wildlife department the hangul population since 2015 the population of hangul is **steadily increasing** and in 2021 it was 261.



5. b

### Swachhata Green Leaf Rating (SGLR) Initiative

*Recently Jal Shakti Ministry in collaboration with the ministry of tourism introduced the Swachhata Green Leaf Rating initiative to boost tourism hygiene.*

- The Swachhata Green Leaf Rating (SGLR) Initiative aims to improve **sanitation practices in India's tourism sector.**
- It aids to develop an economically viable, responsible, and resilient tourism industry.
- **SGLR rating was launched by the Department of Drinking Water & Sanitation (DDWS), Ministry of Jal Shakti, in collaboration with the Ministry of Tourism.**

- The Rating is not just a recognition but a commitment to shaping the future of our tourism industry.
- The SGLR initiative seamlessly aligns with the Travel for LiFE (TFL) program under Mission LiFE, fostering awareness about sustainable tourism.
- The Bison Resort in Madhya Pradesh's Narmadapuram has emerged as a pioneer by securing the inaugural Five Swachhata Green Leaf Rating Certificate of Recognition.

3. It is implemented by the National Small Industries Corporation Limited (NSIC).

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

### 05-03-2024

1) Which of the following countries has recently approved abortion as a constitutional right?

- a. France
- b. United States of America
- c. Switzerland
- d. Australia

2) Consider the following statements with respect to ADITI Scheme

1. It aims to develop about 30 deep-tech critical and strategic defence technologies.
2. It falls under the iDEX (Innovations for Defence Excellence) framework of Department of Defence Production (DDP).
3. It is an initiative of the Ministry of Defence.

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

3) Consider the following statements with respect to Udyam Assist Platform

1. It facilitates registration of Informal Micro Enterprises (IMEs) through generation of Udyam Assist Certificate.
2. The platform caters only the Informal Micro Enterprises (IMEs) with Goods and Services Tax Network (GSTN).

4) Consider the following statements with respect to Parliamentary Privileges

1. Legislators are immune from prosecution against bribery charges in connection with their speech and votes made in Parliament and Legislative Assemblies.
2. They are essential to ensure freedom of speech and expression in the House.
3. The Parliamentary Privileges does not apply to the elections of the Rajya Sabha.

How many of the statement(s) given above is/are **incorrect**?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

5) Which of the following is not a part of AUKUS Partnership?

1. Australia
2. USA
3. India
4. UK
5. France

Select the correct answer using the codes given below:

- a. 3 and 5 only
- b. 4 and 5 only
- c. 5 only
- d. None of the above



## Answers

1. a

### Abortion Rights

*Recently the French lawmakers approved a bill to enshrine abortion rights in France's constitution, making it the only country to explicitly guarantee a woman's right to voluntarily terminate a pregnancy.*

- Abortion is a deliberate termination of pregnancy, resulting in the removal or expulsion of the fetus or embryo from the uterus, before it is able to survive outside the uterus or can develop to full term.
- **Miscarriage** is the natural or unintentional loss of a pregnancy before the fetus is able to survive due to various factors such as hormonal imbalances, fetal development problems, genetic abnormalities, or maternal health issues.
- The primary difference between abortion and miscarriage lies in the intent and causation.
- **France is the first and only country to explicitly guarantee abortion as a constitutional right.**
- **India** – Under the Indian Penal Code, voluntarily causing a miscarriage is a punishable offence and is mentioned in **Section 312** of the IPC.
- **The rights of the fetus are governed under Section 20 of the Hindu Succession Act, 1956.**
- The **Indian Constitution does not explicitly mention the right to abortion** but certain fundamental rights have been interpreted by the judiciary in connection with reproductive rights and women's healthcare.
- **Article 21** of the Indian Constitution guarantees the right to life and personal liberty includes the reproductive rights and women's healthcare.
- **Article 14** of the Constitution of India also highlights certain provisions regarding abortion. Article 14 guarantees the right to equality and prohibits discrimination.

2. c

### ADITI Scheme

*Recently the Ministry of Defence launched the ADITI Scheme to promote innovations in critical and strategic defence technologies.*

- **ADITI – Acing Development of Innovative Technologies with iDEX.**
- The ADITI Scheme aims to develop about 30 deep-tech critical and strategic technologies in the proposed timeframe.
- It also envisages to create a 'Technology Watch Tool' to bridge the gap between the expectations and requirements of the modern Armed Forces and the capabilities of the defence innovation ecosystem.
- In the first edition of ADITI, 17 challenges – Indian Army (3), Indian Navy (5), Indian Air Force (5) and Defence Space Agency (4) have been launched.
- *It falls under the iDEX (Innovations for Defence Excellence) framework of Department of Defence Production (DDP), Ministry of Defence.*
- Under the scheme, **start-ups** are eligible to receive grant-in-aid of up to Rs 25 crore for their research, development, and innovation endeavours in defence technology.
- The scheme will nurture the innovation of youth, and help the country leap forward in the field of technology.
- It was launched during the DefConnect 2024.

3. a

### Udyam Assist Platform (UAP)

- Udyam Assist Platform was launched by the **Ministry of Micro, Small and Medium Enterprises.**
- The platform aims to facilitate registration of Informal Micro Enterprises (IMEs) through generation of Udyam Assist Certificate.
- **Small Industries Development Bank of India (SIDBI)** is the implementing agency for the project.
- **Informal Micro Enterprises (IMEs) not having GSTN are allowed to register on Udyam Assist Platform.**
- The certificate issued on the UAP to IMEs shall be treated at par with Udyam Registration Certificate for the purpose of availing Priority Sector Lending (PSL) benefits.
- The IMEs with an Udyam Assist Certificate shall be treated as Micro Enterprises under MSME for the purposes of PSL classification.

- **Small Industries Development Bank of India (SIDBI)** – Was set up on 2nd April 1990 under an Act of Indian Parliament.
- It acts as the Principal Financial Institution for Promotion, Financing and Development of the MSME sector as well as for co-ordination of functions of institutions engaged in similar activities.
- The shares of SIDBI are held by the Government of India and 22 other institutions / public sector banks / insurance companies owned or controlled by the Central Government.

4. b

### Parliamentary Privileges

*Recently the Supreme Court ruled that the law enforcement agencies can initiate prosecution against legislators in bribery cases under the Prevention of Corruption Act, 1988 (Act).*

- Parliamentary privileges are special rights, immunities and exemptions enjoyed by the **two Houses of Parliament, their committees and their members.**
- The Constitution has also extended the parliamentary privileges to those persons who are entitled to speak and take part in the proceedings of a House of Parliament or any of its committees.
- This includes the attorney general of India and Union ministers.
- **The parliamentary privileges do not extend to the president who is also an integral part of the Parliament.**
- Both the court and Parliament can exercise jurisdiction to address bribery by lawmakers (Members of Parliament and Members of State Legislative Assembly).
- Originally, the **Article 105** expressed mentioned two privileges, that is, freedom of speech in Parliament and right of publication of its proceedings.
- **Overtaken 1998 precedent** – The court overruled a 25-year-old ruling (P.V. Narasimha Rao Vs State) that granted immunity to legislators from prosecution for bribery related to votes or speeches.
- **Bribery and Parliamentary Privileges** – The recent Supreme Court judgement clarified that accepting bribes to influence votes or speeches is not protected under the Article 105 and Article 194.

- **Legislative privileges apply to Rajya Sabha elections** – The recent verdict have clarified that immunity applies to Rajya Sabha elections too.
- **Dual Jurisdiction** – The court have clarified that both courts and Parliament have separate jurisdictions to address bribery by lawmakers.
- The House punishes for contempt, while courts handle criminal prosecution.
- **“Necessity Test” for Privilege** – For a privilege to be valid, it must be essential for a legislator to perform their duties.
- Accepting bribes clearly fails this test.
- **Equality and Corruption** – Granting immunity to legislators for bribery would violate the right to equality, creating an unfair advantage for public servants.

5. a

### AUKUS

*Under AUKUS, recently the U.S. and U.K. partners announced the implementation plan to equip Australia with Nuclear Attack Submarines.*

- AUKUS is a security partnership between the three countries (**Australia, the United States and the United Kingdom**) in the Indo-Pacific region.
- It provides joint advanced military capabilities to promote security and stability in the Indo-Pacific region.
- AUKUS does not violate the non-proliferation treaty.
- Australia will remain a non-nuclear State that does not acquire a nuclear weapon, not developing any nuclear weapon.
- Under AUKUS, the U.S. and U.K. partners announced the implementation plan to equip Australia with Nuclear Attack Submarines (SSN).

**06-03-2024**

1) Consider the following statements with respect to Sangeet Natak Akademi Awards:

1. The Sangeet Natak Akademi is an Autonomous Body under the Ministry of Culture.
2. The awards were conferred since 1945, even before India's Independence.

3. The Akademi is also implementing Cultural Heritage Young Leadership Programme.

How many of the above statement(s) is/are correct?

- Only one
- Only two
- All three
- None of the above

2) Which of the following States & Union Territories (UTs) enjoy benefits under Article 371 of the Indian Constitution:

- Manipur
- Andhra Pradesh
- Karnataka
- Mizoram
- Gujarat
- Nagaland

Choose the correct code.

- 1, 4 and 6 only
- 2, 3 and 5 only
- 1, 4, 5 and 6 only
- 1, 2, 3, 4, 5 and 6

3) Consider the following statements with respect to the Holistic Report Card (HPC):

- It is a 360 degree, multidimensional report of progress launched by the National Council for Educational and Research Training (NCERT).
- The progress report is also applicable to students of Higher education.
- The HPCs have been devised by Performance Assessment, Review, and Analysis of Knowledge for Holistic Development (PARAKH).

How many of the above statement(s) is/are **incorrect**?

- Only one
- Only two
- All three
- None of the above

4) Consider the following statements with respect to Dry Ice:

- Dry ice is the solid form of carbon dioxide at a temperature of  $-78.5^{\circ}\text{C}$ .
- Dry ice undergoes sublimation when exposed to warmer temperatures, transitioning directly from a solid to a gas.
- Both liquid nitrogen and dry ice cause severe damage to skin and internal organs.

How many of the above statement(s) is/are correct?

- Only one
- Only two
- All three
- None of the above

5) Which of the following World Heritage Sites are located in the Red Sea and Gulf of Aden (RSGA) Ecosystems?

- Socotra Archipelago
- Dungonab Bay
- Senganeeb Atoll
- Malpelo Island

Select the correct answer using the codes given below:

- 1 and 4 only
- 2, 3 and 4 only
- 1, 2 and 3 only
- 1, 2, 3 and 4

## Answers

1. a

### Sangeet Natak Akademi Awards

*President of India to confer Sangeet Natak Akademi Awards (Akademi Puraskar) for the Years 2022 and 2023.*

- Sangeet Natak Akademi's Fellowships (Akademi RatnaSadsya) and Sangeet Natak Akademi Awards (Akademi Puraskar) are two awards presented annually.
- These awards are recognised as the most coveted national honours bestowed on

performing artists as well as teachers and scholars of performing arts.

- The award will be given to the eminent persons from the field of tribal music, dance, theatre and traditional folk arts.
- The Akademi Awards have been conferred since 1952.
- ***The Awards in Hindustani and Carnatic music were instituted as early as in 1951, even before the Akademi was set up and these were known as Presidential Awards.***
- With the formation of the Akademi the Awards came to be known as Sangeet Natak Akademi Awards and the investiture became the responsibility of the Akademi.
- The Presidential Awards for 1952 and 1953 were subsequently incorporated in the list of Sangeet Natak Akademi Awards.
- **Sangeet Natak Academy** - The Sangeet Natak Akademi was **set up in 1953** for the promotion of performing arts.
- ***The Sangeet Natak Akademi is an Autonomous Body under the Ministry of Culture.***
- It acts at the national level for the:
  1. Promotion and growth of Indian music, dance and drama;
  2. Maintenance of standards of training in the performing arts;
  3. Revival, preservation, documentation and dissemination of materials as well as instruments relating to various forms of music, dance and drama.
  4. Recognition of outstanding artists.
- The Akademi is also responsible for the establishment and maintenance of institutions and projects of national importance in the field of performing arts.
- The **Centre for Cultural Resources and Training (CCRT)** is implementing Cultural Heritage Young Leadership Programme, aimed at promotion of social values and community engagement amongst the youth of the Country.

2. d

### Article 371

*In the backdrop of protests across Ladakh, the Centre is mulling granting Article 371-like protection to the Union Territory.*

- Articles [371 to 371-J in Part XXI](#) of the Constitution of India contain special provisions for 12 states:
- **Maharashtra; Andhra Pradesh; Telangana; Sikkim; Mizoram; Arunachal Pradesh; Gujarat; Nagaland; Assam; Manipur; Goa; Karnataka.**
- **Purpose** - The purpose behind them is to meet:
  1. The aspiration of the people of backward regions of the states.
  2. To protect the cultural and economic interests of the tribal people of the states.
  3. To deal with the disturbed law and order condition in some parts of the states.
  4. To protect the interests of the local people of the states.
- **Article 371** - It explicitly provides for [provisions](#) related to Maharashtra and Gujarat.
- The President is authorized to provide that the Governor of Maharashtra and that of Gujarat would have special responsibilities.
- **Article 371A** - It grants special provisions to Nagaland (Naga Hills, Tuensang area).
- It was inserted into the Part XXI of the Indian Constitution in the year 1962.
- **Article 371B** - Special provision (administration) with respect to the State of Assam (Bodoland territorial area).
- **Article 371C** - It makes special provisions for the state of [Manipur](#).
- **Articles 371D and 371E** - They contain the special provisions for Andhra Pradesh.
- In 2014, Article 371-D was extended to the State of Telangana by the Andhra Pradesh Reorganization Act of 2014.
- **Article 371F** - It makes special provisions for the state of Sikkim.
- **Article 371G** - It makes special provisions for the state of Mizoram.
- **Article 371H** - It makes special provisions for the state of Arunachal Pradesh.



- **Article 371I** - Provides that the Goa Legislative Assembly is to consist of not less than 30 members.
- **Article 371J** - The President is empowered to provide that the Governor of Karnataka would have special responsibilities.

3. a

### Holistic Progress Card (HPC)

The National Council for Educational and Research Training (NCERT) is introducing a new 'holistic progress card' (HPC).

- **Holistic Progress Card is a 360 degree, multidimensional report of progress.**
- The HPC will measure apart from academic performance, a child's progress in interpersonal relationships, self-reflection, creativity, and emotional application in classrooms.
- The HPCs have been devised by Performance Assessment, Review, and Analysis of Knowledge for Holistic Development (**PARAKH**).
- PARAKH is a standard-setting body under the NCERT.
- **HPCs is set up for the foundational stage (Classes 1 and 2), preparatory stage (Classes 3 to 5) and middle stage (Classes 6 to 8), as per suggestions by the National Education Policy (NEP) 2020.**
- Report cards for the secondary stage (beyond Class 9) are still being prepared.
- **Objectives** - It helps to map the status of each child's learning for foundation literacy and numeracy skills and focuses on the uniqueness of each learner.
  1. To present a picture of the student's progress and provide evidence as well as an opportunity to a child to present his or her growth in the progress review over years.
  2. To document a child's own expression of self as well as the teacher's assessment of the child based on the competencies.
  3. It will form an important link between home and school and makes parents an integral part of a child's learning process.
- **Features** - Participatory, Inclusive, and based on learner centric approach.

- It includes self-assessment, peer assessment and parent's feedback.
- Asses through project-based and inquiry-based learning, quizzes, role plays, group work, portfolios, etc.
- Explicit learning outcomes are defined which are the pathways for competency acquisition.
- Approach to developing skills among children is progressive.
- Builds on self-awareness and self-esteem by communicating the strengths and areas of improvement
- Provides space for children to learn at their own pace.
- Based on three Developmental Goals
  1. Health and Wellbeing
  2. Effective Communicators
  3. Involved Learners
- A key feature of the HPC is that students will have a say too, evaluating their own as well as their classmates' performance.

4. c

### Dry Ice

Dry ice, was mistakenly offered to a party of diners at a Gurugram restaurant and subsequently caused them to vomit blood.

- **Dry ice is solid carbon dioxide (CO<sub>2</sub>) at a temperature of approximately -78.5°C (-109.3°F).**
- **Sublimation** - It is formed by compressing and cooling gaseous carbon dioxide until it reaches its solid state without passing through the liquid phase, a process called sublimation.
- **Dry ice undergoes sublimation when exposed to warmer temperatures, transitioning directly from a solid to a gas, releasing CO<sub>2</sub>.**
- **Applications** - It is commonly used as a cooling agent for food products like ice cream, frozen desserts etc.
- It is frequently used for food items that are needed to be cold or frozen, without the use of mechanical cooling.
- **Threats** - **Both liquid nitrogen and dry ice can cause severe damage to skin and internal organs** if mishandled or accidentally

ingested due to the extremely low temperatures they can maintain.

- As such, liquid nitrogen and dry ice should not be directly consumed or allowed to directly contact exposed skin.
- As it comes into contact with moisture in the mouth or digestive tract, dry ice rapidly sublimates, releasing large amounts of carbon dioxide gas.
- This can cause potentially life-threatening complications such as perforation of the stomach or intestines, or even asphyxiation due to the displacement of oxygen.

5. c

### Erythraean Sea

*The waters of the Red Sea, are at an 'environmental risk' after Belize-flagged, UK-owned bulk carrier Rubymar sank in the southern part of the Sea.*

- Red Sea is a direct translation of the Ancient Greek Erythra Thalassa.
- ***The Red sea itself was once referred to as the Erythraean Sea by Europeans.***
- The Red Sea stretches from the Egyptian, Israeli (Port of Eliat) and Jordanian (Port of Aqaba) coasts in the north to the Yemeni, Djiboutian, Eritrean and Somali coasts in the south.
- It connects with the Mediterranean Sea and the Atlantic Ocean through the human-made Suez Canal and to the Gulf of Aden, Arabian Sea and Indian Ocean through the Strait of Bab el Mandeb ('Gate of Tears' in Arabic).
- It was a vital trade artery in antiquity, connecting Greece, Rome, Syria, the Holy Land and Egypt with India.
- The most famous work on the Red Sea from the ancient world is Periplus of the Erythraean Sea, attributed to an unknown Greek sailor and trader.

### Red Sea and Gulf of Aden (RSGA) ecosystems

- The Red Sea and Gulf of Aden (RSGA) ecosystems supports a rich biological diversity with a distinct high proportion of endemic species, according the United Nations Environment Programme (UNEP).
- ***The RSGA ecosystems is home to the Socotra Archipelago, Dunganab Bay and Senganeeb Atoll, which are UNESCO Natural Heritage Sites.***

- Farsan and Dahlak Archipelagos in the southern Red Sea (where the Rubymar has sunk) and coral reefs in the northern and central parts of the Red Sea are also distinctive features of the region.
- ***Red Sea is among the top areas of high fish endemism in the world.***
  - Endemism is a term used in biology to talk about the distribution of a taxon limited to a small geographic area and which can therefore be found naturally in this place.
- ***Malpelo is a small oceanic island in the eastern Pacific Ocean, located about 500 km west of the Colombian mainland.***

07-03-2024

1) Consider the following statements with respect to Orans

1. These are lands where herders graze their cows, sheep and goats for centur
2. ies.
3. The Rajasthan orans are home to the endangered great Indian bustard (GIB), chinkara and the Indian desert fox.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Consider the following statements with respect to Kangri Pot

1. Kangri Pot is portable earthenware that serves as a movable heater.
2. It was introduced during the Mughal reign in the Himachal Pradesh region.
3. It is a GI tagged product from the State of Jammu and Kashmir.

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two

- c. All three
- d. None of the above

3) Identify the member countries of the Gas Exporting Countries Forum (GECF)

- 1. Iran
- 2. Iraq
- 3. Russia
- 4. United States of America
- 5. United Arab Emirates

Choose the correct code

- a. 1, 2 and 3
- b. 1, 3 and 5
- c. 2, 4 and 5
- d. 1, 2 and 5

4) Consider the following statements with respect to Star Dunes

- 1. They are landscapes in deserts that resemble giant pyramid sand.
- 2. Earth's largest star dunes are found in China.
- 3. Lala Lallia is a star dune located in the Thar Desert.

How many of the statement(s) given above is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) IRIS, sometimes seen in the news recently, is related to which of the following?

- a. New island discovered off the coast of Fiji.
- b. India's first generative Artificial Intelligence teacher.
- c. A type of Pelagic Birds endemic to Asia.
- d. It is one of the four baleen whale that is known for its elaborate courtship songs and displays.

## Answers

1. c

### Orans

On following the orders of the Supreme Court, the Rajasthan state government recently released a notification to classify Orans (sacred groves) as deemed forests.

- In Rajasthan it is locally called *Orans*, these are lands where herders have been grazing their cows, sheep, and goats for centuries.
- These lands usually features a temple and a waterbody, these community-conserved pastures are rich in biodiversity.
- **Significance** – The Rajasthan *orans* are home to the endangered great Indian bustard (GIB), chinkara and the Indian desert fox.
- They are oases of traditional flora and fauna.
- Named after deities, they are considered **sacred** by the local people and protected as such.
- The richest biodiversity in the deserts is in the orans.
- **Threats** – Orans are sought to be used for generating “green energy”, solar in particular.
- Many of the orans, are classified as “wasteland” in revenue records.

2. a

### Kangri Pot

In recent times there has been significant decline in the production of Kashmir's Kangri Pot due to climate change and increasing use of electric heaters.

- Kangri Pot is a portable earthenware pot encased in a wicker basket that serves as a movable heater.
- It is a traditional warming tool that **predates** the Mughal Empire in **Kashmir**.
- Historians suggest that it was introduced to Kashmiris by Italians during the Mughal era (1526-1757), but the claim lacks concrete evidence.
- Historical records show kangris were in use even before 1526, closely associated with Saint Sufi Sheik Noor-u-din Wali (1377-1440), who was buried with his beloved Charari Kangri, one of his most priceless belongings.

- **Charari Kangri** is a type of kangri found in Charari-i-Sharief, a town in Kashmir.
- Charar Kangri is particularly remarkable, bearing the name of Sufi saint Sheikh Noor ud Din. It is considered a remnant from the Sheikh's lands.
- **It has no GI tag status.**
- The final product, adorned with colourful threads, mirror work, and sequins, symbolises eco-friendly and cost-effective indigenous craftsmanship.
- **Reasons for decline – Climate change** has led to a decrease in production, with only 200 kangris made this year, affecting not just kangri-makers but also artisans and those dependent on this craft.
- Despite its cultural significance, the traditional kangri has also lost ground to the convenience of contemporary heating options like **electric heaters**, resulting in a shift in both the physical terrain and cultural customs.

- **Significance** – Together, they represent 69% of the world's gas reserves, 39% of the marketed production, and 40% of global gas exports.
- GECF member countries collectively account for more than half of the world LNG exports (51%).
- The central focus of the 7th summit, articulated through the “**Algiers Declaration**” is to reaffirm the commitment of member countries to the responsible stewardship of natural gas resources.

4. a

**Star Dunes**

*Recently scientists unveiled the first in-depth study of a star dune, revealing the internal structure of these geological features and showing how long it took for one of them to form.*

- Star dunes are vaguely pyramid-shaped sand formations up to about 1,000 feet (300 meters) tall with arms stretching out from a central peak to give them a star-like appearance when viewed from above.
- **Star dunes make up just under 10% of the dunes in Earth's deserts** and are the tallest ones, surpassing other types such as crescent-shaped barchan dunes and straight and lengthy linear dunes.
- **They also have been spotted on Mars and on Saturn's large moon Titan.**
- **Earth's largest star dunes are found in the Badain Jaran desert in western China.**
- Star dunes also are found in places including the Namib Sand Sea in Namibia, large sand seas in Algeria such as the Grand Erg Oriental and Grand Erg Occidental, and Rub' al Khali in Saudi Arabia. In North America, Great Sand Dunes National Park in Colorado contains a series of them.
- **Lala Lallia** – The recent study by the scientist focused on it.
- It is located a small sand sea called Erg Chebbi within the **Sahara Desert** in the eastern Morocco, close to the border with Algeria.
- It rises about 330 feet above the surrounding dunes and is approximately 2,300 feet wide, containing about 5.5 million metric tons of sand.
- **Complex wind regimes** – Star dunes are formed in areas with complex wind regimes.

3. b

**Gas Exporting Countries Forum (GECF)**

*Recently the 7th summit of the Gas Exporting Countries Forum was held at the historic city of Algiers, Algeria.*

- Gas Exporting Countries Forum (GECF) is an **intergovernmental organisation** that provides a framework for exchanging experience and information among its member countries.
- It seeks to build a mechanism for a meaningful dialogue between gas producers and consumers in order to improve the stability and security of supply and demand in gas markets around the world.

Full-fledged Member countries (12)	<ul style="list-style-type: none"> <li>• Bolivia</li> <li>• Algeria</li> <li>• Egypt</li> <li>• Equatorial Guinea</li> <li>• <b>Iran</b></li> <li>• Libya</li> <li>• Nigeria</li> <li>• Qatar</li> <li>• <b>Russia</b></li> <li>• Trinidad and Tobago</li> <li>• <b>United Arab Emirates</b></li> <li>• Venezuela</li> </ul>
Status of Observers (7)	<ul style="list-style-type: none"> <li>• Peru</li> <li>• Iraq</li> <li>• Angola</li> <li>• Azerbaijan</li> <li>• Malaysia</li> <li>• Mauritania</li> <li>• Mozambique</li> </ul>



- They are winds blowing from different directions, and net sand accumulation, points within the desert where big piles of sand can be blown around to form giant dunes.

5. b

### IRIS

*A school in Thiruvananthapuram, Kerala, recently introduced AI teacher, Iris which is the first humanoid robot teacher in the entire country.*

- IRIS is India's first generative Artificial Intelligence teacher.
- It is an initiative by the Kaduvayil Thangal Charitable Trust.
- It was launched in the KTCT Higher Secondary School in Thiruvananthapuram, Kerala.
- It will push the boundaries of 'what's possible' in the field of education.
- Iris is part of the Atal Tinkering Lab (ATL) project, a 2021 NITI Aayog initiative designed to boost extracurricular activities in schools.
- **Atal Tinkering Lab (ATL)** is a program that aims to encourage innovation and experiential learning among school children.
- The program was announced by the Department of Space and Atal Innovation Mission, NITI Aayog on January 2021.

**08-03-2024**

1) Consider the following statements with respect to Cantonment

1. A cantonment is created as well as administered by the Central government.
2. They are places of residence of both civilians and military personnel.
3. The executive officer of the cantonment board is appointed by the President of India.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Who among the following women revolutionaries belongs to Bengal?

1. Annie Mascarene
2. Matangini Hazra
3. Pritilata Waddedar
4. Labanya Prabha Ghosh
5. Moovalur Ramamirtham

Select the correct answer using the codes given below:

- a. 1, 2 and 3 only
- b. 3, 4 and 5 only
- c. 2, 3 and 4 only
- d. 1, 2, 3, 4 and 5

3) Consider the following statements with respect to Ramamirtham Ammaiyar:

1. Ramamirtham Ammaiyar was a social reformer from the state of Tamil Nadu.
2. She was the first women in India to get a degree in Medicine.
3. She started, Elavu Varam to fight against unequal salary to teachers.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

4) Which of the following diseases can be cured using the Penicillin G Vaccine:

1. Pneumonia
2. Meningitis
3. Gonorrhoea
4. Syphilis

Choose the correct code.

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

5) Which of the following are the practical applications of Rayleigh Scattering?

1. Light Detection and Ranging (LIDAR)
2. Chemotherapy
3. Construction of Microscope
4. Weather Radars

Choose the correct code.

- a. 1 and 2 only
- b. 2 and 3 only
- c. 3 and 4 only
- d. 1 and 4 only

## Answers

1. d

### Military Cantonments

Defence Ministry denotifies civil areas of 10 cantonments (out of 58 in the country), which will now be merged with state municipalities.

- **A cantonment is created as well as administered by the Central government.**
- **Cantonments are designed as places of residence of both civilians and military personnel.**
- Cantonments are different from the Military Stations in that the Military Stations are purely meant for the use and accommodation of the armed forces and these are established under an executive order.
- It is the Entry 3 of Union List (Schedule VII) of the Constitution of India.
- Cantonments are notified under the Cantonments Act, 1924 (succeeded by the Cantonments Act, 2006).
- The overall municipal administration of the notified Cantonments is the function of the Cantonment Boards which are democratic bodies.
- The Station Commander of the Cantonment is the ex-officio President of the Board.
- The Board has equal representation of the elected and nominated/ex-officio members to balance the official representation with the democratic composition.

- There are four categories of Cantonments which depend on the size of population residing inside a Cantonment.
- Directorate General Defence Estates (DGDE) is an Inter Services Organisation of the Ministry of Defence which directly controls the Cantonment Administration.
- The executive officer of the cantonment board is appointed by the **President of India**.
- He/She implements all the resolutions and decisions of the board and its committees and he/she belongs to the central cadre established for the purpose.

2. c

### Women Revolutionaries of Bengal

- **Labanya Prabha Ghosh – She was born in 1897 in Purulia district, West Bengal.**
- Her father Nibaran Chandra Dasgupta was a freedom fighter who along with Labanya's husband found an organisation called 'Shilpasharam' in Telkalpara.
- The organisation served as a meeting place for revolutionaries and members of the Indian National Congress in the region.
- In 1926 Labanya was elected representative of the District Congress Committee from Manbhum district, which Purulia was then part of.
- **Matangini Hazra – She was born in a village named Hogla, West Bengal in 1869.**
- By age 18, Matangini Hazra was widowed, without any children.
- According to state government archives, Hazra became so inspired by Gandhi's beliefs that she became a devoted follower of the leader, earning herself the name, Gandhi buri.
- **Suhasini Ganguly – Born on 3 February 1909 in Khulna, now in Bangladesh, Ganguly spent her teens in her hometown and in Dhaka.**
- She was a member of the Jugantar revolutionary group in Calcutta.
- She was introduced by the group by Pritilata Waddedar.
- Ganguly also became associated with the Chattri Sangha, a semi-revolutionary student group and began assisting other members with training and enlisting new recruits.

- **Sarala Devi – She was born in 1872 in Bengal, and was the niece of Rabindranath Tagore.**
- She is also known as Sarala Devi Chaudhurani, was born to Swarnakumari Devi, Tagore's elder sister, and Janakinath Ghoshal, one of the founding members of the Indian National Congress.
- **Pritilata Waddedar – She was born in Chittagong, now in Bangladesh.**
- She developed connections with Leela Nag, an associate of Subhash Chandra Bose.
- Leela Nag established the Deepali Sangha, a revolutionary group that provided combat training to women.
- **Annie Mascarene – Kerala**
- **Moovalur Ramamirtham – Tamil Nadu**

3. b

#### **Moovalur Ramamirtham (1883-1962)**

- **She was born in 1883 in Thiruvavur, and was brought up at Moovalur village, Mayiladuthurai, Tamil Nadu.**
- Hence, she was called commonly known as Moovalur Ramamirtham Ammaiyar.
- She was the author of the 1936 novel Dasigalin Mosavalai, which exposed the plight of the devadasis.
- She died in 1962 and in her memory, the Government of Tamil Nadu has instituted the Moovalur Ramamirtham Ammal Ninaivu Marriage Assistance Scheme.
- The scheme provides financial assistance to poor women.
- **Dr. S. Dharmambal, another social reformer from Tamil Nadu, initiated the Elavu Varam agitation.**
- **Dr. Muthulakshmi Reddy was the first woman in India to get a degree in medicine.**
- She was one of the important leaders who fought vigorously against the Devadasi System.

4. d

#### **Penicillin G**

India to restart Penicillin G manufacturing.

- Penicillin G (potassium or sodium) is the active pharmaceutical ingredient used in several common antibiotics.
- **It is used in the treatment of certain serious bacterial infections, such as pneumonia, meningitis, gonorrhoea, syphilis, and others.**
- Pneumonia and syphilis can be opportunistic infections (OI) of HIV.
- Benzylpenicillin (Penicillin G) is narrow spectrum antibiotic used to treat infections caused by susceptible bacteria.
- Penicillin G may also be used in some cases as prophylaxis against susceptible organisms.

5. d

#### **Rayleigh scattering**

- Rayleigh scattering, dispersion of electromagnetic radiation by particles that have a radius less than approximately  $1/10$  the wavelength of the radiation.
- The process has been named in honour of Lord Rayleigh, who in 1871 published a paper describing this phenomenon.
- The angle through which sunlight in the atmosphere is scattered by molecules of the constituent gases varies inversely as the fourth power of the wavelength.
- Hence, blue light, which is at the short wavelength end of the visible spectrum, will be scattered much more strongly than will the long wavelength red light.
- This results in the blue colour of the sunlit sky, since, in directions other than toward the Sun, the observer sees only scattered light.
- Rayleigh scattering theory is applicable to scattering of UV and visible radiation by air molecules, infra-red radiation by small aerosols, and microwave radiation by cloud and rain drops.
- **Practical applications of Rayleigh scattering include Light Detection and Ranging (LIDAR), weather radar, and remote sounding of cloud water.**

**09-03-2024**

1) Consider the following statements with respect to National Clean Air Programme (NCAP) Fund

1. The Funds is released by the Ministry of Environment, Forest and Climate Change to the Central Pollution Control Board.
2. The National Capital Territory (NCT) of Delhi received and utilised the most funds.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2. Consider the following pairs:

Women schemes	States
---------------	--------

- |                           |                 |
|---------------------------|-----------------|
| 1. OrunodoiScheme         | - Assam         |
| 2. AmmavodiScheme         | - AndhraPradesh |
| 3. GruhaLakshmiScheme     | - Karnataka     |
| 4. Vidiyal Payanam Scheme | - Tamil Nadu    |

How many of the pairs given above are correctly matched?

- a. One pair only
- b. Two pair only
- c. Three pair only
- d. All Four pairs

3) Consider the following pairs

Geographic Features	Relevance
---------------------	-----------

- |               |  |
|---------------|--|
| 1. Butte      | - A mound of earth-covered ice found in the Arctic and Antarctica. |
| 2. Soil creep | - A slow, granular-scale process that occurs on gentle slopes.     |
| 3. Pingo      | - An isolated hill with steep sides and a small flat top.          |

How many of the pair(s) given above is/are correctly matched?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

4) Consider the following passage:

He encouraged all devotees to wear turbans and dhotis to promote equality. He initiated the Thuvayal Panthy programme, teaching vegetarianism and discipline to followers. He established Nizhal Thangals as community worship spaces, which did not have any idol or deity.

The above passage best describes which of the following social reformer?

- a. Ayyankali
- b. Ayya Vaikundar
- c. Venkatappa Ramasamy
- d. Ramalinga Swamigal

5) Consider the following statements with respect to Ammonium Phosphate Sulphate:

1. Ammonium Phosphate Sulphate is the most important nitrogenous fertilizer in the country because of its high Nitrogen content.
2. It is a white crystalline organic chemical compound with neutral pH.
3. It is the 2nd most commonly used fertiliser in India after urea.

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

## Answers

1. a

### National Clean Air Programme (NCAP) Fund

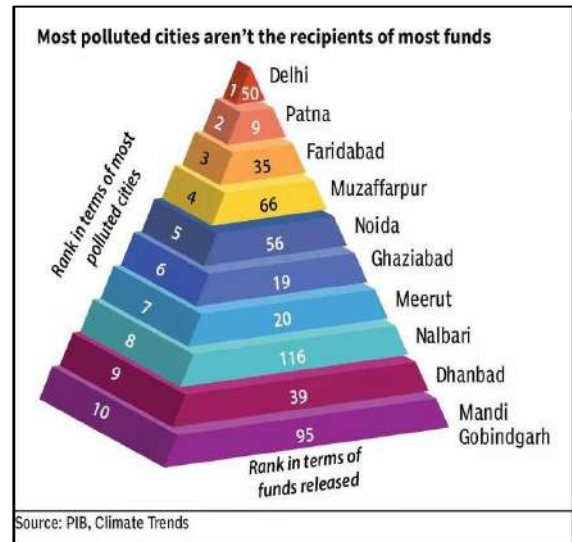
The National Green Tribunal (NGT) has said that most states have not fully utilized funds received under the National Clean Air Programme (NCAP) and the 15th Finance Commission.

- A total of 131 cities receive funds under [National Clean Air Programme \(NCAP\)](#) or grants sanctioned by the 15th Financial Commission (FC) for air quality improvement.
- Of these, 42 are “million-plus cities” that receive 15th FC grants for “augmenting



infrastructure and other essential measures at city level to improve air quality”.

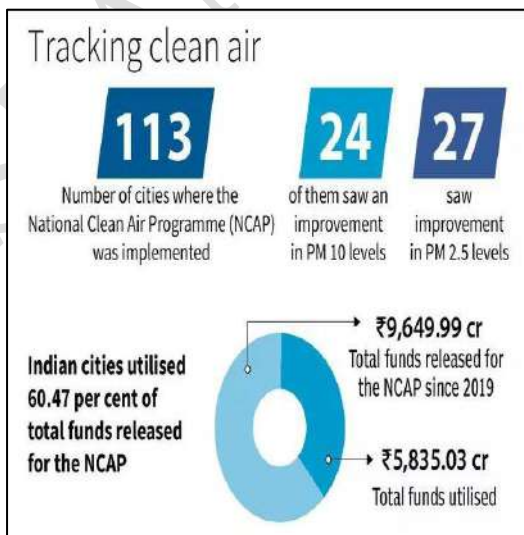
- *Funds are required to be utilised as per the approved action plan for non-attainment cities under the NCAP and action plans approved for cities not falling as non-attainment cities.*
- **Non-attainment cities (131)** – Are the Cities that consistently do not meet the National Ambient Air Quality Standards (NAAQS) for certain pollutants.
- **Funds are allocated to these cities based on the assessment by the Central Pollution Control Board and the utilisation of the amount allocated in the previous financial year.**
- The funding is performance-based and meant for activities included in action plans prepared for the cities.
- **Fund utilisation** – Of all 131 cities, **Mumbai** received and utilised the **most funds**.
- Kolkata falls second in the list and Chennai lists 3rd in the list.
- **Delhi being the most polluted city in India ranks 50 in the terms of the fund received.**
- **Patna**, the second most polluted city (in terms of PM 2.5 levels) received the 9th highest allocation for the NCAP.
- **Urban local bodies** are the implementing agencies for NCAP and they are responsible for spending the funds disbursed to them for clean air action plans.
- These plans outline the work that the cities are required to undertake in the short, medium and long term.



2. d

### Women schemes in India

- **Jagananna Ammavodi Scheme – Andhra Pradesh.**
- Provides Rs15,000 annually to mothers or guardians from poor families (below poverty line) to support their children's education (from Class 1 to 12) in any government, aided, or unaided school/junior college in the state.
- **Orunodoi Scheme – Assam.**
- A monthly assistance of Rs 830 is transferred to women members of marginalised families of Assam.
- A Direct Benefit Transfer scheme, the money is credited directly to the bank account of the woman head of a family.
- **Indira Gandhi Pyari Behna Sukh Samman Nidhi Yojana – Himachal Pradesh.**
- To give Rs 1500 per month to women from 18-60 years of age in the state.
- **Gruha Lakshmi scheme – Karnataka.**
- To provide financial assistance of Rs.2,000 every month to eligible women.
- Women government employees are not eligible to get the scheme's benefits.
- **Mukhyamantri Ladli Bahna Yojana – Madhya Pradesh.**
- Women in 23-60 age group will be given Rs 1,000 per month subject to certain conditions, including that they are not income tax payees and their families' annual income is below Rs 2.5 lakh.



- **Lakhpati Didi Scheme – Rajasthan.**
- **Offers loans to women.**
- Monthly camps are set up in the neighbourhood areas to present loans to eligible women, especially the ones who have less income and A mortgage of Rs. 5 lakhs is ready for every eligible girl under the scheme.
- **Mahalakshmi scheme – Telangana.**
- Offers women and transgender persons **free travel** on state-run non-AC buses.
- The scheme has two more components that includes:
  - **Financial assistance** of Rs 2,500 to eligible women
  - An LPG cylinder at Rs 500.
- **Lakshmir Bhandar Scheme – West Bengal.**
- The scheme received the Skoch award.
- Goal – **Financial empowerment** for women (25-60 years old) from economically disadvantaged backgrounds.
- Eligibility – Enrolled in Swasthya Sathi program.
- Amount – Rs 1,000 for women from SC/ST households. Rs500 for women from other households.
- **Pradhan Mantri Matru Vandana Yojana (PMMVY) – A Centrally Sponsored Conditional Cash Transfer Scheme**, for implementation across the country with effect from 01.01.2017.
- It offers financial help to pregnant and new mothers who are having their first child, as long as they meet certain eligibility criteria.
- **Butte** – An isolated hill with steep sides and a small flat top.
- They are smaller landforms than mesas, plateaus and tablelands.
- **Soil creep** – A slow, granular-scale process that occurs on gentle slopes. It's also known as downhill creep.
- **Pingo** – Are intra-permafrost ice-cored hills, 3–70 m high and 30–1,000 m in diameter.
- They are typically conical in shape and grow and **persist only in permafrost environments**, such as the Arctic and subarctic.

4. b

### Ayya Vaikundar

*Recently Prime Minister Narendra Modi paid tributes to Ayya Vaikundar on his birth anniversary (March 3).*

- Ayya Vaikundar, born in 1809, is revered as a social reformer and the founder of the Ayyavazhi sect, primarily in southern Tamil Nadu.
- His teachings focused on equality, fraternity, and the eradication of caste-based discrimination, challenging the established religious and social hierarchies of the time.
- He encouraged all devotees to wear turbans and dhotis, promoting equality.
- He pioneered education for the lower castes and opposed discriminatory taxes.
- One of his significant interventions was the introduction of simplified, inclusive marriage customs without a Brahmin priest or Sanskrit mantras.
- **Thuvayal Panthy programme** – To teach vegetarianism and discipline to followers, who spread these teachings across Tamil Nadu.
- **Nizhal Thangals** – A community worship spaces, which did not have any idol or deity and only Tamil was used for worship.
- These community worship centres also had community kitchens and even basic schools.
- **Samapanthi-bhojana or community eateries** – For people from all backgrounds. He would send his disciples to the homes of lower castes to eat with them.
- **Thottu Namam** – Inspired priests to apply the sacred paste on devotees' forehead, irrespective of their caste.

3. a

### Geographic Features of Hills

- Hills are landform that is higher than the surrounding terrain and often has a distinct summit.
- A hill has a lower elevation than a mountain and usually smaller than a mountain.
- A hill is usually less than 984-1968 feet (300-600 meters) whereas a mountain is usually higher than 1968 feet (600 meters).

- The paste would be applied in the form of a lamp, indicating the soul and God, representing the form of God inside every life.

5. d

### Ammonium Phosphate Sulphate

Recently Rubymar, a cargo ship that was carrying 21,000 tonnes of ammonium phosphate sulphate was sunk due to the attack by the Houthi missiles.

- Ammonium phosphate sulphate is a fertilizer made by neutralizing sulphuric acid and phosphoric acid with ammonia.
- It's a complex fertilizer that contains nitrogen, phosphorus, and sulphur.
- **Urea is the most important nitrogenous fertilizer in the country because of its high N content (46%N).**
- Urea is a white crystalline organic chemical compound with neutral pH.
- **DAP is the 2nd most commonly used fertiliser in India after urea** and farmers normally apply this fertiliser just before or at the beginning of sowing.
- *It is the most preferred fertilizer in drill-sown areas.*
- It is recommended for cereals, pulses, oilseeds and commercial cash crops.
- Having combination of Sulphur elements it has very specific importance for the crops like Paddy, Sugarcane, Banana, Oilseeds, Tobacco, Potato and all kinds of vegetables.
- It is highly soluble and could harm "fish and living organisms such as coral reefs and seaweed" if released into the sea.

### 10-03-2024 & 11-03-2024

1) Kaziranga National Park is home to which of the following species?

1. King Cobra
2. Leopards
3. Tiger
4. Bengal Florican
5. Red goats

Select the correct codes

- a. 2, 3 and 5 only

- b. 1, 2, 4 and 5 only
- c. 2 and 3 only
- d. 1, 2, 3, 4 and 5

2) Consider the following statements with respect to Election Commissioners

1. A Selection Committee, comprising the Prime minister, Leader of Opposition and a Union Minister nominated by President, recommends the Election Commissioner.
2. Election Commissioners are ineligible for further appointment by the government.
3. The Chief Election Commissioner and the two other Election Commissioners have equal powers and in any case of difference of opinion, the matter is decided through majority.

How many of the above statements are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

3) Consider the following statements with respect to SheRNI Portal

1. It aims to connect and support women scientists and faculty members.
2. It is an initiative of the University Grants Commission.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to NOTA

1. It was introduced by an act of the parliament by amending the provisions of the Election Symbols (Reservation and Allotment) Order, 1968.
2. The option of NOTA is available for both the Lok Sabha and the Rajya Sabha elections.

3. NOTA was used for the first time in the 2014 General Elections.

How many of the statements given above are correct?

- a. Only one  
b. Only two  
c. All Three  
d. None of the above

5) Consider the following statements with respect to Narcotics Control Bureau (NCB)

1. It was established in 1986 based on the recommendations of Nachiket Mor Committee.
2. It works under the aegis of Ministry of Home Affairs.
3. The National Policy on Narcotic Drugs and Psychotropic Substances 1985 is based on Article 47 of the Indian Constitution.

How many of the statements given above are correct?

- a. Only one  
b. Only two  
c. All Three  
d. None of the above

## Answers

1. d

### Kaziranga National Park

Recently Prime Minister Narendra Modi enjoyed an elephant and jeep safari within the Kaziranga National Park and encouraged more and more people to come and visit the place.

- Kaziranga National Park was formed in 1908 by Mary Curzon, wife of Lord Curzon.
- The park is located in the edge of the Eastern Himalayan biodiversity hotspots in the Golaghat and Nagaon districts of Assam.
- In the year 1985, the park was declared as a **World Heritage Site** by UNESCO.
- The park is the **breeding ground** for elephants, wild water buffalo and swamp deer.
- It was declared as a **tiger reserve** in 2006.

- The park is recognized as an **Important Bird Area** by BirdLife International for the conservation of avifaunal species.
- Birds like lesser white-fronted goose, ferruginous duck, black-necked stork, and Asian Open bill stork specially migrate from the Central Asia during the winter season.
- The park has **4 types of vegetation** that includes:
  1. Alluvial inundated grasslands
  2. Alluvial savannah woodlands
  3. Tropical moist mixed deciduous forests
  4. Tropical semi-evergreen forests
- **Trees** – Kumbhi, Indian gooseberry, the cotton tree and elephant Apple are amongst the famous trees that can be seen in the park.
- **Snake haven** – It is home to Reticulated Python and the Rock Python.
- The **King Cobra**, the longest venomous snake globally is also home to Kaziranga.
- **Leopards and the majestic Royal Bengal Tigers** tread silently through its dense forests.
- **Great Indian One-horned Rhinoceros** – It is home to world's largest population of Indian Rhinoceros.
- The latest rhino census tallies their numbers at an impressive 2,413, approximately 2/3rd of their total world population.

2. a

### Election Commissioners

Recently Arun Goel was resigned as the election commissioner and the selection committee will soon appoint the election commissioner.

- **Articles (324-329) in Part XV** of the Constitution deals with Election.
- The Election Commission of India is a three-member body, with one Chief Election Commissioner and two Election Commissioners.
- The President of India appoints the Chief Election Commissioner and the Election Commissioners.
- The **Selection Committee**, chaired by the prime minister, leader of the opposition and a **Union Minister nominated by the Prime Minister** make recommendations



to the President for appointment of CEC and other ECs.

- They are appointed with a majority vote of Prime Minister and a Minister chosen by him in the selection committee.
- The Constitution has **not debarred** the retiring election commissioners from any further appointment by the government.
- The Chief Election Commissioner and the two other Election Commissioners have equal powers and in any case of difference of opinion, the matter is decided by the Commission by majority.

3. c

### SheRNI Portal

*Recently the SheRNI Portal was launched by the University Grants Commission (UGC) to connect, support women scientists and faculty members across India.*

- SheRNI - **She Research Network** in India.
- The **objective** of SheRNI is to create a national-level expert platform for women faculty members and facilitate the exchange of expertise, insights and experiences across diverse fields.
- The SheRNI platform will connect more than 81,000 profiles of Indian women in science and research across various domains.
- **The platform was launched by the Information and Library Network (INFLIBNET) of the University Grants Commission (UGC).**
- **Information and Library Network (INFLIBNET)** – Is an Autonomous Inter-University Centre (IUC) of University Grants Commission.
- It is a major National Programme initiated by the UGC on February 1991 as a project under the Inter-University Centre for Astronomy and Astrophysics (IUCAA).
- It became an **independent Inter-University Centre** on 16th May 1996.
- It is involved in modernizing university libraries in India using the state-of-art technologies for the optimum utilisation of information.
- It is set out to be a major player in promoting scholarly communication among academicians and researchers in India.

4. d

### NOTA (None Of The Above)

*Recently experts from the Association for Democratic Reforms (ADR), an NGO have stated that NOTA is a 'toothless tiger' with no implications on results.*

- NOTA is one of the options available in the Electronic Voting Machine, for people who disagree with the political parties in the election contest.
- The option provides voters the power to reject all the candidates listed on the Electronic Voting Machine (EVM).
- **NOTA was introduced in India through the Supreme Court's judgment in September 2013.**
- NOTA was used for the first time in the 2013 Assembly elections in 5 states such as Chhattisgarh, Mizoram, Rajasthan, Delhi and Madhya Pradesh
- It was also used in the 2014 General Elections.
- It has **no electoral value** in the Indian system.
- In 2018, the Supreme Court had ruled that **NOTA option should not be given in the Rajya Sabha elections.**
- The symbol for NOTA has been designed by the **National Institute of Design (NID), Ahmedabad.**

5. b

### Narcotics Control Bureau (NCB)

*Recently Narcotics Control Bureau (NCB) seized 45 consignments containing more than 2000 kg of Pseudoephedrine.*

- The National Policy on Narcotic Drugs and Psychotropic Substances is based **Article 47** which direct the State to endeavour to bring about prohibition of the consumption, except for medicinal purposes, of intoxicating drugs injurious to health.
- The **Narcotic Drugs and Psychotropic Substances Act, 1985** mandates a Central Authority for the purpose of exercising the powers and functions of the Central Government under the Act.
- Through this power, the Government of India constituted the Narcotics Control Bureau in 1986.

- It is the Central Authority for exercising powers and functions of the Central Government under the Narcotic Drugs and Psychotropic Substances Act, 1985 (NDPS Act).
- It works under the **Ministry of Home Affairs**.
- It is the apex coordinating agency and also functions as an enforcement agency through its zones and sub-zones.
- **National Coordination** – NCB is the Central Authority for exercising powers and functions of the Central Government under NDPS Act.
- NCB is the nodal agency for matters pertaining to drug law enforcement in India.
- NCB coordinates actions taken by various agencies of Central and State Governments related to drug law enforcement in the country and matters pertaining to drug abuse.
- **International Coordination – NCB is signatory to all UN Drug Conventions and SAARC Convention.**
- Bilateral Agreements with 24 countries and MoUs with 13 countries.
- Cooperation with 28 countries/regional groups through Joint Working Groups on Counter Terrorism and Anti Drug Trafficking.
- **India is a signatory to:**
  - The single Convention on Narcotic Drugs 1961, as amended by the 1972 Protocol,
  - The Conventions on Psychotropic Substances, 1971 and
  - The United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.
- **Pseudoephedrine** – Pseudoephedrine is a precursor chemical that is used in the manufacturing of Methamphetamine, a dangerous and highly addictive synthetic drug.
- Even though it has some legal uses, **it is classified as a controlled substance in India**, bringing strict regulation on its production, possession, trade, export and use.
- Illegal possession and trade is punishable up to 10 years of imprisonment under the NDPS Act, 1985.
- **Nachiket Mor Committee** – Also known as the “Commission on Comprehensive Financial

Services for Small Businesses and Low-Income Households.

- It recommended to provide a universal bank account to all Indians above 18 years of age by January 2016 and not related with the NCB.

### 12-03-2024

1) Consider the following statements with respect to Advanced Medium Combat Aircraft (AMCA)

1. AMCA is bigger than other fighters in the Indian Air Force (IAF) inventory.
2. The AMCA will be India's indigenous fifth-generation fighter aircraft.
3. At present, only USA, Russia and France have built fifth-generation fighters.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

2) Consider the following statements with respect to Gothic Architecture

1. It is an architecture style followed by the Buddhist monasteries in East Asia.
2. Common features of this architectural style encompass pointed arches, ribbed vaults, domes, rose windows and spires.
3. The Maha Bodhi Temple in Bodh Gaya is built using this style of architecture.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

3) Consider the following statements with respect to National Commission for Scheduled Castes (NCSC)

1. It is a constitutional body established under the Article 338 of the Constitution.

2. The Chairman of the commission is appointed by the president of India.
3. It also safeguards against the exploitation of Anglo Indian communities.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

4) Consider the following statements:

**Statement-I:** The Citizenship (Amendment) Act, 2019 (CAA) aims to grant citizenship to persecuted minorities from Pakistan, Bangladesh, and Afghanistan.

**Statement-II:** Autonomous councils created under the 6th Schedule of the Constitution are exempted from the purview of CAA.

Select the correct answer using the codes given below:

- a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c. Statement-I is correct but Statement-II is incorrect
- d. Statement-I is incorrect but Statement-II is correct

5) Consider the following statements with respect to One horned Rhinoceros

1. It is the largest rhino species on Earth that are confined to India only.
2. The Indian rhino has a single horn, which is present only in the male Rhinos.
3. It is classified as vulnerable by the IUCN.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

## Answers

1. b

### Advanced Medium Combat Aircraft (AMCA)

*The Cabinet Committee on Security (CCS) has recently approved the project for the design and development of India's fifth-generation fighter jet, Advanced Medium Combat Aircraft (AMCA).*

- Advanced Medium Combat Aircraft (AMCA) will be India's indigenous fifth-generation stealth fighter aircraft.
- It will be stealth fighter jet
- The **Aeronautical Development Agency (ADA)** under the Defence Research and Development Organisation (DRDO) will be the **nodal agency** for executing the programme and **designing the aircraft**.
- It will be manufactured by state-owned **Hindustan Aeronautics Limited (HAL)**.
- **Features of AMCA** – It is a 25-tonne **twin-engine aircraft**, which will be bigger than other fighters in the Indian Air Force.
- It has a diverter-less supersonic inlet for controlling air flow into the engines and a serpentine air intake duct to shield the engines from radar emission are likely to be part of the AMCA.
- **Stealth features** such as an internal weapons bay and a bigger internal fuel tank are part of it.
- **Engine** – The AMCA Mk1 variant will have the US-built GE414 engine of the 90 kilonewton (kN) class, while the more advanced AMCA Mk2 will fly on the more powerful 110kN engine.
- The AMCA Mk2 will be developed indigenously by DRDO's Gas Turbine Research Establishment (GTRE) in collaboration with a foreign defence major.
- The indigenous **Light Combat Aircraft (LCA) Tejas** is a 4.5-generation single-engine multirole aircraft.
- **Fifth-generation stealth fighter aircraft** – At present, only **USA, Russia and China** have built fifth-generation fighters.

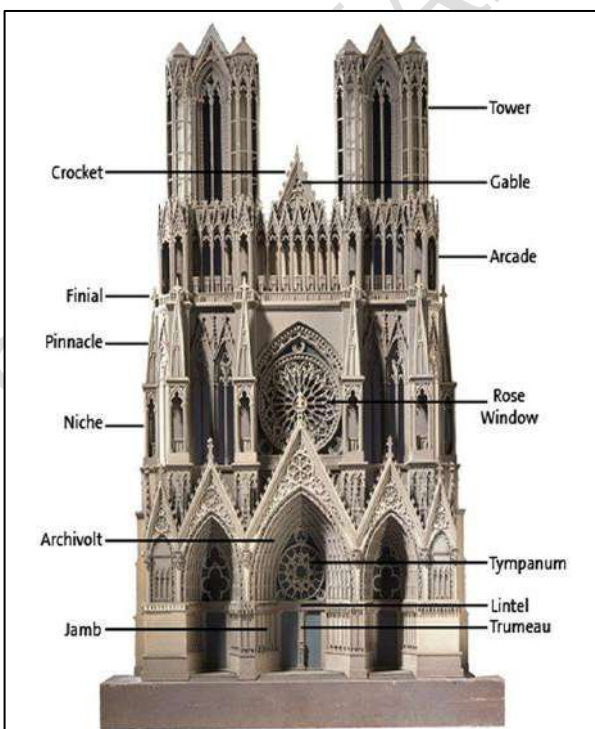
2. a

### Gothic Architecture

*Recently the Maharashtra State archaeological department has taken up the project of restoring*

*Gothic architecture in the 116-year-old St Crispin's Church in Erandwane, Pune to its original form.*

- Gothic Architecture is a **European style architecture** that flourished in the Late Middle Ages between mid-12th century to the 16th century.
- **Common features** – Pointed arches, ribbed vaults, domes, rose windows and spires.
- **Gothic architecture has Eastern influences** – The pointed arches, ribbed vaults, domes, rose windows, and spires all have roots in Islamic architecture.
- **It is not exclusively limited to the construction of churches** and is also seen in the collegiate architecture, notably at **Oxford** and **Cambridge**.
- **St Crispin's Church** – It is a Gothic Architecture church that is located in Erandwane, Pune of Maharashtra.
- The church dates back to British-era India in 1900 when a plague had spread through the city.
- Along with the church, a residential home was also built for orphans and children.
- The church is a **protected monument** as notified by the Archaeological Survey of India (ASI).
- After receiving 3% of Pune district's funds in 2024, the department has taken up conservation and restoration work of 12 such monuments in the city.



- The church was **designed** by the British-era architect Sir **Niniam Comper**.
- It is a very unique structure that has an **influence of defence architecture** with vaults and carvings on baptism tanks and minarets.
- It is completely constructed in **basalt stone** and the doors are made of **teakwood**.

3. c

### **National Commission for Scheduled Castes (NCSC)**

*Recently Shri Kishor Makwana assumed charge of Chairman National Commission for Scheduled Castes.*

- The National Commission for Scheduled Castes (SCs) is a **constitutional body** established by **Article 338** of the Constitution.
- It is established with a view to provide safeguards against the exploitation of **Scheduled Castes and Anglo Indian communities** to promote and protect their social, educational, economic and cultural interests, special provisions were made in the Constitution.
- The separate National Commission for SCs came into existence in 2004.
- **Composition** – It consists of a chairperson, a vice-chairperson and three other members.
- They are **appointed by the President** by warrant under his hand and seal.
- Their **conditions of service and tenure of office** are also determined by the **President**.
- **Reports** – The commission presents an **annual report** to the **President**.
- The President places all such reports before the **Parliament**, along with a memorandum explaining the action taken on the recommendations made by the Commission.
- The President also forwards any report of the Commission pertaining to a state government to the state governor.
- The governor places it before the state legislature, along with a memorandum explaining the action taken on the recommendations of the Commission.
- **Functions of the Commission** – To investigate and monitor all matters relating to the constitutional and other legal safeguards for the SCs and to evaluate their working.



- **The Central government and the state governments are required to consult the Commission on all major policy matters affecting the SCs.**
- Making sure the laws protecting them (SC) are working properly.
- Investigating complaints of unfair treatment.
- Advising the government on improving education, jobs, and other aspects of life for SCs.
- Suggesting ways to better protect SC rights and help them succeed.
- **Powers of the commission** – Calling for witnesses and examining them under oath.
- Demanding documents related to an investigation.
- Accepting sworn statements and obtaining government records.
- Issuing summons for evidence.
- Using additional powers granted by the President.

4. b

#### The Citizenship Amendment Act (CAA), 2019

Recently the Union government have notified the Citizenship (Amendment) Rules, 2024 that grants citizenship to persecuted minorities from Pakistan, Bangladesh and Afghanistan.

- The Citizenship (Amendment) Act, 2019 (CAA) is a legislative enactment that the Parliament of India passed on December 11, 2019 to amend the Citizenship Act of 1955.
- It aims to grant citizenship to persecuted minorities from Pakistan, Bangladesh, and Afghanistan.
- The persecuted minorities includes from the communities such and entered India before December 31, 2014.
- The amendment reduced the residence requirement for naturalisation from 11 years to 5.
- **Exemption from CAA – Autonomous councils** created under the 6th Schedule of the Constitution are exempted from the purview of CAA.
- Autonomous councils under this special status include Karbi Anglong, Dila Hasao and Bodoland Territorial Council areas in **Assam**,

#### Garo Hills in Meghalaya and tribal areas in Tripura.

- Areas where the **Inner Line Permit (ILP)** is required for a visit by people from other parts of the country in North-eastern states are excluded.
- The ILP is in place in parts of Arunachal Pradesh, Nagaland, Mizoram and Manipur.
- **CAA 2024 rules** – This rules is in line with the 2019 amendment to The Citizenship Act, 1955.
- It aims to provide citizenship to migrants belonging to Hindu, Sikh, Buddhist, Jain, Parsi or Christian communities who entered India before December 31, 2014, from Pakistan, Afghanistan, or Bangladesh.
- An online system for application, processing, and grant of citizenship under the Citizenship Amendment Act (CAA) is being explored by the Home Ministry.
- Eligible applicants for this application include individuals of Indian origin, spouses of Indian citizens, minor children of Indian citizens, individuals with registered Indian citizen parents, and Overseas Citizens of India Cardholders among others.
- **Legal issues** – It violates **Article 14** of the Constitution.
- It contradicts the Assam Accord which has different timeline (March 24, 1971) to determine who is an outsider.

5. a

#### One horned Rhinoceros (*Rhinoceros unicornis*)

The increasing climate changes may be a threat to the Rhinos including One horned Rhinoceros since they cannot sweat.

- The One horned Rhinoceros (*Rhinoceros unicornis*) is also known as the Indian rhinos.
- The Indian rhino has a single horn, which is present in both the sexes.
- In 1996, Indian rhinos were classified as endangered by the IUCN.
- Due to conservation efforts, the IUCN changed their status to **vulnerable** in 2008, and the current status is vulnerable.
- It is the largest rhino species on Earth that are confined to India and Nepal.
- **Geographic habitat** – Indo- Nepal terai and Northern West Bengal, and Assam.

- The preferred habitat of an Indian rhinoceros are primarily areas that contain grasslands and wetlands located in the foothills of the Himalayas and the Brahmaputra and Ganges valley.
- Breeding takes place at all times of the year, and the gestation period is about 16 months.
- ***They are excellent swimmers that cannot sweat.***

1. It was established by the Central Vigilance Commission Act, 2003.
2. The tenure of the Vigilance Commissioner is of four years or till the incumbent attains the age of 65 years.
3. Its establishment was recommended by the Santhanam Committee on Prevention of Corruption.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

### 13-03-2024

1) Consider the following statements with respect to SVEEP (Systematic Voter's Education and Electoral Participation) Programme

1. It is the flagship program of the Election Commission of India.
2. Under the programme observers such as senior officers from Central Services such as IAS and IPS officers are appointed.
3. Observers are deployed under the provisions of the Representation of the People Act, 1951.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

2) Consider the following statements with respect to Earth Observing Satellite 6 (EOS-06)

1. EOS-6 is the third-generation satellite in the Oceansat series.
2. It is launched by NASA and is placed in the Low Earth orbit (LEO).

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to Central Vigilance Commission

4) Consider the following statements with respect to Meropenem & Disodium EDTA

1. Meropenem is an antibiotic that works by inhibiting the synthesis of cell walls in bacteria.
2. The combination of Meropenem and Disodium EDTA as an injection is used to treat various bacterial infections.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Consider the following statements with respect to Golden Langur

1. Golden Langur is a species of monkey.
2. It is endemic to only the Western Ghats, India.
3. It is listed as endangered in the IUCN red list.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

## Answers

1. c

### SVEEP (Systematic Voter's Education and Electoral Participation) Programme

Recently Chief Election Commissioner of India directed around 2100 Observers in SVEEP to ensure level playing field during the forthcoming General Elections to the Lok Sabha and State Legislative Assemblies.

- Systematic Voters' Education and Electoral Participation program (SVEEP) is the flagship program of the Election Commission for voter education, spreading voter awareness and promoting voter literacy in India.
- The **primary goal** of SVEEP is to build a truly participative democracy in India by encouraging all eligible citizens to vote and make an informed decision during the elections.
- The program utilizes a data-driven approach, employing a combination of broad and targeted interventions.
- This approach considers the state's socio-economic, cultural, and demographic profile along with historical voter turnout trends and learnings from previous elections.
- **Observers in SVEEP** – The Election Commission deploys Observers under Section 20B of the **Representation of the People Act, 1951** and plenary powers of the Constitution.
- The main objective of **Election Observation** is to identify areas for improvements and to formulate concrete and operative recommendations.
- **These Observers are known for being eyes and ears of the Election Commission.**
- **They are drawn from the Central Services that includes IAS, IPS officers as well as officers from Indian Revenue Service.**
- The Observers are entrusted with the crucial and solemn responsibility of observance of the election process, the fairness, impartiality and credibility.
- They are **representatives of the Election Commission** and are expected to conduct themselves professionally and be accessible to all stakeholders including candidates.
- They help the Commission in fulfilling its constitutional mandate of conducting free, fair,

transparent and inclusive elections and also **enhance the voter awareness and participation in election.**

- They were directed to be **confined physically within the boundaries of the Parliamentary Constituency** they are allotted, during the entire electoral process.
- They were told to see that central forces/ State police forces are being utilised judiciously and maintaining neutrality, and their deployment is also not favouring any political parties/ candidates.
- Observers were also acquainted with the various IT initiatives and mobile applications launched by the Commission for voter facilitation as well as effective and efficient management of election processes on the field.
- The Observers were provided with a functional demonstration of EVMs and VVPATs.

2. a

### Oceansat-3

ISRO's Oceansat-3 recently revealed the seasonal greening and browning of continents, alongside the dynamic movements of chlorophyll blooms in the oceans.

- Oceansat-3 is also known as Earth Observing Satellite 6 (EOS-06) is the **third-generation satellite in the Oceansat series.**
- This is to provide continuity services of Oceansat-2 spacecraft with enhanced payload specifications as well as application areas.
- **Mission Objective** – To provide continuity services of Oceansat-2 spacecraft with enhanced payload specifications as well as application areas.
- **Orbit – Polar sun-synchronous orbit.**
- **Payloads**
  1. **Ocean Color Monitor (OCM-3)**
  2. Sea Surface Temperature Monitor (SSTM)
  3. Ku-Band **Scatterometer (SCAT-3)**
  4. ARGOS
- The SCAT-3 sensor delivers high-resolution data on global ocean surface wind speed and direction.
- This information is vital for understanding ocean circulation patterns, biogeochemical

dynamics and the genesis of cyclones across the globe.

- **Applications** – It include Marine Resource Management, Phytoplankton biodiversity, Algal bloom detection and monitoring, Vegetation classifications and their growth assessment and so on.
- EOS-06 is adept at capturing the global condition of vegetation on land by measuring the Normalised Difference Vegetation Index (NDVI).
- **Normalised Difference Vegetation Index (NDVI)** is crucial for assessing changes in plant health and greenness over vast areas.
- Oceansat-3 recently revealed **areas of high oceanic productivity** are present in extratropical oceanic zones, equatorial regions.
- Elevated levels of **Chlorophyll-a**, indicating flourishing phytoplankton blooms, influenced by wind-driven circulation patterns was also observed.
- **Phytoplankton** are microscopic, photosynthetic organisms that form the foundation of the marine food web.
- They play a crucial role in the Earth's ecosystems as primary producers, converting sunlight into chemical energy through photosynthesis.
- The **analysis of vector winds** has illuminated dominant circulation features such as:
  1. Convergence of tropical easterlies near the equator,
  2. Presence of mid-latitude westerlies, and
  3. Seasonally reversing monsoon winds in the Indian Ocean.

3. b

### Central Vigilance Commission

Recently Shri AS Rajeev was appointed as Vigilance Commissioner in the Central Vigilance Commission.

- The Central Vigilance Commission (CVC) is the main agency for preventing corruption in the Central government.
- It was established in 1964 by an **executive resolution** of the Central government.

- Its establishment was recommended by the **Santhanam Committee** on Prevention of Corruption.
- *Originally the CVC was neither a constitutional body nor a statutory body.*
- Later, in 2003, the Parliament enacted a law conferring statutory status on the CVC.
- **It is the only designated agency to take action against complainants making motivated or vexatious complaints.**
- It is conceived to be the apex vigilance institution, free of control from any executive authority, monitoring all vigilance activity under the Central Government.
- **Composition** – It is a multi-member body consisting of a Central Vigilance Commissioner (chairperson) and not more than two vigilance commissioners.
- They are **appointed by the president** by warrant under his hand and seal on the recommendation of a three member committee.
- The three member committee consist of:
  1. Prime minister as its head
  2. Union minister of home affairs
  3. Leader of the Opposition in the Lok Sabha
- **Tenure** – They hold office for a term of **four years or until they attain the age of sixty five years**, whichever is earlier.
- They are **not eligible** for further employment under the Central or a state government.

4. c

### Meropenem & Disodium EDTA

Recently the Central Drugs Standard Control Organisation (CDSCO) has mandated an immediate stop to sales of broad-spectrum antibiotic combination of meropenem and disodium EDTA injections.

- Meropenem (antibacterial agent) is a broad-spectrum antibiotic that works by inhibiting the synthesis of cell walls in bacteria.
- Disodium EDTA binds with calcium and some heavy metals in the body and is used to treat calcium overload and irregular heartbeats caused by certain medications like digoxin or digitoxin.



- This combination is administered via intravenous injection over a specific period, depending on the dosage prescribed by a healthcare professional.
- **The combination of Meropenem and Disodium EDTA as an injection is used to treat various bacterial infections.**
- The bacterial infections include pneumonia, urinary tract infections, intra-abdominal infections, gynaecological infections, skin infections, meningitis and sepsis.
- It have been classified as a 'New Drug,' and has not secured the necessary regulatory approval.
- **Common side effects** may include headache, stomach pain, increased platelet count, diarrhoea, and allergic reactions like skin rash or swelling.
- *The Central Drugs Standard Control Organisation (CDSCO) has mandated an **immediate stop** to sales of broad-spectrum antibiotic combination of meropenem and disodium EDTA injections.*
- No new drug shall be manufactured for sale unless it is approved by the licensing authority as defined in Rule 3 of New Drugs and Clinical Trials Rules, 2019.
- Anyone who intends to manufacture new drug, either as an active pharmaceutical ingredient (API) or a pharmaceutical formulation, for sale or distribution must apply to the Central Licence Approving Authority for permission.

5. b

### Golden Langur (*Trachypithecus geei*)

Recently the Primate Research Centre NE India (PRCNE) and few other organisations in their latest survey of the primate indicated that an estimate of 7,396 golden langurs live in India.

- The golden langur, also known as the golden leaf monkey, is a small primate that lives in the trees of north-eastern **India and southern Bhutan.**
- **In India, the entire distribution range of the golden langur covers the Manas Biosphere Reserve and all fragmented forests in the western part of Assam.**
- They are arboreal and diurnal creatures.



- It is listed as **endangered** in the International Union for Conservation of Nature (IUCN) red list.
- The latest survey of the primate was conducted by the following:
  1. Primate Research Centre NE India (PRCNE),
  2. Assam Forest Department and Bodoland Territorial Council,
  3. Salim Ali Centre for Ornithology and Natural History (SACON), and Conservation Himalayas.

**14-03-2024**

1) Pushpak, sometimes seen in the news is related to which of the following?

- a. An isolated hill with steep sides and a small flat top.
- b. A hydropower dam project in Tibet.
- c. ISRO's reusable launch vehicle.
- d. A portal that connects and supports women scientists and faculty members.

2) El Cano Archaeological Park, sometimes seen in the news recently, is located in?

- a. Italy
- b. Panama
- c. Colombia
- d. Romania

3) Consider the following statements with respect to PM-SURAJ Portal

1. It is aimed at offering credit support to the marginalized segments of society.
2. It is an initiative of NITI Aayog.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to Neo Vaishnavism

1. It is a movement, spearheaded by Saint Srimanta Sankaradeva, in Assam.
2. It was also known as Eksarana-Nam-Dharma.
3. Sravaka are monastic institutions established by Srimanta Sankardev serve as centres of religious, social and cultural reform.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

5) Consider the following statements with respect to Electric Mobility Promotion Scheme, 2024

1. It aids to accelerate the adoption of electric vehicle (EVs) in India by providing financial support.
2. It is applicable only to the electric two-wheeler and three-wheeler.
3. It is an initiative of the Ministry of Heavy Industries, in collaboration with the Ministry of Finance.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

## Answers

1. c

### Pushpak

The Indian Space Research Organisation is all set to conduct the second landing test of the Reusable Launch Vehicle, Pushpak.

- Pushpak is the **reusable launch vehicle** of Indian Space Research Organisation (ISRO).
- The vehicle is designed as an all-rocket, fully reusable single-stage-to-orbit (SSTO) vehicle.

- It incorporates several major elements such as the X-33 advanced technology demonstrator, the X-34 testbed technology demonstrator, and the upgraded DC-XA flight demonstrator.
- The reusable launch vehicle promises to revolutionise the sector by slashing launch costs by nearly 80%, thereby making space exploration more accessible and sustainable.
- The winged RLV prototype serves as a versatile test platform, facilitating the evaluation of hypersonic flight, autonomous landing, and powered cruise capabilities.

2. b

### El Cano Archaeological Park

Archaeologists have recently found a grave of a religious leader dubbed as "Lord of the Flutes" buried over 1200 years ago with a cache of gold objects in the El Cano Archaeological Park, Panama.

- El Cano Archaeological Park, once a thriving necropolis, was built around 700 AD and abandoned around 1000 AD.
- Necropolis is a cemetery, especially a large one belonging to an ancient city.
- Its location in the Coclé province, approximately 100 miles southwest of Panama City, **Panama**.
- Archaeologists found a bunch of cool old stuff, including jewelry and fancy things for rituals, along with skeletons that seem like they were killed in a special ceremony.
- Archaeologists in their recent discovery have found a new tomb, 9th since 2008. It contains gold items and other remains thought to be sacrifices.
- Those buried were important in their communities, as shown by the valuable objects with them.
- The main person in this tomb, likely a religious leader, is called the "Lord of the Flutes" because bone flutes were found with them, probably used in ceremonies.

3. a

### PM-SURAJ Portal

- **PM-SURAJ** – Pradhan Mantri Samajik Utthan evam Rozgar Adharit Jankalyan.
- It is aimed at offering credit support to the marginalized segments of society.

- Provides financial assistance directly to beneficiaries, eliminating middlemen and commissions.
- The portal will help empower people deprived of opportunities.
- It will provide information about various government schemes at one place.
- The portal was launched by the **Ministry of Social Justice and Empowerment**.

4. b

### Neo Vaishnavism

*Recently Majuli masks made in Assam's sattras, or monasteries was accredited with the Geographical Indication (GI) tag.*

- The Neo Vaishnavism is a movement, spearheaded by Saint Srimanta Sankaradeva.
- Neo Vaishnavism, also known as **Ekasarana Nam Dharma**, is a sect of the Vaishnava sect of Shankaradeva.
- It is a socio-cultural revolution in Assam, which takes an important role to create a strong social bond among the people of Assam.
- **Chinha Jatra** is a dance-drama created by Srimanta Sankaradeva that introduced the Majuli mask art form.
- **Majuli**, the largest river island in the world and the seat of Assam's neo-Vaishnavite tradition, has been home to the art of mask-making since the 16th century.
- **Majuli masks** – The masks have been made in Assam's sattras, or monasteries, since the 16th century.
- They are handmade masks that are traditionally used to depict characters in bhaonas or theatrical performances with devotional messages under the neo-Vaishnavite tradition.
- It was introduced by the 15th-16th century reformer saint Srimanta Sankaradeva.
- The masks can depict gods, goddesses, demons, animals and birds
- It has characteristic features of Ravana, Garuda, Narasimha, Hanuman and Varaha Surpanakha.
- Masks had historically been made in all sattras, but the practice gradually died out in most over time.

- While the masks were traditionally made only for the purpose of theatre, over the past couple of decades, the Samaguri sattras has been trying to promote mask-making as an art form in its own right.
- **Sattras** – Are monastic institutions established by Srimanta Sankardev and his disciples as centres of religious, social and cultural reform.
- Today, they are also centres of traditional performing arts such as borgeet (songs), xattriya (dance) and bhaona (theatre), which are an integral part of the Sankardev tradition.
- Majuli has 22 sattras and the patent application states that the mask-making tradition is by and large concentrated in four of them which are:

1. Samaguri Sattras
2. Natun Samaguri Sattras
3. Bihimpur Sattras
4. Alengi Narasimha Sattras

- **Samaguri Sattras** – This sattras is famous worldwide for its traditional Mask-making practices.
- The masks of Samaguri sattras, are renowned for their creativity in the art form.
- Samaguri sattras was established in 1663 by Sri Sri Chakrapani, grandson of Srimanta Sankaradeva.
- This art form has been passed down through generations of satriya bhakats (priests).

5. c

### Electric Mobility Promotion Scheme, 2024

*The union government recently announced Electric Mobility Promotion Scheme (EMPS) 2024 to promote the sale of electric two- and three-wheelers.*

- Electric Mobility Promotion Scheme, 2024 is a fund limited scheme for faster adoption of electric two-wheeler (e-2W) and three-wheeler (e-3W).
- It aims to provide further impetus to the green mobility and development of electric vehicle (EV) manufacturing eco-system in the country.
- The programme also aims to spur localisation of EV components while also driving sales up.
- The scheme is valid for 4 months from April 1 onwards.

- It is applicable only to the electric two-wheeler and three-wheeler.
- **Eligible EV categories**
  1. Two Wheelers (electric) (e-2W)
  2. Three-wheeler (electric) including registered e-rickshaws & e-carts and L5 (e-3W)
- Scheme will be **applicable mainly** to those e-2W and e-3Ws registered for **commercial purposes**.
- Further, in addition to commercial use, **privately or corporate owned** registered e-2W will also be eligible under the scheme.
- **It is an initiative of The Ministry of Heavy Industries, in collaboration with the Department of Expenditure, Ministry of Finance.**
- Under the scheme, **financial support** of Rs10,000 per two-wheeler and Rs50,000 for three-wheeler will be provided.

- c. Karnataka
- d. Tamil Nadu

3) Consider the following statements:

1. Refrigerants such as hydrofluorocarbons (HFCs) are short-lived climate pollutants (SLCPs).
2. Hydrochlorofluorocarbons (HCFCs) are both ozone depleting substances (ODS) and powerful greenhouse gases.
3. Kigali Amendment to the Montreal Protocol aims to reduce consumption of hydrofluorocarbons (HFCs) by 80% by 2047.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

**15-03-2024**

1) Consider the following statements with respect to Fast Breeder Reactor (FBRs)

1. FBRs can create more fissile material fuel than they consume by converting fertile material into fissile material through a process called nuclear transmutation.
2. India's first indigenous Prototype Fast Breeder Reactor (PFBR) is located in Kalpakkam Atomic Power Station, Tamil Nadu.
3. Fast Breeder Reactors belongs to second stage of India's three stage nuclear programme.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

2) Kasarkod Tonka, an important nesting site for Olive ridley turtle, is located in?

- a. Kerala
- b. Odisha

4) Consider the following pairs

Places	Relevance
1. Catalhoyuk	– Neolithic site.
2. Nandankanan	– Zoological Park in Odisha.
3. Raghnesda	– One of the largest solar parks in India.

How many of the pair(s) given above is/are correctly matched?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

5) Consider the following statements with respect to Nematodes

1. They are single celled organisms with no digestive system.
2. Free-living nematodes are parasites that can be unhealthy for plant growth.
3. They are capable to survive only in black cotton soil.



How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

### Answers

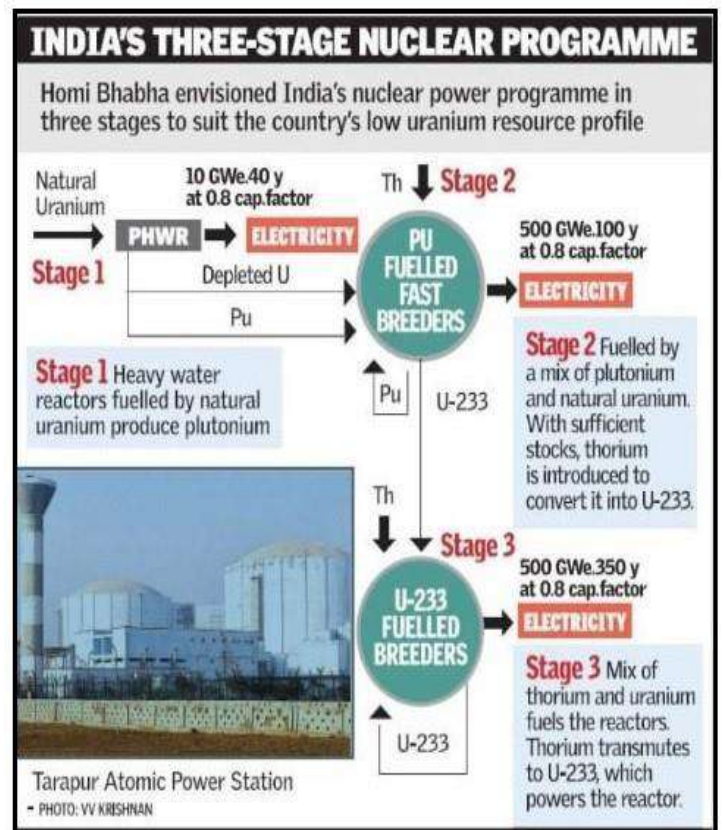
1. c

### Fast Breeder Reactor (FBRs)

Recently 'core loading' process began at the Kalpakkam Fast Breeder reactor which marks a critical milestone in the country's 3-stage nuclear power programme.

- Fast Breeder Reactor (FBRs) are a type of nuclear reactor which can create more fissile material (fuel) than they consume.
- This is achieved by converting fertile material into fissile material through a process called nuclear transmutation.
- **India's nuclear power program** – Is a three-stage plan designed to utilize the country's thorium reserves for generating electricity.
- The second stage, which recently achieved a milestone with the core loading of the Kalpakkam FBR, plays a crucial role in creating more fuel for the third stage.
- India has adopted a “closed fuel cycle” approach.
- **Closed Fuel Cycle Approach** – It involves the reprocessing of spent fuel to separate the useful plutonium (Pu) 239 and Uranium (U) 233 isotopes from U238 and Thorium (Th) 232.
- **Core loading** is the process of placing nuclear fuel assemblies inside the core of a nuclear reactor.
- The 3 Stages of India's Nuclear Power Program:
  - **Stage 1** – Setting up Pressurized Heavy Water Reactors (PHWRs) that use natural uranium as fuel. (Currently operational)
  - **Stage 2 (Current Stage)** – Introduce Fast Breeder Reactors (FBRs) like the Kalpakkam FBR.
  - FBRs use Pu239 (extracted from spent fuel of PHWRs) to generate electricity.

- Surround the reactor core with a fertile material blanket (U238).
- Fast neutrons from the core convert U238 in the blanket to more Pu239, breeding new fuel.
- **Stage 3 (Future Stage)** – Utilize Thorium (abundant in India) for power generation.
- Thorium itself is not fissile, but can be converted to fissile Uranium-233 (U233) in FBRs.
- **Significance of the FBR** – The successful operation of the FBR marks a critical step towards achieving the third stage.
- By breeding Pu239, FBRs create more fuel for future reactors, including those that will eventually use thorium.
- They are crucial for India's long-term energy security, especially in harnessing thorium resources effectively.
- **Thorium reserves in India** – Is found in coastal and inland placer sands on the beaches of Kerala, Tamil Nadu, Odisha, Andhra Pradesh, Maharashtra, and Gujarat.
- It is also found in the inland riverine sands of Jharkhand and West Bengal.
- A **placer deposit** is a natural concentration of heavier minerals created by the action of gravity on moving particles.



2. c

### Kasarkod Tonka

*Recently 700 eggs of sea turtles were destroyed by feral dogs in Kasarkod Tonka, Karnataka.*

- Kasarkod Tonka is one of the important nesting sites for the sea turtle including olive ridley turtle located in the Uttara Kannada district of Karnataka.
- In Tonka, there are 36 plus nesting sites, of which seven have been destroyed by stray dogs.
- Dogs are natural predators of the turtle eggs that are laid on the beaches.
- Kasarkod Beach has received [Blue Flag certification](#).

3. c

### Refrigerants & Montreal Protocol

*Recently an American citizen faced serious legal consequences for his involvement in illegally importing and selling of Refrigerants such as hydrofluorocarbons (HFCs) and a form of hydrochlorofluorocarbons.*

- Refrigerants are gases that cool appliances, like refrigerators and air conditioners, by absorbing heat and transferring it to a cooler environment.
- Refrigerants includes hydrofluorocarbons (HFCs) and a form of hydrochlorofluorocarbons (HCFCs), known as HCFC 22.
- HFCs and HCFCs became mainstream after emerging as an alternative to chlorofluorocarbons (CFCs) in the 1990s.
- HFCs, unlike CFCs and HCFCs, have zero ozone-depleting potential (ODP), gradually became the most prominent refrigerant.
- Refrigerants are released into the atmosphere by damaged appliances or car ACs.
- 90% of refrigerant emissions are estimated to occur when equipments reach their end of life and are improperly disposed of.
- (HFCs) are short-lived climate pollutants (SLCPs).
- Hydrochlorofluorocarbons (HCFCs) are both ozone depleting substances (ODS) and powerful greenhouse gases.
- **Montreal Protocol** – Is an international treaty designed to protect the ozone layer by

phasing out the production and consumption of ozone-depleting substances (ODS).

- It was adopted on September 16, 1987 and has since been ratified by nearly every country in the world.
- *Under the Montreal Protocol, countries were to phase out CFCs by 1996, and HCFCs by 2030.*
- One significant amendment to the Montreal Protocol is the Kigali Amendment, adopted on October 15, 2016, in Kigali, Rwanda.
- **Kigali Amendment** to the Montreal Protocol aims to reduce consumption of hydrofluorocarbons (HFCs) by 80% by 2047.

4. c

- **Çatalhöyük** – Is a **Neolithic** site located in **Turkiye** (Turkey).
- Recently the 'oldest bread' in the world was discovered in this site.
- It was declared a **UNESCO World Heritage Site** in 2012.
- **Nandankanan Zoological Park (NZP)** - Nandankanan is the first zoo in the World to breed White tiger and Melanistic tiger.
- It is located in **Odisha**, India.
- It is the **only conservation breeding centre of Indian Pangolins** in the world.
- First zoo in India to become a member of the World Association of Zoos and Aquariums (WAZA).
- **Raghanesda Solar Power Station** – It is one of the largest power stations located in Gujarat.
- The power generated by the Raghanesda Solar Power Station will be supplied to Gujarat Urja Vikas Nigam Limited (GUVNL) for 25 years.

5. d

### Nematodes

*Recently agricultural experts have stated that not all Nematodes are healthy to soils.*

- Nematodes are **multicellular**, wormlike animals that are different from most other organisms in the soil, such as bacteria and fungi, which are single celled.

- They are **equipped with a digestive system** and are transparent, making it easy for scientists to examine their feeding habits.
- **They are highly capable of surviving in any environment.**
- Not all nematodes are good for plant growth.
- The 4 types of Nematodes in soils are
  1. Free-living nematodes
  2. Plant-parasitic nematodes
  3. Entomopathogenic nematodes
  4. Slug-parasitic nematodes
- **Free-living nematodes** – Are **non-parasites**. They tend to feed on almost anything in the soil, including fungi, bacteria and other nematodes.
- *Without free-living nematodes, soil is regarded as biologically dead and unhealthy for plant growth.*
- **Plant-parasitic nematodes** – They feed through a needle-like stylet, which they use as a syringe for obtaining food from the roots of plants.
- They have adapted their lifestyle from feeding on the outside of the root to inside it, where they are protected against the harsh soil environment.
- **It can never be fully controlled.** However, researchers have developed ways to keep them from multiplying to damaging levels.
- These techniques include planting crops that are resistant to specific nematodes or rotating with crops that the nematodes do not like.
- **Entomopathogenic nematodes** – They act as biological control agents and are plant allies.
- They feed on pest insects such as larvae and pupae that are in contact with the soil, rather than on plants.
- Every farmer or food gardener should have entomopathogenic nematodes present in their soil because they help to keep insect numbers low.
- **Slug-parasitic nematodes** – It can be used as a biological control agent.

**16-03-2024**

1) Consider the following statements with respect to Pandavula Gutta

1. It is the only Geo-heritage site in Telangana district.
2. It is younger than the Himalayan hills.
3. Paleolithic cave paintings can be found here.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

2) Consider the following statements with respect to Dome (Domain Driver Mutation Estimator)

1. It is a computer program designed to analyse the genetic makeup of tumours in cancer patients.
2. This tool was developed by Indira Gandhi Institute of Medical Sciences, Patna.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to Gulf of Mannar Biosphere Reserve

1. It is the first marine biosphere reserve in South & South-East Asia.
2. It is an international bird and biodiversity area and a part of Central Asian Flyway.
3. It has been recognized by the Man and Biosphere (MAB) Programme of UNESCO.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

4) Lepidolite is an important ore of?

- a. Iron
- b. Copper
- c. Lithium
- d. Uranium

5) DIANA, sometimes seen in the news, is an initiative of?

- a. North Atlantic Treaty Organization (NATO)
- b. Shanghai Cooperation Organization (SCO)
- c. Collective Security Treaty Organization (CSTO)
- d. Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)

## Answers

1. b

### Pandavula Gutta

Recently the Geological Survey of India (GSI), State Unit of Telangana organized a Geo-heritage walk at Pandavula Gutta.

- Pandavula Konda (Pandavula Gutta) site was first discovered in the year 1990.
- **It is the one and only Geo-heritage site in Telangana district.**
- Pandavula Gutta is a hillock older than Himalayas.
- **Paintings** – These cave paintings offer a rare glimpse into the prehistoric man's rock art identified on walls and ceilings of caves, rock shelters and isolated boulders.
- **Paleolithic cave paintings** have been found at Pandavula Gutta.
- The rock art paintings depict wild life like Bison, Antelope, Tiger, and Leopard and so on.
- Other shapes like swastika symbol, circles and squares, weapons such as bows, arrows, sword and lancer and so on are present in these paintings.
- The paintings also feature geometrical designs and impressions in green, red, yellow and white pigment colours.

- Pandavula Gutta is rich in terms of number of paintings, rock shelters and its habitation, right from the Mesolithic to medieval times.

2. a

### Dome (Domain Driver Mutation Estimator)

The researchers at the Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Tata Memorial Centre recently developed Dome to detect rare mutations of cancer.

- Dome (Domain Driver Mutation Estimator) represents an advanced computer program designed to scrutinize the genetic composition of tumours across a diverse cohort of cancer patients.
- It goes beyond just finding mutations and instead focuses on where exactly those mutations are located within genes.
- **Developed by** – The Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Tata Memorial Centre, Mumbai.
- **Precise Location Analysis** – Dome goes beyond merely detecting mutations; it focuses on their **precise locations within genes**.
- By analysing mutations within specific gene domains, Dome identifies mutations that are more likely to disrupt protein function and contribute to cancer progression.
- **Tailored Therapies** – By pinpointing novel rare mutations implicated in cancer, Dome facilitates the *development of personalized therapies tailored to each patient's unique cancer profile*.
- This can lead to more effective treatment strategies and better outcomes for patients.
- **Prediction of Cancer Progression** – Dome's ability to analyze variants of unknown significance based on gene-specific locations helps predict cancer progression in patients.
- This information equips clinicians with valuable insights for treatment decision-making.
- **Future Implications** – Dome is expected to emerge as a powerful tool for oncologists, aiding in the design of precision medicine tailored to individual patient mutation profiles.
- Continued research and refinement of Dome's capabilities are likely to lead to more personalized and efficacious cancer therapies in the future.



3. c

### Gulf of Mannar Biosphere Reserve (GoMBR)

*A wind power project by Adani Green Energy in Mannar district of Sri Lanka has run into controversy with locals and environmentalists raising concern over its possible impact on the coastal region and livelihoods.*

- Gulf of Mannar Biosphere Reserve (GoMBR) is located in the south-eastern coastline of India extending between Thoothukudi and Ramanathapuram districts of Tamil Nadu.
- It came into existence on **February 1989**, by a joint declaration of the Government of India and the Government of Tamil Nadu.
- It has been recognized by the **Man and Biosphere (MAB) Programme of UNESCO**.
- GoMBR is the first marine [biosphere reserve](#) in south & south-east Asia.
- Supports more than 1,10,000 families from 268 fishing villages.
- **It is an International bird and biodiversity area and part of central asian bird migratory flyway.**
- The Reserve is also home to several globally important and highly threatened species like the **Dugong**, whale shark, sea horses, Balanoglossus, green sea turtle, Hawksbill turtle, dolphins, sacred chanks, etc.

4. c

### Lepidolite

*China lithium boom slows as the cost of producing lithium via Lepidolite is relatively expensive.*

- Lepidolite is a rare **lithium-rich** mica mineral that is usually pink, red or purple in colour.
- It is the **most common lithium-bearing mineral** and serves as a minor ore of lithium metal, with rubidium and cesium sometimes being by-products.
- It is a member of the common mica group and economically important as a major source of lithium.
- **It is a hard rock ore that is relatively expensive for producing lithium.**
- Since it contains appreciable amounts of rubidium, it is useful in determining geological age according to strontium–rubidium ratios.

- It occurs almost exclusively in granite pegmatites.

5. a

### DIANA Initiative

*Recently Finland joined the DIANA Initiative of North Atlantic Treaty Organization (NATO).*

- **DIANA – Defence Innovation Accelerator** for the North Atlantic.
- It aims to address future challenges in defence and security by harnessing technological solutions.
- **It is an initiative of North Atlantic Treaty Organization (NATO).**
- It seeks to accelerate the development and deployment of innovative solutions with applications in both civil and defence sectors.
- DIANA has a network of more than 200 affiliated accelerator sites and test centres.
- **All NATO nations are members of DIANA.**
- The DIANA Board of Directors is responsible for governance and comprises representatives from every Allied country.
- **DIANA accelerator programme** – Aimed at helping companies and countries develop deep technologies and innovations applicable to both commercial and defence sectors.

**17-03-2024 & 18-03-2024**

1) Consider the following passage:

It is also called as the Valley of Death. It is located in Dima Hasao district of Assam. During the specified months, the mysterious suicide of migratory birds and local birds are common at this valley.

The above passage best describes which of the following valley?

- Dzuko Valley
- Pakke-Valley
- Jatinga Valley
- Champhai Valley

2) Consider the following statements with respect to Trademarks

1. A trademark is a symbol, design, word or phrase that is identified with business.
2. The trademarks act of 1999 governs the regime of trademarks and their registration in India.
3. The validity of the trademark is lifetime, once it is registered under the trademarks act of 1999.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

3) Consider the following statements with respect to MIRV Technology

1. It is a technology in which a single missile can carry multiple nuclear warheads and deliver them to separate targets.
2. Under the Mission Divyastra, the Agni V ballistic missile is equipped with MIRV technology.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Taurus Missile, sometimes seen in the news is developed by?

- a. Russia and China
- b. Israel and India
- c. Germany and Sweden
- d. USA and South Korea

5) Consider the following statements with respect to Psychoactive Fauna

1. It refers to animals whose body parts or secretions possess mind-altering properties when consumed in sufficient quantities.

2. It encompasses various creatures including hallucinogenic fish, amphibians like toads, certain ants and reptiles such as the Indian Wall Lizard.
3. Consuming snake venom for intoxication is potentially the most hazardous practice among enthusiasts of Psychoactive Fauna.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

## Answers

1. c

### Jatinga Valley

- Jatinga Valley, located in Dima Hasao district of Assam, experiences a strange phenomenon during the late monsoon season (September-November), between 7 PM and 10 PM.
- **The Phenomenon** – Many birds, both local and migratory, crash into buildings, trees, or die after flying at high speeds. This event has earned Jatinga the nickname "Valley of Death."
- This phenomenon began in 1910. But in 1957, the general public became aware of this when British tea farmer and ornithologist EP Gee wrote about it in his book Wild Life of India.
- According to the Kaziranga National Park Assam website, this phenomenon is also described as the "**Bermuda Triangle for Birds**".
- **Bird Species Affected** – It includes various migratory bird species such as tiger bittern, little egret, black bittern, pond heron, Indian pitta and kingfishers.
- Local and other species include black drone, hill partridge, green pigeon, emerald dove, and necklaced laughing thrush.
- **Uncertain Cause** – The exact reason for the deaths remains unknown. But Theories include:
  - Disorientation due to strong winds, fog, and low light during monsoon.
  - Attraction to artificial lights from nearby villages during migration.

- A combination of factors, including altitude, wind, fog, and artificial lights.

- **Dispelling Myths** – Villagers initially believed "evil spirits" caused the deaths. However, scientists suggest these are natural occurrences.

2. b

### Trademarks

*Recently the Delhi high court cancelled a trademark registration titled 'Dolma Auntie Moms' in the name of one Mohammed Akram Khan, after Dolma Tsering moved court against Khan for using her trademark.*

- A trademark is a symbol, design, word or phrase that is identified with business.
- Registering a trademark allows its owner to claim "exclusive rights" to its usage.
- **The Trademarks Act of 1999** governs the regime of trademarks and their registration in India.
- It guarantees protection for trademarks registered with the Controller General of Patents, Designs, and Trademarks, also known as the trademark registry.
- According to Section 25 of the 1999 Act, once registered, a **trademark is valid for 10 years** and can be renewed by the owner periodically.
- Using someone's registered trademark without their authorisation amounts to its violation or infringement, as can using a substantially similar mark for similar goods or services.
- The notion of **Passing off** in the Indian Trademarks Act, 1999 seeks to safeguard the goodwill associated with unregistered trademarks.
- 'Passing off' is a deception where a brand misrepresents itself as another to benefit from their reputation.
- **Example of passing off** – 'Adidas' and 'Adibas'. In such infringement cases, the trademark owner can take legal action and is entitled to remedies such as injunctions (orders to cease an action), damages and accounts.

3. c

### MIRV Technology

*Recently Prime Minister Narendra Modi announced that the successful flight test of an Agni V ballistic missile with multiple independently targetable re-entry vehicle (MIRV) technology by DRDO.*

- MIRV stands for **Multiple Independently Targetable Re-entry Vehicle**.
- MIRV is a technology in which a single missile carry several nuclear warheads, each to be released at different speeds with different trajectories to hit different targets hundreds of kilometres apart.
- **Significance of MIRVs**
- **Force Multiplier** – One MIRV missile can take out multiple targets, making it very effective.
- **Submarine Advantage** – Submarines can carry fewer MIRV missiles compared to carrying single warhead missiles, but still achieve the same destructive power.
- **Penetrating Defences** – MIRVs can overwhelm missile defence systems by saturating them with multiple warheads.
- Under the **Mission Divyastra**, the Agni V ballistic missile is equipped with MIRV technology.
- India is the 4th country to use MIRV technology.
- USA is the 1st country to use MIRV technology which was followed by the Russia and china.

4. c

### Taurus Missile

*Recently Russian state media leaked an audio recording of German military officers discussing the hypothetical use of Taurus long-range missiles in Ukraine.*

- Taurus – Target Adaptive Unitary and dispenser **Robotic Ubiquity System**.
- Taurus Missile is developed by **Germany and Sweden**.
- Taurus Missile is equipped with **stealth technology** that makes them less visible to detection.
- Its stealth technology and design means it can fly as a low as **50 metres**, evading detection from most radars.
- The missiles have a range of up to **500 kilometres**, which would help Ukraine to put pressure on Russia in the Black Sea and elsewhere.
- The Taurus has a "higher 'kill probability' because its superior fuze system allows its

warhead to destroy complex structures, such as bridges.

- The missile is also powered by a turbofan engine, which blows in more air, giving it a long range.
- Germany is the second-biggest supplier of military aid to Ukraine after the United States and is further stepping up support this year.

5. c

### Psychoactive Fauna

Recently a youtuber was arrested for allegedly providing snake venom for a rave party and the use of snake venom as a recreational substance in India.

- Psychoactive Fauna refers to animals whose body parts or secretions possess mind-altering properties when consumed in sufficient quantities.
- Some of the commonly used psychoactive fauna are:
  - Hallucinogenic fish such as clownfish and Rabbitfish,
  - Amphibians such as toads, ants such as Red Harvester Ants and
  - Reptiles such as the Indian Wall Lizard, and liver and bone marrow of giraffe.
- These substances can induce various effects on the central nervous system, leading to altered states of consciousness, perception, and mood.
- Engaging in the use of Psychoactive Fauna for recreational purposes can be dangerous and potentially lethal.
- **Snake venom** use for intoxication is relatively common in India despite being under-reported.
- *Matters related to snakes and their venom fall under the purview of the Wildlife Protection Act in India, 1972 rather than the Narcotic Drugs and Psychotropic Substances (NDPS) Act.*
- Consuming snake venom for intoxication is potentially the most hazardous practice among enthusiasts of Psychoactive Fauna.

**19-03-2024**

1) Consider the following statements with respect to the Tiger Conservation Landscapes (TCLs) 3.0:

1. It is a joint initiative of the Ministry of Environment Forest and Climate Change and the Google Earth Engine.
2. The objective of TCLs 3.0 is to count the tiger population in India using satellite images provided by Google Earth Engine.
3. Tiger Conservation Landscapes (TCLs) 3.0 is a sub-scheme under Project Tiger.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Given are the tiger reserves in the state of Tamil Nadu. Arrange the following Tiger Reserves in the chronological order of their establishment.

1. Kalakkad-Mundanthurai Tiger Reserve
2. Mudumalai Tiger Reserve
3. Anamalai Tiger Reserve
4. Sathyamangalam Tiger Reserve
5. Srivilliputhur Megamalai Tiger Reserve (SMTR)

Choose the correct code.

- a. 1, 2, 3, 4, 5
- b. 2, 5, 1, 3, 4
- c. 3, 4, 1, 5, 2
- d. 5, 4, 3, 2, 1

3) Consider the following statements with respect to the World Air Quality Report 2023:

1. It is released annually by the World Health Organisation (WHO).
2. India is ranked as the 9th most polluted country in the world.
3. Delhi is the most polluted capital of the world.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three



d. None of the above

4) Consider the following statements with respect to the Captive Elephant (Transfer or Transport) Rules, 2024:

1. It is released by the Ministry of Environment Forest and Climate Change.
2. Captive elephants can be transferred only when an owner is no longer in a position to maintain the elephant.
3. Before a transfer is effected, the genetic profile of the elephant has to be registered with the Ministry.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements with respect to the Signals Technology Evaluation and Adaptation Group (STEAG):

1. It is a joint collaboration between the Indian Space Research Organisation (ISRO) and NASA.
2. The objective is to observe neutrinos from the most violent astrophysical sources in our universe.

Which of the above given statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

## Answers

1. d

### Tiger Conservation Landscape (TCL) 3.0

NASA satellite imagery and Google Earth Engine computing power are helping scientists develop a real-time monitoring system for tiger habitat globally.

- **Initiative by** – TCL 3.0 is a joint initiative of the [NASA, the European Space Agency \(ESA\)](#), and the Google Earth Engine.
- TCL 3.0 represents the third iteration of assessing tiger habitat across Asia and where tigers still occur.
- **Goal** – To monitor changes in real time to help stabilize tiger populations across the range.
- **Uses** – TCL 3.0 uses Earth observations such as VIIRS, MODIS and Landsat products.
- TCL 3.0 uses [geographic information systems](#), known as [GIS](#).
  - [GIS](#) is a technology that interprets and visualizes spatial data, such as how landscapes have changed over time, population densities, or the distance between different locations.
- **Helps in** – This helps in holistically seeing the impact of human activity on the critical habitats of tigers.

*The TCL 3.0 program is a system that is open sources, meaning it can be applied not only to tigers, but to any species of concern.*

- **Provides** – TCL 3.0, the mapping system provides tiger-range countries the information they need to identify priority areas, and monitor changes in the [habitat and populations](#).
- Platform for governments to align with global initiatives, such as the [Global Biodiversity Framework](#) and [Sustainable Development Goals](#), to address the challenges facing our [ecosystems](#).

*Groups at the Wildlife Conservation Society (one of the organizations that provided funding for the project) are already working on similar maps for vulnerable and threatened animals including [lions](#), [jaguars](#) and [bison](#).*

- **Working of TCL 3.0** – Satellites provide constant, high-resolution imagery, which is used to analyze suitable landscapes from space.
- This data does not show what is going on under the tree canopy.
- Hence, the second layer of data comes from human footprint analysis, data collected from field surveys about the spread of urban areas and human activities.

*Unlike previous versions, the map can be updated when new information becomes available.*

2. a

### Land acquisition for Tiger Reserve (TR)

In a first, the Tamil Nadu forest department has acquired 30.41 acres of erstwhile private patta land, situated in the core area of Srivilliputhur Megamalai Tiger Reserve (SMTR).

- The land was acquired through private negotiation under the [Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013](#).
- A sum of Rs 2.33 crore was paid to seven land owners, who volunteered to surrender their land.
- This is the **first time in India** where the state government has purchased private land for non-commercial use towards forest and biodiversity conservation.
- The titular Yegan Raja had been a lumberjack who assembled a sizable crew to work for British officers.
- He had exploited the forests for British officers, who in return arranged lands for him from the Gandamanur zamindar.
- The land has been passed on to various others since then.

The land acquired by the state government is locally known as Yegan Raja Board.

### Tiger Reserves in Tamil Nadu - Established in the year

1. Kalakkad-Mundanthurai - 1988
2. Mudumalai - 2007
3. Anamalai - 2008
4. Sathyamangalam - 2011
5. Srivilliputhur-Megamalai - 2021

3. b

### World Air Quality Report 2023

Delhi world's most polluted capital, India has 3rd worst air quality – World Air Quality Report.

- **Released by** – Swiss organisation IQAir.
- **IQAir** – A Swiss air quality technology company, prepares the annual world air quality reports based on data from monitoring stations operated by governments, institutions and organisations across the world.

- **Data** – Report includes 7,812 locations in 134 countries, regions and territories.

Causing an estimated one in every nine deaths worldwide, air pollution is the greatest environmental threat to human health.

- **Key Findings** – [India](#) had the **third-worst air quality** out of 134 countries in 2023 after Bangladesh and Pakistan.
- **PM2.5 Concentration** – India (54.4 micrograms per cubic metre), Bangladesh (79.9 micrograms per cubic metre) and Pakistan (73.7 micrograms per cubic metre).
- In 2022, India was ranked as the eighth most [polluted](#) country with an average PM2.5 concentration of 53.3 micrograms per cubic metre.

According to the WHO, air pollution is responsible for an estimated 7 million premature deaths worldwide every year.

- **Delhi** – Delhi's [PM2.5 levels](#) worsened from 89.1 micrograms per cubic metre in 2022 to 92.7 micrograms per cubic metre in 2023, taking it to the top spot in the world's most polluted cities list.
- The [national capital](#) was ranked the most polluted capital city in the world four times on the trot starting in 2018.
- **Begusarai** – Begusarai, in Bihar stood out as the most polluted metropolitan area globally with an average PM2.5 concentration of 118.9 micrograms per cubic metre.
- The city did not even figure in the 2022 rankings.

It is estimated that 1.36 billion people in India experience PM2.5 concentrations exceeding the World Health Organisation (WHO) recommended annual guideline level of 5 micrograms per cubic metre.

- **Impact** – Exposure to PM2.5 air pollution leads to and exacerbates [numerous health conditions](#), including but not limited to asthma, cancer, stroke and lung disease.
- Exposure to elevated levels of fine particles can impair cognitive development in children, lead to mental health issues, and complicate existing illnesses, including diabetes.

The IQAir report for 2022 had stated that roughly 60% of cities in India had recorded annual PM2.5 levels at least seven times higher than the WHO guidelines (annual guideline level at 5 micrograms per cubic metre).

4. c

### **Captive Elephant (Transfer or Transport) Rules, 2024**

*The Centre has notified a set of rules called the Captive Elephant (Transfer or Transport) Rules, 2024 that liberalise the conditions under which elephants may be transferred within or between states.*

- **Released by** – The [Ministry of Environment Forest and Climate Change](#).
- Until August 2022, the [Wildlife Protection Act](#) explicitly prohibited the trade in wildlife including both wild and captive elephants.
- However [amendments](#) to the [Act](#) brought in an exemption that for the first time allowed captive elephants to be transferred.
- **Rules** – Captive [elephants](#) can be transferred when an owner is no longer in a position to maintain the [elephant](#), the [elephant](#) will likely have a better upkeep than in the present circumstances.
- **Chief Wildlife Warden** – Otherwise, when a state's Chief Wildlife Warden deems it fit and proper in the circumstances of the case for better upkeep of the [elephant](#).
- Before a transfer within the state, an elephant's health has to be ratified by a veterinarian and the Deputy Conservator of Forests must establish that the animal's current habitat and prospective habitat are suitable.
- The Chief Wildlife Warden on receipt of such documents may choose to reject or approve the transfer.
- If the transfer involves moving the elephant outside of a state, similar conditions apply.
- **Genetic profile** – Before a transfer is effected, the [genetic profile](#) of the [elephant](#) has to be registered with the Ministry of Environment, Forest and Climate Change.

### **Elephant exemption**

- The elephant being transferred ought to be accompanied by a mahout and an elephant assistant
- A health certificate from a veterinary practitioner to the effect that the elephant is fit for transport and is not showing any sign of musth or infectious or contagious disease, is to be obtained
- The transport shall be carried out after the mandatory quarantine period as advised by the

veterinary practitioner is over, in case of contagious disease

- The elephant shall be properly fed and given water before loading
- Necessary arrangements shall be made to provide food and water to the elephant en route
- Tranquilisers/sedatives shall be used to control nervous or temperamental elephants upon prescription by the veterinary practitioner.
- **Committee** – A Parliamentary Committee, led by Congress Rajya Sabha MP, Jairam Ramesh, had recommended the deletion of this exemption clause for elephants.
- It also recommended providing only an exemption for elephants owned by temple trusts.
- **Final Version of the Act** – The final version of the amended act, however retains the clause on allowing the movement of captive elephants.
- However only animals with an existing certificate of ownership may be moved.

*The government of India in the year 2010 declared Elephant as the national heritage animal of the country on the recommendations of the standing committee of the national board for wildlife.*

5. d

### **Signals Technology Evaluation and Adaptation Group (STEAG)**

*Army raises elite unit to work on critical technologies having military applications.*

- STEAG will undertake research and evaluation of futuristic communication technologies like 6G, Artificial Intelligence (AI), Machine Learning (ML) and quantum computing for military use.
- STEAG will be headed by a Colonel rank officer.
- STEAG is mandated to nurture technologies spanning the complete spectrum of wired and wireless systems.
- It will carry out technical scouting, evaluation, development, management of core ICT solutions, and provide user interface support by maintenance and upgradation of contemporary technologies available in the environment.
- The setting up of STEAG is part of the Army's efforts to develop technologies considering the future battlefield.

- STEAG will help bridge the divide between the armed forces on the one hand and industry and academia on the other.
- STEAG is aligned with the tenets of Atmanirbhar Bharat and Start-Up India.

- c. All three
- d. None of the above

### 20-03-2024

1) Which of the following statement(s) is associated with the term Afar Triangle recently seen in news?

- a. A fault in the Great Rift Valley in the Horn of Africa.
- b. A loosely defined region in the western part of the North Atlantic Ocean.
- c. A void space beyond the Kuiper Belt in the universe.
- d. A tri-junction between Germany, France, and Switzerland.

2) Identify the indigenous cow breeds in India among the following:

1. Vechur Cow
2. Braunvieh Cow
3. Deoni Cow
4. Angola Cow

Choose the correct code.

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

3) Consider the following statements with respect to the Star Tortoise:

1. It is endemic to the Indian sub-continent.
2. It is classified as critically endangered by the IUCN.
3. India has started creating a genetic database of the Indian Star Tortoise.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two

4) Consider the following statements with respect to the Euclid Telescope:

1. The Euclid mission hopes to understand the evolution of the Universe by looking at the light emitted from galaxies 10 billion years ago.
2. It is an initiative of the National Aeronautics and Space Administration (NASA).

Which of the above statement(s) is/are **incorrect**?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Consider the following statements with respect to the Kshipra River:

1. It is located in the state of Madhya Pradesh.
2. The holy city of Ujjain is located on the right bank of the Shipra River.
3. The Kshipra River is mentioned in both Buddhist and Jain scriptures.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

### Answers

1. a

### Afar Triangle

*Geologists have found a fault that can create world's sixth ocean.*

- [East Africa](#) is home to Africa's longest geological feature, the Great Rift Valley.
- The northernmost part of the [Great Rift Valley](#) features a large geological depression known as the Afar Triangle, located in the [Horn of Africa](#).



- **Other names** – Afar Triangle is also known as the Afar Depression, or the [Danakil Depression](#), or the Denakil Plain.
- **Danakil** – The depression in northeastern Ethiopia is one of the world's hottest places, as well as one of its lowest, at 100 metres below sea level.
- The Danakil plain was formed by the evaporation of an inland water body.
- All the water entering Danakil evaporates, and no streams flow out from its extreme environment.
- It is covered with more than 10 lakh tonnes of salt.
- **Ethnic** – It is named after the Afar Ethnic Group who inhabit the region, while the term triangle represents the triangular shape of the geological depression when viewed on a topographical map.
- **Geologically Active** – The Afar Triangle is East Africa's most geologically active region and is made up of [active volcanoes](#), salt lakes, and lava lakes.
- **Converging Plates** – The Afar Triangle is a geological depression where three [tectonic plates](#), the Nubian, [Somali](#), and Arabian plates, converge.
- The rifting process occurring here is a result of the tectonic plates slowly moving apart, a phenomenon that has been taking place for millions of years.
- **Afar formation** – In 2005, a 35-mile-long rift opened up in the [Ethiopian desert](#), signaling the ongoing separation of the African continent.
- This rift is the surface expression of deep-seated tectonic forces at work, as the [Somali](#) plate moves away from the Nubian plate, stretching and thinning the Earth's crust.
- Geologists predict that in 5 to 10 million years, the tectonic movement will eventually split the African continent into two, creating a new ocean basin.
- **New Ocean** – This new body of water would be the result of the [Red Sea](#) and the [Gulf of Aden](#) flooding over the Afar region and into the [East African Rift Valley](#).
- Consequently, this part of East Africa would evolve into its own distinct continent.
- The formation of a new ocean is a complex and lengthy process that involves various stages of

rifting, from continental breakup to the development of a mid-ocean ridge.

- **Mantle** – One of the key factors driving the rifting process is believed to be a massive plume of superheated rocks rising from the mantle beneath East Africa.
- This plume could be exerting pressure on the overlying crust, causing it to stretch and fracture.
- **Magmatism** – The magmatism in the region, particularly at the Erta Ale volcano, offers clues to the tectonic transition, with characteristics that mimic those of a mid-ocean ridge.
  - Magmatism is the formation and motion of magma under Earth's surface.

2. b

### Vechur Cow

*Dr. Sosamma Iype won the Padma Shri in 2022 for saving and resurrecting a breed of indigenous cattle, the Vechur Cow.*

- The Vechur Cow is acknowledged as one of the world's smallest cattle breeds, is [indigenous](#) to the Vechur village in Kerala.
- **Characteristics** – Typically, 90 cm tall and one-metre-long, Vechur cows demand very little food and no special care.
- The milk was rich in fat, and the variety was tolerant to heat and resistant to most diseases, including the foot-and-mouth disease.
- Vechur Cow can easily survive in adverse climates.
- **Extinct** – The milk revolution of the 1950s accompanied by a crossbreeding whip from the government, had started wiping out native cow breeds.
- In Kerala, a livestock improvement act was passed in 1961, and it declared possession of native breeds of cows as illegal.
- Across the state, Vechur cows were extensively inseminated with exotic bulls.
- The Vechur experiment prompted the conservation of 28 native breeds which were on the verge of extinction, and they include Sikkim's small and short-legged Siri cow and the Tharparkar of Rajasthan's Thar Desert.
- Indigenous cow breeds include Gir, Sahiwal, Rathi, Deoni, Kankrej, Tharparkar, Red Sindhi, Kangeyam, Ongole, etc and Indigenous buffalo

breeds include Murrah, Jaffrabadi, Pandharpuri, Mehsana, etc.

- Unscientific translocations that have resulted in genetic mixing between different populations.

3. b

### Star Tortoise

*A new study shows that wild populations of Indian star tortoises, exist as two genetically distinct populations, one in northwestern India and the other in southern India.*

- **Scientific name** – *Geochelone elegans*
- Star Tortoises have a distinct star-like markings on the shell.

*Star Tortoises are one of the most trafficked species in the world.*

- **Habitat** – It is endemic to the Indian subcontinent and inhabits two disjoined arid regions, northwestern India (including parts of Pakistan) and southern India (including parts of Sri Lanka).
- In India, they are found in six states Gujarat, Karnataka, Punjab, Tamil Nadu, Kerala and parts of Odisha.
- **IUCN Status** – According to the IUCN Red List, the Indian Star Tortoise is a vulnerable species.
- **CITES** – CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) listed it under Appendix I, the list of most endangered species.

- India has started creating a genetic database of the Indian Star Tortoise.
- Prior to this, similar genetic databases have been created and effectively used to protect tigers and rhinos in India.
- Integrating genetic information into the management of this highly trafficked species could help in evidence-based conservation and better rehabilitation decisions for seized tortoises.

- Currently, seized star tortoises in India are released into wildlife sanctuaries such as the Chinnar wildlife sanctuary and Sathyamangalam wildlife sanctuary.
- **Threats** – The species is facing twin challenges of a threat to its habitat at one level and loss of its genetic diversity at the other.
- Rampant illegal trade has caused major losses of the Indian Star Tortoises.



4. b

### Euclid Satellite

*Scientists are trying to de-ice Euclid satellite millions of kilometres away from Earth.*

- **Mission by** – The Euclid Telescope was launched by European Space Agency from Cape Canaveral in Florida.
- **Objective** – The Euclid mission hopes to understand the evolution of the Universe by looking at the light emitted from galaxies 10 billion years ago.
- Euclid is a cosmology survey mission, optimized to determine the properties of dark energy and dark matter on universal scales.
- The telescope will also focus on gleaning more information on dark energy and dark matter and will scan more than 1/3rd of the sky.
- **Named After** – It is named after the Greek mathematician Euclid of Alexandria, who lived around 300 BC and founded the subject of geometry.
- **Features** – The Euclid spacecraft is approximately 7 m tall and 3.7 m in diameter.
- **Components** – It consists of two major components: the service module and the payload module.
- **Orbit** – Its operational orbit will be a halo around a point known as the Sun-Earth Lagrange Point 2 (L2), at an average distance of 5 million km beyond Earth's orbit.
- **Lifetime** – Nominal mission lifetime is six years, with the possibility of extension (limited by the amount of cold gas used for propulsion).
- **Ice on the telescope** – The layers of ice covering Euclid's optics are the same width as a

strand of DNA, but it is already impacting the spacecraft's vision.

- For most spacecraft, it would be enough to use in-built heaters to slightly raise the temperature of the entire spacecraft, which could clean the optics.
- But materials expand with heat, and they don't always return to the exact same state after cooling.
- To limit the possibility of such thermal changes affecting its sensitivity, the Euclid team will individually heat low-risk parts of the spacecraft gradually before they get the intended results.
- **Dark energy** – It is the undetectable form of energy that is causing the expansion of space, about 68% of the universe is made of dark energy while dark matter makes up 27% and only 5% of the Universe is made of normal matter.

5. c

### Kshipra River

*A performance audit conducted by the Comptroller and Auditor General of India (CAG) on the degradation of the river, covering 2016-17 to 2020-21, threw up a host of significant findings.*

- The Shipra, also known as the Kshipra, is a river in the State of Madhya Pradesh.
- The river rises in the kakri bardi hills Vindhya Range north of Dhar, and flows north across the Malwa Plateau to join the Chambal River.
- The word Shipra is used as a symbol of purity (of soul, emotions, body, etc.) or chastity or clarity.
- Shipra is a perennial river and is considered as sacred as the Ganga River by the Hindus.
- The Puranas or ancient Hindu texts also put forward that the Shipra originated from the heart of Varaha, Lord Vishnu's incarnation as a boar.
- **Ujjain** – The holy city of Ujjain is located on the right bank of the Shipra River.
- **Kumbha Mela** – The famous Kumbha Mela takes place in the Ghats of this city, once every 12 years, a yearly celebration of the river goddess Kshipra.
- **Mentioned In** – The Shipra River finds mention not only in ancient Hindu texts, but also in Buddhist and Jain scriptures.

- **Lok Sarita** – The pious river Kshipra is often referred to as "Lok Sarita" or the river of masses since, its origin is directly out of the womb of the earth.

**21-03-2024**

1) Consider the following statements:

1. This species is exclusive to the Northeast India.
2. It is nocturnal and arboreal.
3. It is classified as Vulnerable by the IUCN.

The above characteristics corresponds to which of the following species?

- a. Binturong
- b. Small-Clawed Otter
- c. One-Horned Rhinoceros
- d. Eastern Swamp Deer

2) Consider the following statements with respect to the Right Whales:

1. Right Whales are found only in the Northern Hemisphere of the Earth.
2. The North Atlantic Right Whale is categorized as Endangered by the IUCN.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to the Mughal Emperor Aurangzeb:

1. He was born in Dohad located in the present day state of Gujarat.
2. He was the first Mughal ruler to impose the Jizya tax.
3. Aurangzeb built the famous Jama Masjid in Delhi.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two

- c. All three
- d. None of the above

4) Consider the following statements:

1. Virtual Reality is a simulated 3D experience projected by a device into the user's sight.
2. Pokemon Go is an example of Augmented Reality.
3. Spatial Computing allows computer functions in the backdrop of a physical space instead of a computer screen.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements with respect to Global E-waste Monitor 2024:

1. It is released by the International Association of Electrical, Electronic and Energy Engineering (IAEEEE).
2. According to the Global E-waste Monitor 2024, India and China generated the highest amount of e-waste per capita in 202

Which of the above statement(s) is/are **incorrect**?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

## Answers

1. a

### Binturong and Small-clawed otter

*Two mammal species, the binturong and small-clawed otter, were newly found in Kaziranga National Park and Tiger Reserve.*

#### Binturong

- **Scientific name** – Arctictis binturong
- **Native to** – South and Southeast Asia.

- **Other name** – Bearcat (meaning young in Assamese).

- **Characteristics** – It is not easily found due to its nocturnal (active at night) and arboreal (living in trees) habits.



- They live in elevated areas and prefer dense forests with a lot of canopy cover.

- **Distribution** – In India it is known to have a distribution exclusive to the Northeast.

- **Conservation Status** –

1. **Wildlife Protection Act 1972** – Schedule I
2. **IUCN Status** – Vulnerable

#### Small-clawed otter

- **Scientific name** – Aonyx cinereus
- **Other name** – Asian small-clawed otter.
- **Characteristics** – Small-clawed otter is the smallest otter species in the world.
- Small-clawed otters have partially webbed feet with short claws, which make them skilled hunters in aquatic environments.
- Small-clawed otters are highly social animals, living in family groups and communicating through a variety of vocalizations.
- The claw of the smooth coated otter is like that of a dog but the claws of small-clawed otter is like a human finger.
- **Types** – Three different otter species are found in India, namely – Smooth-coated otters, Eurasian otters and small-clawed otter species.
- With the identification of the small-clawed otters, all three species are now present in the Kaziranga national park.
- **Distribution** – It has wide distribution range, extending through India in South Asia to eastwards in Southeast Asia and Southern China.
- **In India** – It is found mostly in the protected areas of West Bengal, Assam, and Arunachal Pradesh and in Karnataka, Tamil Nadu and



some parts of Kerala in the Western Ghats region.

- It was previously reported from western Himalayas and parts of Odisha, however no recent records of its presence has been found in these regions.
- **Found in** – They are primarily found in freshwater habitats such as rivers, streams, and wetlands.
- **Diet** – They feed on fish, crustaceans, and mollusks.
- **Prefer** – In Western Ghats of India, it prefers high-elevation areas with streams and pools.
- It also prefers narrow fast flowing rocky streams with densely vegetated banks to provide secure escape cover.
- **Conservation Status** –
  1. **Wildlife Protection Act 1972** – Schedule I
  2. **IUCN Status** – Vulnerable



- This identification of the elusive binturong and the small-clawed otter, increases the number of mammal species in Northeast India's biggest national park to 37.

2. d

## Right Whales

- **Name** – The species' name originates from the fact that historically whalers considered right whales the right whale to hunt.
- **Characteristics** – These whales yielded high quantities of oil and baleen, and were easy to catch and process because they were found close to shore, swam slowly, and floated when they were dead.
- **Types** – There are three recognized species of right whales that occur in different parts of the world.
- These are Southern right whales (*Eubalaena australis*), North Atlantic right whales (*Eubalaena glacialis*) and North Pacific right whales (*Eubalaena japonica*).
- The North Atlantic right whale is one of the world's most endangered large whale species.

- North Atlantic right whales are legally protected, both internationally and in U.S. waters.
- The North Pacific right whale is found in the North Pacific Ocean, and the Southern right whale is found in the southern hemisphere.
- **Differ** – While they differ genetically, and in conservation status, they do not differ significantly in their external appearance.
- **IUCN Status** –
  1. **Southern right whales** – Least Concern.
  2. **North Atlantic right whales** – Critically Endangered.
  3. **North Pacific right whales** – Endangered.

3. b

## Aurangzeb

*Shiv Sena leader equated Prime Minister with Mughal emperor Aurangzeb, saying that both were born in Gujarat.*

- **Born** – Aurangzeb was born in Dohad (or Dahod) in present-day Gujarat on November 3, 1618.
- **Parents** – He was prince Khurram's (not yet Emperor Shah Jahan and Mumtaz Mahal) sixth child, and third son, after Dara Shukoh and Shah Shuja.
- **Early Life** – At the time, Khurram had been made the governor of the Gujarat province, appointed to the post by his father, Emperor Jahangir in 1618.
- Aurangzeb would, thus, spend his early years in Gujarat until his father decided to (unsuccessfully) rebel against the Emperor in 1622.
- Khurram had to submit to his father his young sons, Dara and Aurangzeb, as hostages.
- **Character** – Aurangzeb grew up as a serious-minded and wedded to the Muslim orthodoxy of the day and free from the royal Mughal traits of sensuality and drunkenness.
- **Positions** – He commanded troops against the Uzbeks and the Persians with distinction and, as viceroy of the Deccan provinces in two terms, reduced the two Muslim Deccan kingdoms to near-subjection.

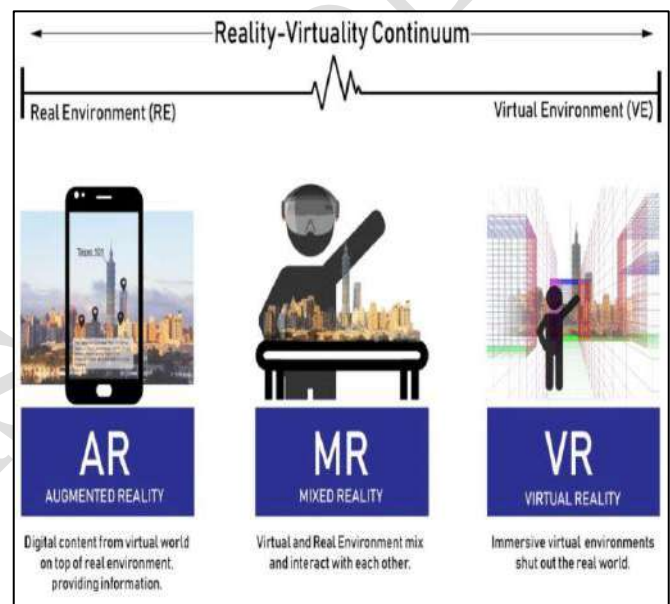
- **Emperor of India** – Aurangzeb ruled India between 1658 to 1707.
- In the struggle for power (1657–59), Aurangzeb defeated Dara and confined his father in his own palace at Agra.
- Aurangzeb's reign is often characterised by his strict Islamic policies, including the imposition of the Jizya (tax on non-Muslims) and the destruction of Hindu temples.
- **First Mughal ruler to impose Jizya was Qutubuddin Aibak.**
- In 1675 Aurangzeb arrested and executed the Sikh Guru (spiritual leader) Tegh Bahadur, who had refused to embrace Islam.
- The succeeding Guru, Gobind Singh, was in open rebellion for the rest of Aurangzeb's reign.
- **Architecture built** – Moti Masjid, Badshahi Mosque, and Bibi Ka Maqbara.
- **Jama Masjid was built by Shah Jahan.**
- **Death** – Aurangzeb died as the emperor of India on March 3, 1707.

- The Snapchat filters and Pokemon Go are a great example of augmented reality.
- It is the overlay of digital content on the real-world environment.
- It uses different tools to make the real and existing environment better and provides an improved version of reality.
- **Mixed Reality (MR)** – It is a mix of virtual reality and augmented reality in which one can interact with the digital as well as the real world simultaneously.
- It integrates digital objects and real-world in such a way that it makes it look like the objects really belong there.

4. c

#### Virtual Reality vs Augmented Reality vs Mixed Reality

- **Spatial computing** – It allows to use computer graphics, images and other functions in the backdrop of a physical space instead of a computer screen.
- It enables computers to blend in with the physical world in a natural way.
- **Virtual Reality (VR)** – It is a simulated 3D experience projected by a device into the user's sight.
- These immersive simulations can create almost any visual or place imaginable for the player using special equipment such as computers, sensors, headsets, and gloves.
- The users need to wear devices such as headgears or goggles to interact with the environment.
- **360 VR** – This technology is an interactive and immersive VR that allows the user to be in the middle of a virtually created scene.
- **Augmented Reality (AR)** – This technology is used to add digital images on top of real-world scenarios.



5. c

#### The Global E-waste Monitor 2024

According to the Global E-waste Monitor (GEM), the world's generation of electronic waste is rising five times faster than documented e-waste recycling.

- It provides the most up-to-date overview of global e-waste data, statistics, and progress in policy and regulation since 2014.
- **Prepared by** - Global E-waste Statistics Partnership (GESp) with the support from Fondation Carmignac, a corporate foundation.
- **E-waste production** - A record 62 million tonnes of e-waste was produced in 2022, 82% up from 2010.
- It will rise another 32% to 82 million tonnes in 2030.
- Just 1% of rare earth element demand is met by e-waste recycling.

- **Recycled waste** - Less than one quarter (22.3%) of the year's e-waste mass was documented as having been properly collected and recycled in 2022.
- Among regions, Europe has the highest rate of documented formal collection and recycling of e-waste at 42.8% while Africa generates the lowest rates of e-waste but struggles to recycle it.
- **Per-capita e-waste** - Europe (17.6 kg), Oceania (16.1 kg) and the Americas (14.1 kg) generated the highest amount of e-waste per capita in 2022.

2. The Ministry of Finance introduced the concept of Super Tax based on the recommendations of this report.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to Reverse Osmosis:

1. Reverse Osmosis works on the principle of Diffusion.
2. Even microbes are removed using reserve osmosis process.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Consider the following statements with respect to the Great Indian Bustard (GIB):

1. It is largely found in the Jayakwadi bird sanctuary.
2. It is the State Bird of Madhya Pradesh.
3. It is categorised as Critically Endangered by the IUCN.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

## Answers

1. b

### **Brucethoa isro**

*New species of deep-sea isopod discovered off Kollam, Kerala named after ISRO.*

## 22-03-2024

1) Which of the following crustacean species was recently discovered off the coast of Kerala?

- a. Black-headed grosbeak
- b. Brucethoa isro
- c. Mangrove rivulus
- d. Rainbow boa

2) Consider the following statements with respect to the Impeachment of President in India:

1. In India, the only condition for impeachment of the President in India is violation of the constitution as per Article 56 (1) (b).
2. However, the words violation of the constitution don't find their definition anywhere in the Constitution.
3. Till date the provision for impeachment of the President has never been used in India.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

3) Consider the following statements with respect to the Income and Wealth Inequality in India, 1922-2023:

1. It is released by the NITI Aayog in collaboration with the National Statistical Organisation (NSO).

- **Genus** – The tiny fish-parasitic crustacean, belonging to the genus *Brucethoa*, was recovered from the base of the gill cavity of the Spinyjaw greeneye, a marine fish.
- The new species has been named *Brucethoa isro* in honour of the Indian space agency's successful space missions, including the successful lunar mission titled Chandrayaan-3.
- The new species was identified by the same team that had in 2020 described *Brucethoa* as a new genus from India.
- **Features** – Females of the *Brucethoa isro* species tend to be larger than the males.
- Females grow to about 19 mm in length and 6 mm in width, while males are smaller at around half the size.
- The distinctive morphology and behaviour of deep-sea parasitic isopods have long intrigued taxonomists.
- *Brucethoa isro* is the second species within this genus to be documented in India.

2. c

### Impeachment Procedure of President in India

- **Head of State** – The President of India is officially known as the President of the Republic of India and is the Head of the State.
- **Article** – The only condition for impeachment of the President in India is “violation of the constitution” as per Article 56 (1) (b) of the Constitution of India.
- **Impeachment** – However, the words violation of the constitution don't find their definition anywhere in the Constitution.
- Article 61 further provides for the procedure of impeachment of President.
- **Initiated by** – Accordingly, impeachment proceedings against the President can be initiated by either of the houses, provided that the charges are signed by at least 1/4 of the members of that house.
- Thereafter, a 14 days' notice is served to the president.
- Then the resolution is voted upon in the house, and requires a special majority of not less than two thirds of the total membership of the House.
- It is then sent to the other house which investigates upon the charges.

- **Trial** – Such a trial is presided over by the presiding officer of the house in which the charges are to be investigated.
- Article 61 (3) of the Constitution gives the President the right to appear himself and to be represented during the investigation of charges, based on the principle of *Audi alterum partum*.
- **Majority** – If a resolution is passed by a special majority of at least 2/3rd of the total membership of the investigating House, it would result in removal of the President from his office from the date of passing of the resolution.
- Till date the provision for impeachment of the President has never been used.

3. d

### Income and Wealth Inequality in India, 1922-2023

*Data on India for a century has revealed income and wealth inequality now as being worse than during British colonial rule, according to the World Inequality Lab.*

- **Findings** – By 2022-23, top 1% income and wealth shares (22.6% and 40.1%) are at their highest historical levels.
- India's top 1% income share is among the very highest in the world, higher than even South Africa, Brazil and US.
- **Billionaire raj** – It says the 'billionaire raj' is now more unequal than the British colonial raj.
- Billionaire raj is the term used to define the post – 2010s rapid rise of billionaires in the country.
- It makes two other observations, one on income tax being regressive, and the other being the poor economic data, which has seen a decline recently.
- Inequality has been rising sharply in India since the 1980s, between 2014-15 and 2022-23, the rise of top-end inequality has been particularly pronounced in terms of wealth concentration.

### Key Takeaways

- **Inequality** – Inequality declined post-independence till the early 1980s, after which it began rising and has skyrocketed since the early 2000s.
- Trends of top income and wealth shares track each other over the entire period of the study.
- **2014-15 & 2022-23** – Between 2014-15 and 2022-23, the rise of top-end inequality has been



particularly pronounced in terms of wealth concentration.

- By 2022-23, top 1% income and wealth shares (22.6% and 40.1%) are at their highest historical levels.
- India's top 1% income share is among the very highest in the world, higher than even South Africa, Brazil and US.
- **Income Tax** – In line with earlier work, the paper finds suggestive evidence that the Indian income tax system might be regressive when viewed from the lens of net wealth.
- A restructuring of the tax code to account for both income and wealth, and broad-based public investments in health, education and nutrition are needed to enable the average Indian.
- **Super Tax** – A super tax of 2% on the net wealth of the 167 wealthiest families in 2022-23 would yield 0.5% of national income in revenues and create valuable fiscal space to facilitate such investments.
- Super tax serves as a tool to fight inequality.

4. a

#### Reverse Osmosis

- **Reverse Osmosis (RO)** – It is a water purification process that uses a partially permeable membrane to remove ions, unwanted molecules and larger particles from drinking water.
- Reverse osmosis works by reversing the principle of osmosis.
- The salt solution is subjected to pressure and pressed against the semi-permeable membrane.
- Here, the applied pressure is greater than the osmotic pressure.
- Thus, the molecules move from a highly concentrated solution to a less concentrated solution.
- **Diffusion** – Diffusion is a process by which the molecules move from the region of higher concentration to lower concentration.
- There is a net movement meaning more molecules moving in one direction than in the opposite direction.
- In osmosis, the water molecules and the concentration gradient occurs over the semipermeable membrane which allows the

entry of water and blocks the passage of ions and other larger molecules including sodium, chlorine, bacteria, glucose, etc.

- Reverse osmosis is the process or the technology which is used to remove ions, mineral chemicals, and other impurities from drinking water.
- In this process, greater pressure is applied, forcing the water to travel through the semipermeable membrane in opposite to natural osmosis.
- **TDS** – In RO, the total dissolved solids (TDS), a major determinant of water quality - in water are reduced to meet potable water standards.
- TDS comprise inorganic salts like calcium, magnesium, etc and some small amounts of organic matter that are dissolved in water.
- Home filters waste nearly 80% of the water during treatment.
- The resort to restrict home filters may cause consumer to worry but it is unlikely that they will be taken to task for using such water filters.

5. b

#### Great Indian Bustard (GIB)

*The Supreme Court constituted an expert committee to determine the scope, extent and feasibility of electric lines in priority spots of Great Indian Bustard.*

- **Scientific Name** – *Ardeotis nigric*
- Locally called **Godawan**, GIB is a large bird of the bustard family (Otididae) and one of the heaviest flying birds in the world.
- They are not great fliers but have wide sideways vision to maximise predator detection.
- Great Indian Bustard is the **state bird of Rajasthan**.
- The mascot for CMS COP13, which was held in Gandhinagar, India in 2020 was "**Gibi - The Great Indian Bustard**".
- **Habitat** – Dry grasslands and scrublands on the Indian subcontinent.
- Its largest populations are found in **Rajasthan** in the arid grasslands of Thar Desert National Park and Pokhran Field Firing Range.
- It is considered as an indicator of the health of grassland ecosystem.
- **Feed** – They are omnivores.

- **Reproduction** – They are a slow-reproducing species and lay few eggs and have almost a year-long parental care of chicks.
- **Threat** – Habitat loss, Hunting and poaching.
- **Conservation Efforts** – In 2012, **Project Bustard**, a national conservation program was launched to protect the GIB along with **Bengal florican** (Critically endangered) and **lesser florican** (Critically endangered).
- GIB has also been identified as one of the species for the recovery programme under the **Integrated Development of Wildlife Habitats** of Ministry of Environment, Forests and Climate Change.
- **Conservation Status of Great Indian Bustard** – IUCN Red List – Critically Endangered; Wildlife (Protection) Act, 1972 – Schedule I; CMS Convention – Appendix I; CITES – Appendix I.

### 23-03-2024

1) What are the key factors that taken into account for the World Happiness Index?

1. GDP per capita,
2. Healthy life expectancy
3. Having someone to count on
4. Generosity
5. Freedom from corruption

Considering the above statements which of the following is correct?

- a. All except 5
- b. All except 3 and 5
- c. All except 4 and 5
- d. All five

2) “Pushpak”, ISRO’s mission often recently seen in news, related to?

- a. Reusable Launch Vehicle (RLV)
- b. Regional Navigation Satellite
- c. Long-Range Surface-to-Air Missiles (LR-SAM)
- d. Earth-observing mission

3) Consider the following statements with respect to Kashmir’s Hangul

1. It is the only Asiatic survivor or sub-species of the European red deer.
2. It is a highly social animal and restricted to the Dachigam National Park.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to Netravati Waterfront Promenade Development Project

1. It is a proposed hydro project in Karnataka aims to generate 2,000 MW of power.
2. The projects is implemented by Mangaluru Smart City Limited (MSCL).
3. The Netravati River originates in the Bangrabalige valley of Yelaneeru Ghat in Karnataka.

Which of the statement(s) given above is/are incorrect?

- a. Only one
- b. Only two
- c. All three
- d. None

5) Consider the following statements with respect to Nomination Procedure in Lok Sabha

1. The nomination form can be submitted to the State Election Commissioner along with the prescribed amount as security deposit.
2. Any Indian citizen whose name is in the voter list can make nomination for the Lok Sabha seat.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Answers**

1. d

**World Happiness Report, 2024**

The World Happiness Report 2024 was released on March 20 to mark the UN’s International Day of Happiness.

- **Aim** - To measure, quantify, and compare happiness levels around the world.
- **Brought by** - A partnership of Gallup, the Oxford Wellbeing Research Centre, the UN Sustainable Development Solutions Network, and the WHR’s Editorial Board.
- **First published in** - 2012.
- **Indicators** - The ranking is based on individuals' own assessment of their life satisfaction, alongside factors like GDP per capita, social support, and life expectancy.
- **Key findings of 2024 Report**– Ranks 143 nations and for the 1st time, the report gives separate rankings by age group, in many cases varying widely from the overall rankings.
  - **Lithuania** tops the list for children and young people under 30.
  - **Denmark** is the world's happiest nation for those 60 and older.
- For the 1st time since the report was published, the **United States (23rd) and Germany (24th)** did not find a place among the list of 20 happiest nations.

Most Happy Countries	Least Happy Countries
Finland (for the 7th year in a row)	Afghanistan
Denmark	Lebanon
Iceland	Lesotho

**India’s Case**

- India is ranked **126th**, behind countries such as Libya, Iraq, Palestine and Niger.
- The young in India are the happiest while those in lower middle rung are the least happy.
- Older men, those in the higher age groups, currently married, and those who were educated, report higher life satisfaction compared to their respective peers.
- The latest report discovered that **younger generations generally report higher**

**levels of happiness** compared to older age groups across most regions worldwide.

2. a

**Pushpak**

Pushpak, an SUV-sized winged rocket released from an Indian Airforce Chinook helicopter successfully landed through RLV LEX-02 experiment recently.

- Pushpak is a Reusable Launch Vehicle (RLV).
- **Developed by** - Indian Space Research Organisation (ISRO).
- This is ISRO’s 2nd series of RLV landing experiment.

3. a

**Kashmir’s Hangul (Cervus hanglu hangul)**

Despite conservation efforts, Kashmir’s hangul deer risk is facing extinction.

- **About** - It is also known as the Kashmir stag or Kashmiri red stag which is highly shy and sensitive animal.
- It is the only Asiatic survivor or sub-species of the European red deer.
- **State animal** - It is the **State animal of Jammu and Kashmir**.
- **Habitat** – It lives in dense riverine forests, high valleys and mountains of the Kashmir valley and northern Chamba in Himachal Pradesh.
- **Distribution** –It is endemic to the hills of Kashmir and restricted to the **Dachigam National Park**.
- **Conservation Status**
  - IUCN - Critically endangered
  - CITES - Appendix

4. b

**Netravati Waterfront Promenade Project**

National Green Tribunal (NGT) in New Delhi has recently initiated action on the Netravati Waterfront Promenade Development Project in Mangaluru, Karnataka.

- Promenade project includes
  - Setting up a biodiversity park and
  - Creation of a bird-watching area near the netravati railway bridge,

- Building a pathway and laying a cycle track from the bridge to bolar sea face.
- The project is implemented by **Mangaluru Smart City Limited (MSCL)**, a special-purpose vehicle created under the Union Government's Smart City Mission.
- **Netravati River** - The Netravati River, also known as the Bantwal River originates in the **Bangrabalige valley of Yelaneeru Ghat** in Karnataka.
- It joins the **Kumaradhara River** before emptying into the Arabian Sea.
- The Netravati is considered one of India's holy rivers and flows through the famous **pilgrimage site of Dharmasthala**.

5. b

### Nomination Procedure

*Filing of nominations for the 1st phase of the Lok Sabha polls began recently.*

- **Nomination Process** - The process of nomination starts with the release of the notification for the Lok Sabha elections.
- Under this process, the candidates register their names with the Election Commission and claim that they are the right contenders to get public votes in the Lok Sabha election field.
- **Eligibility** - Any Indian citizen whose name is in the voter list can make nomination for the Lok Sabha seat.
- When a candidate is nominated by a political party, it is said that the candidates has got a ticket from the party.
- **Independent candidates** - Independent candidates file their nominations with their symbols, Election Commission examines their application for the symbol and allocates the party symbol after that.
- **Submission authority** - The nomination form can be submitted to the **District Election Officer** along with the prescribed amount as security deposit and submit an affidavit.
- **Document submission** - The nominators have to submit their passport size photo, Aadhar card, PAN card, domicile, caste certificate.
- **Property details** - The candidate has to give the details of their movable and immovable properties, income, expenditure, and loans of their wife and dependent children.

- **Cases against the candidate** - If any criminal case is going on against the candidate, or a court case is registered or if punishment has been given in any case, they also have to inform the Election Commission about that.
- **Withdrawal process** - The candidate can withdraw their name after a few days of nomination.

### 26-03-2024

1) The Moyar Valley recently seen in news is located in which of the following region?

- a. Karnataka-Kerala-Tamil Nadu
- b. Tamil Nadu-Andhra Pradesh
- c. Kashmir-Himachal Pradesh-Ladakh
- d. Uttar Pradesh-Uttarakhand

2) Consider the following statements with respect to the Financing Agrochemical Reduction and Management Programme (FARM):

1. It is a joint initiative of the Ministry of Environment Forest and Climate Change and the Food and Agricultural Organisation.
2. The objective is to phase out pollutants containing agrochemicals and agri-plastics.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to Vitamin D:

1. Vitamin D is a fat soluble vitamin.
2. Excessive intake of Vitamin D leads to Hypercalcemia.
3. The ideal amount of vitamin D in a human body should be 10 micrograms per day.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two



- c. All three
- d. None of the above

4) Consider the following statements:

1. Proceeds of crime is any property derived directly or indirectly, by any person as a result of criminal activity.
2. The Vijay Madanlal Choudhary & Ors v Union of India case deals with Predicate Offence.

Which of the above statement(s) is/are **incorrect**?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Consider the following statements with respect to the PSLV Orbital Experimental Module (POEM) Mission:

1. POEM performs in-orbit scientific experiments during the 3rd stage of the Polar Satellite Launch Vehicle (PSLV) launch vehicle.
2. PSLV is the first Indian launch vehicle to be equipped with liquid stages.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

## Answers

1. a

### Moyar Valley

*Moyar valley is the home of critically endangered Gyps Vulture.*

- **Other name** – It is also known by the name Maayar (Invisible River) valley.
- **Location** – It extends from Gudalur through the core area of Mudumalai Tiger Reserve.
- **Biome** – The valley is an important biome in the Nilgiri Biosphere Reserve, sheltering

several vital species like tiger and elephant and the critically endangered Gyps vulture.

- A biome is an area classified according to the species that live in that location.

- It is the only region in peninsular India which has the biggest nesting colony of Gyps vultures in the wild.
- **NSAIDs** – The region provides a stable food-chain to nature's scavengers, simply because these carcasses are mostly free from Non-steroidal anti-inflammatory drugs (NSAIDs) and other poisonous chemicals.
- **Resident Vultures of Moyar Valley** – White Rumped vultures, Long Billed vultures, Red Headed vultures, and Egyptian vultures.

2. b

### Financing Agrochemical Reduction and Management Programme (FARM)

*Ecuador, India, Kenya, Laos, Philippines, Uruguay, and Vietnam have joined forces to launch a \$379 million initiative in order to reduce the environmental impact of the agricultural sector.*

- **Led by** – FARM is led by the UN Environment Programme (UNEP) with financial support from the Global Environment Facility (GEF).
- Highly hazardous pesticides and agricultural plastics release toxic persistent organic pollutants (POPs), chemicals which don't break down in the environment and contaminate air, water, and food.
- **Tenure** – 5 years.
- **Objective** – FARM programme will support government regulation to phase out POPs-containing agrochemicals and agri-plastics and adopt better management standards.
- FARM will also strengthen banking, insurance and investment criteria to improve the availability of effective pest control, production alternatives and trade in sustainable produce.

3. c

### Vitamin D

*An 89 year old resident in the UK died as due to overdose of vitamin D.*

- Vitamin D also referred as calciferol is a fat-soluble vitamin.
- **Sources** – Sunlight exposure triggers vitamin D synthesis in the skin, making it the primary natural source.

- Foods rich in vitamin D, including fatty fish like salmon, tuna, and mackerel, as well as fortified dairy products like milk, yogurt, and cheese.
- Eggs, mushrooms exposed to sunlight, and fortified plant-based milk alternatives are also sources.
- **Role of Vitamin D** – Crucial role in maintaining overall health by regulating calcium and phosphorus absorption, supporting bone health, and modulating immune function.
- It helps promote strong bones and teeth, reduces the risk of osteoporosis, and supports muscle function.
- Vitamin D is believed to have anti-inflammatory properties and may contribute to reducing the risk of certain chronic diseases, including cardiovascular disease, autoimmune disorders, and some cancers.
- **Vitamin D Toxicity** – When one consumes too much of these supplements, it might lead to vitamin D toxicity or hypervitaminosis.
- Hypercalcemia or high amounts of calcium, is a direct consequence of high level of Vitamin D in the body.
- Symptoms of hypercalcemia may include confusion, disorientation, excessive thirst, frequent urination, and kidney damage.
- **Symptoms** – In its early stages, symptoms may include nausea, vomiting, poor appetite, constipation, weakness, and weight loss.
- **Treatment** – Treatment of vitamin D toxicity primarily involves stopping vitamin D supplementation and limiting dietary sources of vitamin D.
- In severe cases of hypercalcemia, medical interventions such as intravenous fluids, diuretics, or medications to lower calcium levels may be necessary.
- **Ideal amount** – The ideal amount of vitamin D in a human body should be 10 micrograms per day.
- For most adults, the recommended dietary allowance (RDA) for vitamin D ranges from 600 to 800 IU per day, with an upper limit of 4,000 IU per day to avoid toxicity.

4. d

### Predicate Offence

*The Delhi CM Kejriwal in Delhi excise policy case can be booked for the offence of laundering proceeds of crime derived from the case.*

- The Prevention of Money Laundering Act (PMLA) criminalises money laundering.
- According to PMLA, money laundering is defined as:
  - Whosoever directly or indirectly attempts to indulge in any process connected with the proceeds of crime, including its concealment, possession, acquisition shall be guilty of offence of money laundering.
- Proceeds of crime is any property derived directly or indirectly, by any person as a result of criminal activity relating to a scheduled offence.
- The law also defines scheduled offences, which are listed in two schedules attached to the PMLA.
- These acts in the schedules (scheduled acts) are also called predicate offences.

### Predicate offence

- Predicate as an adjective means something said of a subject, originally from Latin praedicare meaning to proclaim or make known.
- Predicate offenses in money laundering refers to a crime component of a larger crime.
- In a financial context, the predicate offense would be any crime that generates monetary proceeds.
- The larger crime would be money laundering or financing of terrorism.
- A predicate offence is a crime that is a component of a more serious crime.
- For example, producing unlawful funds is the primary offense, and money laundering is the predicate offense.

### Cases associated with Predicate Offence

- In a judgement in the *Vijay Madanlal Choudhary & Ors v Union of India case*, the Supreme Court upheld key provisions of the PMLA.
- The court had said that if an accused in the predicate offence is acquitted or discharged, he cannot be prosecuted for the offence punishable under the PMLA.

- The Supreme Court in ***Pavana Dibbur v Enforcement Directorate*** verdict, answered the question of, what if an accused is not even shown as an accused in any scheduled or predicate offence.
- The verdict said that an accused in the PMLA case who comes into the picture after the scheduled offence is committed, by assisting in the concealment or use of proceeds of crime, need not be an accused in the scheduled offence.
- Here, the proceeds of crime that the accused has allegedly concealed or possessed must simply be linked to the scheduled offence.
- Such an accused can still be prosecuted under PMLA so long as the scheduled offence exists, the court had said.

5. b

### PSLV Orbital Experimental Module 3 (POEM 3) Mission

ISRO's POEM 3 mission accomplishes zero orbital debris mission.

- The fourth stage of PSLV (PS4), also called the PSLV Orbital Experimental Module (POEM) will perform orbital experiments.
- Since this is the 3rd time ISRO has used PS4 to exhibit orbital experiments, XPoSAT's PS4 is called POEM-3.
- The spent PS4 stage will be used to conduct in-orbit scientific experiments in microgravity conditions for an extended duration of 4-6 months.
- It derives power from the solar panels mounted around the PS4 tank and a Lithium-ion battery.
- POEM-3 is equipped with 10 payloads.
- Following the successful placement of all satellites into their designated orbits, the final stage of the PSLV was converted into a 3-axis stabilized platform known as POEM-3.
- This stage was then deorbited from an altitude of 650 km to 350 km, enabling an expedited re-entry process.
- The mission objectives of these payloads were met in a month.

**27-03-2024**

1) Consider the following statements with respect to Postal Ballot Voting in India:

1. Postal voting also known as mail-in ballots, allow voters to cast their votes by mail instead of physically going to a polling station.
2. Only classified voters in the Indian armed forces or paramilitary forces are allowed to vote under this system.
3. Counting of postal ballot paper starts half an hour before counting of votes on EVMs.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to the District Election Management Plan (DEMP):

1. It is a comprehensive document that uses statistics and analysis to ensure the smooth conduct of elections.
2. As per the Election Commission of India, the DEMP is to be prepared at least six months before the tentative poll day.
3. Systematic Voters' Education and Electoral Participation (SVEEP) plan is a component of DEMP.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

3) Consider the following statements with respect to the Ramakrishna Mission:

1. Ramakrishna Mission was established by Ramakrishna Paramahansa in 1897.
2. The first Math of the Ramakrishna Mission was established at Belur in West Bengal.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2

d. Neither 1 nor 2

4) Consider the following statements with respect to the Krishi Integrated Command and Control Centre (ICCC):

1. ICCC will enable monitoring of the farm sector by making available at one place geospatial information received from multiple sources.
2. It is a joint initiative of the Ministry of Agriculture & Farmer's Welfare and ISRO.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Which of the following organisation(s) prepared the India Employment Report 2024?

- a. International Labour Organisation
- b. World Bank
- c. Niti Aayog
- d. National Statistical Organisation

## Answers

1. b

### Postal Ballot Voting

*The Election Commission of India (ECI) announced that media persons covering polling day activities are now eligible to vote in the upcoming Lok Sabha elections 2024 and state Assembly polls through postal ballots.*

- The [ECI](#) has provisions for allowing its citizens to cast vote during an election in three different ways: In person, by post, and through a proxy.
- While in-person voting obviously involves the voter to be physically present at the polling booth, the other two allows certain voters to exercise their Right to Adult Franchise from a distance.
- **Postal ballots** – They are also known as [mail-in ballots](#), allow registered voters to cast their votes by mail instead of physically going to a polling station.

- The system is an alternative for individuals unable to [vote in person](#) due to reasons, such as being away from their constituency, disability, or performing essential services on Election Day.

- **Eligibility** – Eligible electors who can opt to vote through postal ballots include:

1. **Service voters** – Members of the armed forces, paramilitary forces, and government employees deployed on election duty far from their home constituencies.
2. **Absentee voters** – Individuals unable to vote in person due to reasons like work commitments, illness, or disability.
3. **Electors on election duty** – Government officials and polling staff assigned duties at polling stations other than their own.
4. **Electors under preventive detention** – Individuals detained under preventive custody orders during the election period.
5. **Essential services covering polling day activities** – Media persons with authorization letters from the EC and those involved in essential services such as metros, railways, and healthcare have the option to vote using postal ballots in Lok Sabha and four state Assembly polls.

- **Applying for postal ballot** – To apply for a postal ballot, eligible voters must apply, Form 12 D, to the returning officer (RO) of their respective constituency.

1. **Service voters** – For service voters, the RO sends the postal ballot paper through the record office, directly or through the Ministry of External Affairs for service voters serving outside India.
2. **Seniors citizens** – For senior citizens, a team of two polling officials, a videographer, and security personnel will visit the residence of the elector to facilitate this process.

- **Process** – The process of casting the postal vote is as follows:

1. Receiving the postal ballot
2. Marking the ballot
3. Completing the declaration form



4. Sealing the envelope
5. Returning the postal

- **Counting** – Postal ballots are counted separately from votes cast at polling stations.
- On the designated counting day, postal ballots are collected by postal authorities and brought to the counting centre.
- Counting of postal ballot paper starts half an hour before counting of votes on EVMs.
- The RO and election officials scrutinise postal ballots for validity and integrity, adding valid ballots to the respective candidate's vote count.

2. d

### District Election Management Plan (DEMP)

*A cornerstone of election planning process is the District Election Management Plan (DEMP), a comprehensive document that uses statistics and analysis to ensure the smooth conduct of elections.*

- **DEMP** – As per the Election Commission of India, the DEMP is to be prepared at least six months before the tentative poll day.
- However, it becomes necessary to revise/update the plan occasionally.
- Executing the DEMP requires a collaborative effort involving election officials, administrative authorities, law enforcement agencies etc.
- Regular interactions with political parties and media are also planned to brief them on electoral rules.
- **Elements** – The plan starts with a district profile that serves as the foundation of the electoral strategy.
- This includes a political map outlining constituencies, key demographic and infrastructure statistics, a brief on the district's administrative setup and socio-economic features.
- The plan encompasses detailed strategies for improving the availability and accessibility of polling stations, ensuring that all stations have essential facilities.
- Another critical component of the DEMP is the Systematic Voters' Education and Electoral Participation (SVEEP) plan, which focuses on increasing electoral participation.
- Activities under the SVEEP plan include the use of social media, engagement with various

community and youth organisations, and organising events leading up to the poll day to increase awareness and participation.

- The plan also includes training district-level teams to enforce the [Model Code of Conduct \(MCC\)](#) and providing a training program for all election personnel to ensure they have the necessary skills and knowledge.
- **Electronic Voting Machines (EVMs)** – Material management is a crucial component of the DEMP involving procuring 61 essential items, including indelible ink, seals, stamps, stationary and statutory forms.
- These items are categorised based on the level at which they are to be procured (State/U.T. or district level), with timelines ranging from two-to-three weeks to four months before the election.
- EVMs management is crucial with plans necessary for secure storage and availability of [EVMs](#) and [Voter Verifiable Paper Audit Trails \(VVPATs\)](#), including plans for their transportation and maintenance.

3. d

### Ramakrishna Mission

*Ramakrishna Mission president Swami Smaranananda passed away due to old age ailments at the age of 95.*

- It is a Hindu religious and spiritual organization that is at the heart of the [Ramakrishna Movement](#), also known as the Vedanta Movement.
- The mission was created on May 1, 1897, by Ramakrishna Paramahansa's principal follower Swami Vivekananda.
- It is named after and inspired by the Indian spiritual Guru Ramakrishna Paramahansa.
- **Ideals** – The organization primarily promotes Advaita Vedanta, a Hindu philosophy, as well as four yogic ideals: Jnana, Bhakti, Karma, and Raja yoga.
- **Math** – At Baranagar, the first Math was founded and another math was established in Belur in 1899, and it became the central math.
- It is responsible for the organizing and operation of all maths' located across India and even beyond the country.
- It is also the educational center for the Ramakrishna Mission's saints.

- **Goals** – The mission's goals included assisting the impoverished, improving women's situation, combating untouchability and superstition, and overhauling the educational system.

4. a

### **Krishi Integrated Command and Control Centre (ICCC)**

*Agriculture Minister inaugurated a Krishi Integrated Command and Control Centre (ICCC) set up at Krishi Bhavan in New Delhi, a big-screen dashboard of all digital innovations in the sector.*

- The ICCC is a tech-based solution involving multiple IT applications and platforms, which is designed to help in making informed decisions.
- The centre is housed in the Ministry of Agriculture & Farmers' Welfare, which is responsible for legislation, policy formation, and implementation of initiatives in the agriculture sector.
- ICCC uses technologies such as artificial intelligence, remote sensing, and [Geographic Information Systems \(GIS\)](#) to collect and process large amounts of granular data and present it in graphical format.
- The granular data includes data on temperatures, rainfall, wind speed, crop yields and production estimations.
- **Output** – On 8 large, 55-inch LED screens installed at the ICCC, one can see information on crop yields, production, drought situation, cropping patterns (geographic region-wise and year-wise) in map, timeline, and drill-down views.
- One can also see the relevant trends, outliers, and Key Performance Indicators (KPIs), and receive insights, alerts, and feedback on agriculture schemes, programmes, projects, and initiatives.
- The ICCC uses platforms including the Krishi Decision Support System (DSS) to collect micro-level data, process it, and present the macro picture.
- The ICCC has a contact centre and a helpdesk facility, with the operator's handset capable of being converted into a call centre.
- If needed, farmer beneficiaries can interact directly with officials or the Minister through video conferencing facilities.
- **Objectives** – The ICCC will enable comprehensive monitoring of the farm sector

by making available at one place geospatial information received from multiple sources.

- The sources of ICCC includes:
  1. Data from remote sensing
  2. Plot-level data received through soil survey
  3. Weather data from the [India Meteorological Department](#) (IMD)
  4. Sowing data from Digital Crop Survey
  5. Farmer- and farm-related data from Krishi Mapper, an application for geo-fencing and geo-tagging of land
  6. Market intelligence information from the [Unified Portal for Agricultural Statistics](#) (UPAg)
  7. Yield estimation data from the General Crop Estimation Survey (GCES)
- The integrated visualization of the data will enable quick and efficient decision-making by the ICCC ecosystem can be linked with the PM-Kisan chatbot going forward.
- **Applications** – Drought Actions, Crop Diversification, Farm Data Repository, Validation of Yield.

5. a

### **India Employment Report 2024**

*The recently released India Employment Report 2024 has highlighted the issue of high unemployment amongst India's educated youth.*

- Unemployment is the condition of one who is capable of working, actively seeking work, but unable to find any work.
- **Report prepared by** – Institute for Human Development (IHD) and International Labour Organisation (ILO).

### **Key findings**

- **Unemployment** – India's youth account for almost **83%** of the unemployed workforce.
- The Labour Force Participation Rate, Worker Population Ratio and the Unemployment Rate showed a long-term deterioration between 2000 and 2018, but witnessed an improvement after 2019.
- The youth unemployment rate increased with the level of education, with the highest among graduates and higher among women than men.

- **Nature of work** – Most of the workers remain engaged in informal work and the share of regular work declined after 2018.
- **Skill development** – India's large young workforce don't appear to have the necessary skills with 75% of youth unable to send emails with attachments.
- **Gender gap** – Among the educated unemployed youths, women accounted for a larger share (76.7%) than men (62.2%).
- India is also facing the challenge of a substantial gender gap in the labour market, with low rates of female labour force participation.
- **Demographic dividend** – India remains ready to reap a demographic dividend for at least another decade due to the youth population remaining at 23% of the total in 2036 from 27% in 2021.
- **Areas for action** – The report highlighted 5 key policy areas for further action:
  1. Promoting job creation
  2. Improving employment quality
  3. Addressing labour market inequalities
  4. Strengthening skills and active labour market policies
  5. Bridging the knowledge deficits on labour market patterns and youth employment

## 28-03-2024

1) Consider the following statements with respect to Magnetofossils:

1. They are fossilised remains of particles created by magnetotactic bacteria.
2. Magnetotactic bacteria are prokaryotic organisms that arrange themselves along the earth's magnetic field.
3. Magnetofossils in the Bay of Bengal is the youngest giant magnetofossil.

Which of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to Mushk Budiji:

1. It is wheat variety indigenous to the Himalayas.
2. Kashmir has bagged the GI tag for Mushk Budiji.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to the Investment Facilitation for Development (IFD) Agreement:

1. It is an initiative of the World Bank.
2. The agreement aims to create legally binding provisions to facilitate investment flows.
3. India is a member to the IFD Agreement.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

4) Match the following pairs of colored carbons and their sources:

### Colored Carbons

### Sources

1. Blue Carbon - Carbon stored in freshwater and wetland environments.
2. Black Carbon - Carbon released by incomplete combustion of organic matter.
3. Red Carbon - Carbon captured through the air or industrial emissions.

How many of the above pairs are matched correctly?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements:

1. Capital account records a country's transactions with the rest of the world in goods, services, income, and transfers.
2. Current account inflows and outflows reflect changes in the value of an asset through investments, loans, bank balances, and property value.

Which of the above statement(s) is/are **incorrect**?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

## Answers

1. c

### Magnetofossils

*Goa scientists find 50,000-year-old magnetic fossils in Bay of Bengal.*

- Magnetofossils are the fossilised remains of particles created by magnetotactic bacteria or magnetobacteria.
- Magnetofossils are found preserved within the geological records.
- The magnetotactic bacteria create tiny crystals made of the iron-rich minerals magnetite or greigite.
- The crystals help them navigate the changing oxygen levels in the water body they reside in.
- The fossils left behind by the crystal-creating bacteria help scientists glean conditions that prevailed millions of years ago and which contributed to the sediment magnetic signal.
- **Sources** – Previous studies on magnetofossils ascertained their origins to be hyper-thermal vents, comet impacts, changes in oceanic ventilation, weathering or the presence of oxygen-poor regions.
- Most giant magnetofossils have been found in sediments dating to the late Paleogene period, some 56 million years ago, suggesting they formed only during periods of extreme warming.
- **Bay of Bengal Sediment** – Scientists found the sediment in the Bay of Bengal to be from the late Quaternary period, or about 50,000 years

ago, making it the youngest giant magnetofossil to have been found yet.

- The three-metre-long sediment core from the southwestern Bay of Bengal consisted mainly of pale green silty clays.

### Magnetotactic bacteria (MTB)

- MTB are a group of phylogenetically diverse and morphologically varied microorganisms with a magneto responsive capability called magneto taxis or microbial magneto reception.
- Magnetotactic bacteria are mostly prokaryotic organisms that arrange themselves along the earth's magnetic field.
- These unique creatures were first described in 1963, by Salvatore Bellini, an Italian doctor and then again in 1975 by Richard Blakemore.
- These organisms were believed to follow the magnetic field to reach places that had optimal oxygen concentration.
- The bacteria contained novel structured particles, rich in iron in small sacs that essentially worked as a compass.

2. b

### Mushk Budiji

*Study unravels the recipe that gives Kashmiri rice variety, Mushk Budiji its unique aroma.*

- The Kashmir Himalaya is known for the cultivation of mushk budiji, an indigenous rice variety distinguished for its rich aroma and unique taste.
- Mushk budiji was on the verge of extinction for some time due to various factors.
- Chief among them was the prevalence of rice blast disease, its low yield, and lack of profitability.
- However, a revival programme launched in 2007 by the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST) scientists saw the crop make a slow comeback.
- Mushk Budiji received a Geographical Indication (GI) tag in August 2023.
- The niche crop is grown under specific climatic conditions.

3. b

### Investment Facilitation for Development (IFD) Agreement



*India and South Africa formally opposed the adoption of IFD agreement for consideration during the 13th Ministerial Conference (MC13) of WTO.*

- **IFD** – A most-favoured-nation-based, plurilateral agreement of World Trade Organization (WTO).
- The agreement explicitly excludes market access, investment protection and investor-state dispute settlement.
- **Launch** – Originally launched in 2017 on a plurilateral basis by few WTO countries through a process known as the Joint Statement Initiative.
- It was finalized in 2023.
- **Aim** – To create legally binding provisions to facilitate investment flows.
- To develop predictable, transparent and open investment rules that will contribute to more efficient investment flows and increased business confidence.
- **Membership** – Open for all WTO members to join.
- Currently, it has 120 of 166 WTO member countries (more than 70% of the membership).
- India is not a member as it opined that investment-related issues can't be brought under the WTO's ambit.
- **Plurilateral agreement** – The 120 countries wanted to include the IFD Agreement as a plurilateral agreement (PA) within Annex 4 of the WTO Agreement.
- While the WTO is a multilateral trade organisation, Article II.3 of the WTO Agreement categorically allows for PAs.
- According to the Marrakesh Agreement (the WTO's constitution), a new PA can only be adopted through 'Annexure 4' rules, by explicit consensus of all WTO Members.
- Unlike multilateral agreements, PAs under the WTO are binding only on those members that have accepted them.

4. d

### Colored Carbons

- Scientists use color to classify carbon at different points in the carbon cycle based on carbon function, characteristics, and location.
- **Blue** – Carbon stored in ocean plants and sediments.

- **Green** – Carbon stored in terrestrial plants.
- **Brown** – Carbon released by incomplete combustion of organic matter.
- **Red** – Carbon released through biological particles on snow and ice that reduce albedo.
- **Gray** – Carbon released through industrial emissions.
- **Teal** – Carbon stored in freshwater and wetland environments.
- **Purple** – Carbon captured through the air or industrial emissions.
- **Black** – Carbon emitted alongside other pollutants when biomass and fossil fuels are not fully combusted.

5. c

### Current Account

- A current account records a country's transactions with the rest of the world in goods, services, income, and transfers.
- Most of the traditional forms of international trade are included in the current account.
- These transactions are usually more immediate and visible than those recorded in the capital account.

### Capital Account

- Capital account inflows and outflows reflect changes in the value of an asset through investments, loans, bank balances, and property value.
- It is not as immediate and invisible as the current account.
- When there is an imbalance in trade in goods and services between two nations, these imbalances are financed by offsetting financial and capital flows.
- A country with a large trade balance deficit will have large investment surpluses from foreign countries and large demands on foreign assets.

**29-03-2024**

1) Consider the following statements with respect to Embedded SIM:

1. Subscriber Identity Module (SIM) stores information that uniquely identifies a cellular subscription.

2. Embedded SIM is a SIM card that cannot be removed from a device.
3. Electronic SIM is a SIM that can load new carrier profiles digitally.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to the Antarctic Circumpolar Current (ACC):

1. Antarctic Circumpolar Current (ACC) is the largest wind-driven current on Earth.
2. It is the only current that goes all the way around our planet and connects the Atlantic, Pacific, and Indian Oceans.
3. ACC is strongly driven by the easterlies and the trade winds.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

3) Consider the following statements with respect to the Decision Support System (DSS):

1. It is a numerical model-based framework to forecast Delhi's air quality.
2. It is developed jointly by the Central Statistical Office (CSO) and the National Informatics Centre (NIC).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to the Domestic Systemically Important Insurers (D-SIIs):

1. D-SIIs are insurance companies which are perceived as 'too big or too important to fail' (TBTF).
2. At present, Life Insurance Corporation (LIC) is the only D-SIIs in India.
3. State Bank of India (SBI), ICICI Bank and HDFC Bank have been classified as domestic systemically important banks (D-SIBs).

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements with respect to the Food Waste Index Report 2024:

1. Food Waste Index tracks both the global and national generation of food and inedible parts wasted at the retail and consumer levels.
2. The United Nations Environment Programme (UNEP) is the custodian of the Index.
3. Sustainable Development Goal (SDG) 13 is associated with food waste.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

## Answers

1. c

### Embedded SIM

TRAI releases recommendations on 'Usage of Embedded SIM for Machine-to-Machine (M2M) Communications'.

### Subscriber Identity Module (SIM)

- A [SIM](#) (Subscriber Identity Module), also called a Universal Integrated Circuit Card or UICC, stores information that uniquely identifies a cellular subscription.
- SIM holds the credentials and security keys necessary to identify a subscriber.

- That identity comes in the form of a so-called IMSI number, or International Mobile Subscriber Identity, which is unique for every user or device on or off the network.

### Embedded SIM

- An embedded SIM is a SIM card that cannot be removed from a device.
- Traditional SIM cards are made so that they can easily be swapped out of a phone, so that core service information can get ported from one physical device to another.
- With an embedded SIM, the chips are made to allow for information switching, so that the actual physical chip would not get removed from the device.
- When using embedded SIM, customers would not need to order replacement SIM cards and physically integrate them into their phones.
- The idea is that manufacturers would use the same SIM card across the industry.
- However, embedded SIM cards include less customer freedom to adjust the device from one provider to another.

### Electronic SIM (eSIM)

- eSIM is a hardware that runs an application called eUICC, which has storage to hold multiple SIM profiles at the same time (but only one can be active), and can be provisioned remotely, over the air (OTA).
- eSIM is a SIM that can load new carrier profiles digitally, over the air, which means one no longer need to physically swap SIM cards in their devices.
- The profiles stored on an eSIM can be modified remotely, through software and API calls, without needing to physically swap SIMs.
- An eSIM can hold multiple SIM profiles at the same time, which can give a device access to multiple completely different carriers, however, only one SIM can be active at a time.

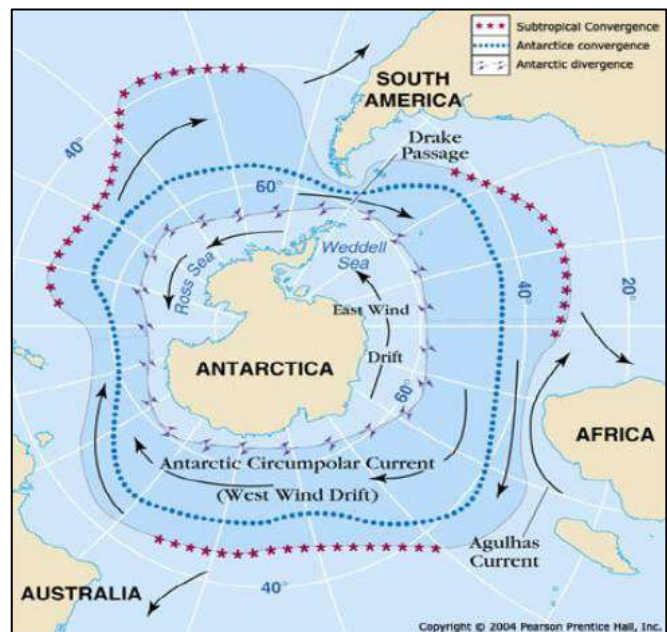
2. b

### Antarctic Circumpolar Current (ACC)

Scientists reconstruct history of world's most powerful ocean current over last 5.3 million years and its link to global climate.

- Antarctica is surrounded by the [Southern Ocean](#).

- **Southern Ocean** – [Southern Ocean](#) is an unbroken body of water with a rushing current that both isolates Antarctica's coastal ocean and provides essential chemical nutrients for the Antarctic ecosystem.
- **ACC** – The [Antarctic Circumpolar Current \(ACC\)](#) is the largest wind-driven current on Earth.
- It is the only current that goes all the way around our planet and connects the Atlantic, Pacific, and Indian Oceans.
- It is driven by strong westerly winds and was discovered by Edmund Halley.
- The ACC is a massive flow of water that acts as a barrier separating the Southern Ocean from more northern oceans.
- **World Circulation** – Antarctica is also the place where waters form that flow through the deep ocean as part of the [Global Ocean Conveyor](#) (World Circulation).
  - The global ocean conveyor belt is a constantly moving system of deep-ocean circulation driven by temperature and salinity.
- Water that [flows at the bottom of the ocean](#) is formed on the Antarctic continental shelf, particularly in the Weddell Sea and the Ross Sea.
- Different weather conditions a little further north at 45-55 degree south causes another water mass, called [Antarctic Intermediate Water](#) to form.
- In this area, precipitation is greater than evaporation, so the salinity of the water is low.





3. a

### Decision Support System (DSS)

The decision support system (DSS), which identifies sources of pollution in Delhi's air, will resume functioning from September this year with some new features.

- **Developed By** – DSS was developed by Indian Institute of Tropical Meteorology (IITM) Pune.
- **Model** – DSS is a numerical model-based framework to forecast Delhi's air quality and sources of local and regional pollution which can impact the air.
- **Utility** – The system gives forecasts the result of biomass burning activities in neighbouring states.
- DSS enhances [Delhi's air quality](#) forecasting with updated 2023 emission inventory and VIIRS satellite for PM2.5 predictions.
- The system works only in winter and is stopped from March to August, currently forecasts the contribution of emissions in [Delhi's air quality](#) from 19 neighbouring districts.
- Now, the system will also forecast how [Delhi's emissions](#) impact the air of eight surrounding districts in NCR.
- The emissions inventory currently being used was last updated in 2018, however DSS has now received an updated emission inventory of 2023.
- Delhi's [air quality index \(AQI\)](#) worsened to 325 from 303 a day ago, both in the very poor category, showed data from the Central Pollution Control Board (CPCB).

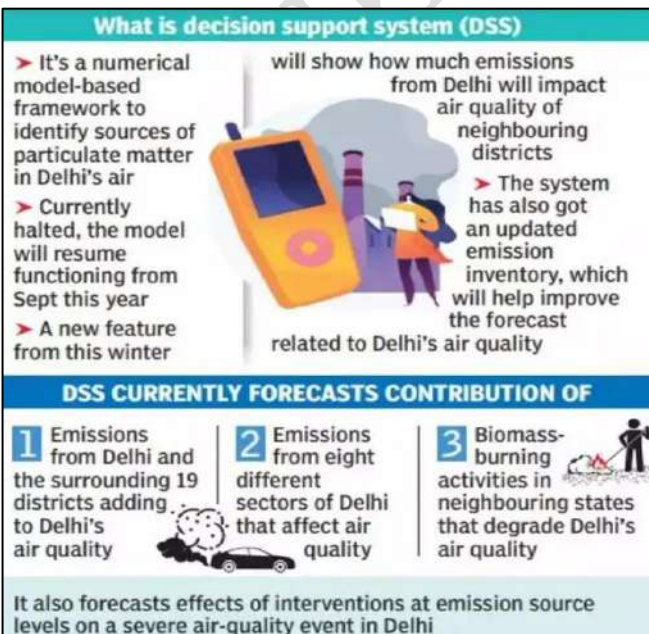
- The two models, System of Air Quality and Weather Forecasting And Research (Safar) and DSS, had temporarily stopped sharing data on air pollution for the country as there were differences between their forecasts and source contribution.

4. a

### Domestic Systemically Important Insurers (D-SIIs)

The public sector insurance companies such as the Life Insurance Corporation of India (LIC) continue to be identified as Domestic Systemically Important Insurers (D-SIIs).

- **D-SIIs** – D-SIIs are [insurance companies](#) which are perceived as 'too big or too important to fail' (TBTF) based on their size, market importance, and domestic and global interconnectedness.
- Therefore, the continued functioning of D-SIIs is critical for the uninterrupted availability of insurance services to the national economy.
- LIC and New India are the largest life and general insurance companies in the country, respectively and General Insurance Corporation of India (GIC Re) is the sole Indian reinsurer.
- **Efforts** – Given the nature of their operations and the systemic importance of the D-SIIs, these [insurers](#) have to carry forward their efforts on the following:
  1. Raise the level of corporate governance.
  2. Identify all relevant risks and promote a sound risk management framework and culture.



**What is decision support system (DSS)**

- > It's a numerical model-based framework to identify sources of particulate matter in Delhi's air
- > Currently halted, the model will resume functioning from Sept this year
- > A new feature from this winter

will show how much emissions from Delhi will impact air quality of neighbouring districts

- > The system has also got an updated emission inventory, which will help improve the forecast related to Delhi's air quality

**DSS CURRENTLY FORECASTS CONTRIBUTION OF**

- 1 Emissions from Delhi and the surrounding 19 districts adding to Delhi's air quality
- 2 Emissions from eight different sectors of Delhi that affect air quality
- 3 Biomass-burning activities in neighbouring states that degrade Delhi's air quality

It also forecasts effects of interventions at emission source levels on a severe air-quality event in Delhi

- **RBI Framework** – The Reserve Bank had issued the Framework for dealing with Domestic Systemically Important Banks (D-SIBs).
- D-SIB framework requires the RBI to disclose the names of banks designated as D-SIBs starting from 2015 and place these banks in appropriate buckets depending upon their Systemic Importance Scores (SISs).
- Based on the bucket in which a D-SIB is placed, an additional common equity requirement has to be applied to it.
- State Bank of India, ICICI Bank and HDFC Bank have been classified as domestic systemically important banks (D-SIBs).



5. b

### Food Waste Index Report 2024

World wastes 1 billion meals a day, says U.N. report.

- **Authored By** – The report is jointly authored by the [United Nations Environment Programme \(UNEP\)](#) and WRAP (Waste and Resources Action Programme), a U.K.-based non-profit.
- The report was released ahead of the International Day of Zero Waste, observed on March 30.
- The [Food Waste Index](#) tracks the global and national generation of food and inedible parts wasted at the retail and consumer (household and food service) levels.
- **UNEP** – The United Nations Environment Programme (UNEP) is its custodian.
- **Food Waste** – The report defines food waste as food and the associated inedible parts removed from the human food supply chain.
- **Food Loss** – Food loss is defined as all the crop and livestock human-edible commodities that directly/indirectly, completely exit the post-harvest production, excluding, the retail level.
- **Findings** – Households across the globe wasted over 1 billion meals/day in 2022, as 783 million people struggled with hunger and a third of humanity faced food insecurity, according to the Food Waste Index Report 2024.
- The report stressed the importance of expanding and strengthening data infrastructure to enable the tracking and monitoring of food waste.
- The report pointed out that many low and middle income countries continue to lack adequate systems for tracking progress to meet Sustainable Development Goal 12.3.
- **Sustainable Development Goal 12.3** – By 2020, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- Hotter countries appear to generate more food waste per capita in households, potentially due to higher consumption of fresh foods with substantial inedible parts and a lack of robust cold chains.
- The report found that food loss and waste generated 8-10% of annual global greenhouse

gas (GHG) emissions, almost 5 times that of the aviation sector.

- Food waste also contributes to significant biodiversity loss by taking up the equivalent of almost a third of the world's agricultural land.
- It is estimated the roll of both food loss and waste on the global economy at \$1 trillion.
- At present, only four G-20 countries (Australia, Japan, U.K., and U.S.) and the European Union have food waste estimates suitable for tracking progress to 2030.

### 30-03-2024

1) Consider the following statements with respect to the Armed Forces (Special Powers) Act (AFSPA):

1. AFSPA gives both the armed forces and the Armed Police Forces (CAPF) the power to maintain public order in disturbed areas.
2. AFSPA is completely withdrawn in Meghalaya, Tripura and Mizoram.
3. Both the State and Central governments can issue notification regarding the AFSPA.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following pairs of puppet forms and their respective states:

#### Puppet Form States

1. Kathputli Karnataka
2. Gombeyatta Andhra Pradesh
3. Ravanachhaya Uttar Pradesh

How many of the above pairs are matches **incorrectly**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

3) Consider the following statements with respect to Red Fort:

1. The Red Fort Complex was built by the fifth Mughal Emperor of India, Shah Jahan.
2. The Red Fort is a UNESCO World Heritage Centre.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to the Digital Markets Act (DMA):

1. The provisions of the act are administered by the Ministry of Company Affairs.
2. Initiatives such as DigiLocker, UMANG, work under the aegis of the Digital Markets Act.
3. DMA establishes the National Company Law Tribunal.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements with respect to the Lalit Kala Akademi:

1. It is autonomous body registered under the Societies Registration Act 1860.
2. The academy promotes Indian arts both within India and outside India.
3. The Akademi has its headquarters at New Delhi.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

## Answers

1. d

### Armed Forces (Special Powers) Act (AFSPA)

*AFSPA extended in parts of Arunachal, Nagaland for six more months.*

- **Unbridled Power** – AFSPA gives armed forces and the Central Armed Police Forces (CAPF) the power to maintain public order in “disturbed areas”.
- Armed forces have the authority to prohibit a gathering of five or more persons in an area, can use force or even open fire after giving due warning if they feel a person is in contravention of the law.
- If reasonable suspicion exists, the army can also arrest a person without a warrant; enter or search a premises without a warrant; kill anyone acting against the law and ban the possession of firearms.
- Any person arrested or taken into custody may be handed over to the officer in charge of the nearest police station along with a report detailing the circumstances that led to the arrest.
- **Origin** – The Act came into force in the context of increasing violence in the Northeastern States decades ago, which the State governments found difficult to control.
- The Armed Forces (Special Powers) Bill was passed by both the Houses of Parliament and it was approved by the President on September 11, 1958.
- It became known as the Armed Forces Special Powers Act, 1958.
- **States under AFSPA** – Nagaland, Manipur, Assam, Arunachal Pradesh, and Jammu & Kashmir.
- The Armed Forces (Special Powers) Act (AFSPA), 1958, was completely withdrawn in Meghalaya in 2018, Tripura in 2015 and Mizoram in the 1980s.
- **Issued by** – Both the State and Central governments can issue notification regarding the AFSPA.
- The MHA issues periodic “disturbed area” notification to extend the AFSPA only for Nagaland and Arunachal Pradesh.
- The notification for Manipur and Assam is issued by the State governments.

2. c

### Puppet Forms

#### Ravanachhaya – Odisha

- The puppets are in one piece and have no joints.
- They are not coloured, hence throw opaque shadows on the screen.
- The puppets are made of deer skin and are conceived in bold dramatic poses.
- Apart from human and animal characters, many props such as trees, mountains, chariots, etc. are also used.

#### Gombeyatta – Karnataka

- The Gombeyatta puppet figures are highly stylized and have joints at the legs, shoulders, elbows, hips and knees.
- These puppets are manipulated by five to seven strings tied to a prop.
- Episodes enacted in Gombeyatta are usually based on Prasangas of the Yakshagana plays.

#### Kathputli – Rajasthan

- Carved from a single piece of wood, these puppets are like large dolls that are colorfully dressed.
- Puppeteers manipulate them with two to five strings which are normally tied to their fingers and not to a prop or a support.

3. c

#### Red Fort

- The Red Fort Complex was built by the fifth Mughal Emperor of India, Shah Jahan.
- It was built as the palace fort of Shahjahanabad, the new capital of the Mughal Emperor.
- Named for its massive enclosing walls of red sandstone, it is adjacent to an older fort, the Salimgarh, built by Islam Shah Suri in 1546, with which it forms the Red Fort Complex.
- The private apartments consist of a row of pavilions connected by a continuous water channel, known as the Nahr-i-Behisht (Stream of Paradise).
- The Red Fort is considered to represent the zenith of Mughal creativity which, under the Shah Jahan, was brought to a new level of refinement.

- The Red Fort Complex is a layered expression of both Mughal architecture and planning, and the later British military use of the forts.
- Red Fort was recognised UNESCO World Heritage Centre in 2007.

4. d

#### Digital Markets Act (DMA)

*European Union investigates Tech giants under new digital Law.*

- The Digital Markets Act (DMA) was established by the European Union.
- DMA establishes a set of narrowly defined objective criteria for qualifying a large online platform as a so-called gatekeeper.
- This allows the DMA to remain well targeted to the problem that it aims to tackle as regards large, systemic online platforms.
- These criteria will be met if a company:
  1. Has a strong economic position, significant impact on the internal market and is active in multiple EU countries.
  2. Has a strong intermediation position, meaning that it links a large user base to a large number of businesses.
  3. Has (or is about to have) an entrenched and durable position in the market, meaning that it is stable over time if the company met the two criteria above in each of the last three financial years.
- **Benefits** – Business users who depend on gatekeepers to offer their services in the single market will have a fairer business environment.
- Innovators and technology start-ups will have new opportunities to compete in the online platform environment without having to comply with unfair terms and conditions limiting their development.
- Consumers will have more and better services to choose from, more opportunities to switch their provider if they wish so, direct access to services, and fairer prices.
- Gatekeepers will keep all opportunities to innovate and offer new services.
- They will simply not be allowed to use unfair practices towards the business users and customers that depend on them to gain an undue advantage.

- To ensure that the new gatekeeper rules keep up with the fast pace of digital markets, the Commission will carry out market investigations.
- These will allow the Commission to:
  1. Qualify companies as gatekeepers.
  2. Update dynamically the obligations for gatekeepers when necessary.
  3. Design remedies to tackle systematic infringements of the Digital Markets Act rules.

5. c

### **Lalit Kala Akademi (National Academy of Fine Arts)**

*Lalit Kala Akademi chief's powers curbed by Culture Ministry.*

- The Lalit Kala Akademi was inaugurated in New Delhi on August 5th, 1954, by the then Minister for Education, Maulana Abul Kalam Azad.
- The youngest of the three Akademies founded by the Government of India, the Lalit Kala Akademi was established in pursuance of the dream of Pandit Jawaharlal Nehru for a cultural and national identity.
- The Sangeet Natak Akademi (SNA) was the first of the three to be established in 1953, followed shortly by Lalit Kala Akademi (LKA), and Sahitya Akademi (SA).
- The academy promotes Indian arts both within India and outside India.
- It is an autonomous body registered under the Societies Registration Act 1860.
- The organisation functions through its General Council, Executive Board and other Committees.
- Lalit Kala Akademi is the Government's apex cultural body in the field of visual arts in India.
- The Akademi is fully funded by the Ministry of Culture.
- It has headquarters at New Delhi and regional centres at Bhubaneswar, Chennai, Kolkata, Lucknow and Shimla.
- **Journals** – It publishes bi-annual art journals, Lalit Kala Contemporary (English), Lalit Kala Ancient (English) and Samkaleen Kala (Hindi).

- **Lalit Kala Akademi National Exhibition of Art** – It is held every year to exhibit works of brilliance and to give appreciation and recognition to outstanding artists.
- The exhibition covers artworks from extensive series of mediums like paintings, sculptures, graphics, photographs, drawings, installation and multimedia.
- The Akademi conducts international exhibition on contemporary art in New Delhi every three years.
- It also conducts the National Exhibition of Photography and Art.