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## ANSWERS & EXPLANATIONS

### GENERAL STUDIES (P) TEST – 4151 (2024)

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#### Q 1.B

- In the 1990s, the World Bank became the first international institution to adopt the concept of good governance into lending arrangements for developing countries and introduce the idea to the general public. In its 1992 report entitled “Governance and Development”, the notion of good governance was written as **the way in which power is used to regulate the economic and social resources of a country for development.**
- The 8 principles of Good Governance are
  - **Participation:** Participation in the concept of good governance here is an opportunity for everyone to voice their opinions through institutions or representations. In addition, everyone, without exception, has the right to freedom of association and expression.
  - **Rule of law:** To implement good governance, the legal framework in the country must be enforced impartially, especially concerning human rights law.
  - **Transparency:** Transparency means that every policy taken and implemented by the government must be carried out under existing regulations. In addition, there must be a guarantee that any information related to the policy can be accessed by everyone, especially those who are directly affected by the policy. **Hence option 2 is correct.**
  - **Responsiveness:** Good governance needs institutions and processes to attempt to serve all stakeholders within a reasonable time.
  - **Consensus oriented:** This fifth principle is related to the decision-making process. When the decision-making process cannot accommodate everyone’s wishes, then at a minimum, the decision must be a decision that can be accepted by everyone and does not harm anyone. **Hence option 1 is correct.**
  - **Equity and inclusiveness:** Good governance ensures justice for the community. Everyone has the same opportunity to maintain and improve their welfare.
  - **Effectiveness and efficiency:** Every decision-making process and its institutions must be able to produce decisions that meet every community need. Community resources must also be utilised optimally by the government.
  - **Accountability:** All institutions involved in good governance have full responsibility to the public for the sake of improving the quality of society.
- Although 'Grievance Redressal' and 'Fast Service Delivery' are essential to the concept of Good Governance, these are subsumed under the 8 pillars of Good Governance and are not present among the 8 core principles defined above. **Hence options 3 and 4 are not correct.**

#### Q 2.B

- **Kariba Dam** is a hydroelectric dam located on the Zambezi River, straddling the border between Zambia and Zimbabwe in Africa. It was completed in 1959 and is one of the largest dams in the world. **Hence pair 1 is not correctly matched.**
- **Aswan High Dam** is a major dam located on the Nile River in Egypt. Completed in 1970, it plays a crucial role in controlling flooding, providing water for irrigation, and generating hydroelectric power for Egypt. **Hence pair 2 is correctly matched.**
- **Tarbela Dam** is a large dam located on the Indus River in Pakistan. It is one of the largest earth-filled dams in the world and serves multiple purposes, including irrigation, flood control, and hydroelectric power generation. **Hence pair 3 is correctly matched.**
- Other dams of the world

- Three Gorges Dam, China: Located on the Yangtze River, it's the world's largest hydroelectric dam by installed capacity. Completed in 2008, it has 22,500 MW capacity and generates enough electricity to power 40 million homes
- Itaipu Dam, Brazil and Paraguay: Situated on the Paraná River, it's the second-largest hydroelectric dam by installed capacity (14,000 MW). Built jointly by Brazil and Paraguay, it provides energy to both countries.
- Hoover Dam, United States: An iconic landmark on the Colorado River, it's renowned for its Art Deco design and engineering marvel. Completed in 1936, it generates 2,080 MW of electricity and provides water for irrigation and drinking.
- Grand Coulee Dam, United States: Located on the Columbia River, it's the largest concrete gravity dam in the Western Hemisphere. Completed in 1942, it generates 6,809 MW of electricity and supports irrigation projects.
- Toktogul Dam, Kyrgyzstan: Situated on the Naryn River, it's the second-highest dam in Central Asia. Finished in 1975, it has 1,200 MW capacity and plays a crucial role in regional energy security.
- **Hence option (b) is the correct answer.**

### Q 3.B

- **The establishment of panchayats at the village, intermediate, and district levels is a compulsory provision** under the 73rd Constitutional Amendment Act, of 1992. **Hence option 1 is not correct.**
- Voluntary Provisions of the 73rd Constitutional Amendment Act, 1992:
  - **Endowing the Gram Sabha with powers and functions at the village level.**
  - **Determining the manner of election of the chairperson of the village panchayat.**
  - Giving representation to the chairpersons of the village panchayats in the intermediate panchayats or in the case of a state not having intermediate panchayats, in the district panchayats.
  - **Giving representation to the chairpersons of the intermediate panchayats in the district panchayats.**
  - Giving representation to members of the Parliament (both the Houses) and the state legislature (both the Houses) in the panchayats at different levels falling within their constituencies.
  - **Providing reservation of seats (both members and chairpersons) for backward classes in panchayats at any level. Hence options 2, 3, 4, and 5 are correct.**

### Q 4.C

- **Parliamentary privileges are special rights, immunities, and exemptions enjoyed by the two Houses of Parliament, their committees, and their members.** They are necessary to secure the independence and effectiveness of their actions. Without these privileges, the Houses can neither maintain their authority, dignity, and honor nor can protect their members from any obstruction in the discharge of their parliamentary responsibilities.
- It must be clarified here that the parliamentary privileges do not extend to the president who is also an integral part of the Parliament. **Hence, statement 2 is correct.**
- Parliamentary privileges can be classified into two broad categories:
  - those that are enjoyed by each House of Parliament collectively, and
  - those that are enjoyed by the members individually.
  - **Collective Privileges**
  - The privileges belonging to each House of Parliament collectively are:
    - ✓ It has the right to publish its reports, debates and proceedings and also the right to prohibit others from publishing the same. The 44th Amendment Act of 1978 restored the freedom of the press to publish true reports of parliamentary proceedings without prior permission of the House. But this is not applicable in the case of a secret sitting of the House.
    - ✓ It can exclude strangers from its proceedings and hold secret sittings to discuss some important matters; etc,
  - **Individual Privileges**
  - The privileges belonging to the members individually are:
    - ✓ They cannot be arrested during the session of Parliament and 40 days before the beginning and 40 days after the end of a session. This privilege is available only in civil cases and not in criminal cases or preventive detention cases.
    - ✓ They have freedom of speech in Parliament. No member is liable to any proceedings in any court for anything said or any vote given by him in Parliament or its committees. This freedom is subject to the provisions of the Constitution and to the rules and standing orders regulating the procedure of Parliament.

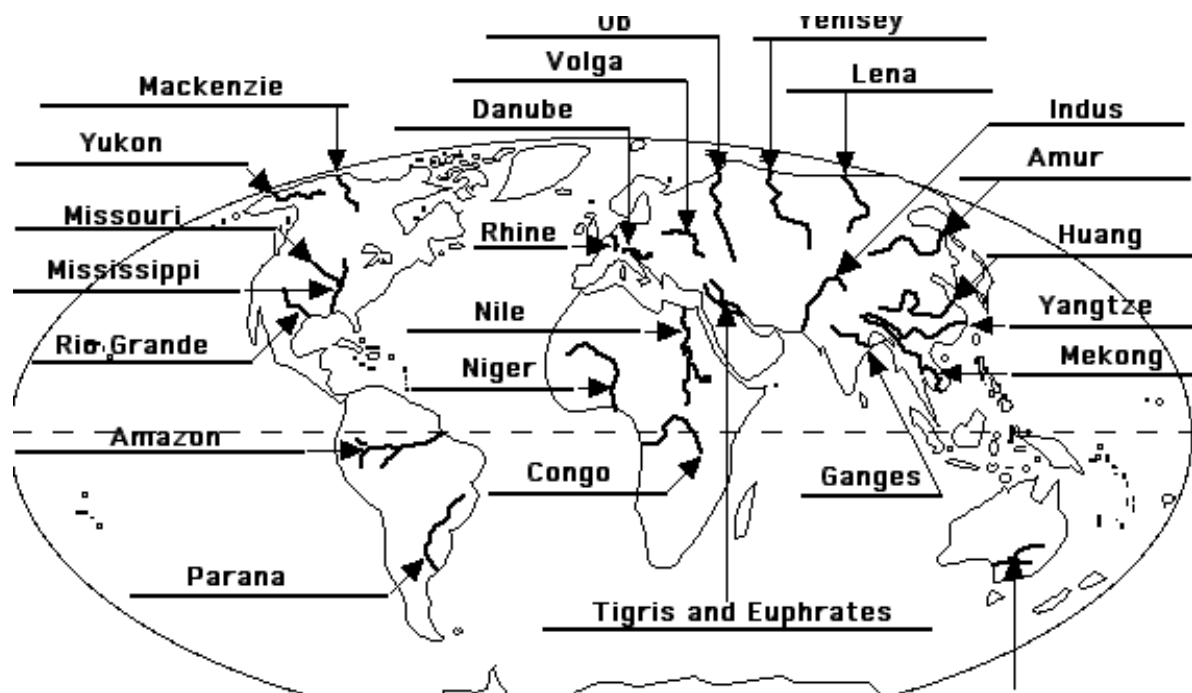
- ✓ **They are exempted from jury service.** They can refuse to give evidence and appear as a witness in a case pending in a court when Parliament is in session.
- **Sources of Privileges**
  - ✓ Originally, the Constitution (Article 105) expressly mentioned two privileges, that is, freedom of speech in Parliament and right of publication of its proceedings. **Hence, statement 1 is correct.**
  - ✓ About other privileges, it provided that they were to be the same as those of the British House of Commons, its committees and its members on the date of its commencement (ie, 26 January 1950), until defined by Parliament.
  - ✓ **The 44th Amendment Act of 1978 provided that the other privileges of each House of Parliament, its committees and its members are to be those which they had on the date of its commencement (ie, 20 June, 1979), until defined by Parliament.**
  - ✓ This means that the position with regard to other privileges remains same. In other words, the amendment has made only verbal changes by dropping a direct reference to the British House of Commons, without making any change in the implication of the provision.

#### Q 5.A

- Nematocysts or cnidocysts represent the common feature of all cnidarians. They are large organelles produced from the Golgi apparatus as a secretory product within a specialized cell, the nematocyte or cnidocyte.
- **Nematocysts are predominantly used for prey capture and defense, but also for locomotion. Found in the stinging organelles of jellyfish, sea anemones, and related cnidarian organisms, they are “remarkable cellular weapons,” which are used for both predation and defense. Hence, option (a) is the correct answer.**
- Cnidarian is any member of the phylum Cnidaria (Coelenterata), a group made up of more than 9,000 living species. Mostly marine animals, the cnidarians include corals, hydras, jellyfish, Portuguese men-of-war, sea anemones, sea pens, sea whips, and sea fans.
- The researchers suggest that Studies in nematocysts could lead to new clinical developments, including the design of microscopic therapeutic delivery devices.

#### Q 6.B

- **The Danube River is the second-longest river in Europe, and it flows through or forms the borders of ten countries.**
  - The Danube River originates in the Black Forest region of Germany and flows southeastward through several European countries.
    - ✓ Germany: The river begins its journey in Germany.
    - ✓ Austria: It flows through Austria, where it passes through cities like Vienna.
    - ✓ Slovakia: The Danube forms part of the border between Slovakia and Hungary.
    - ✓ Hungary: The river flows through Hungary, including Budapest, the capital.
    - ✓ Croatia: It forms part of the border between Croatia and Serbia.
    - ✓ Serbia: The Danube flows through Serbia.
    - ✓ Bulgaria: It passes through Bulgaria.
    - ✓ Romania: The river flows through Romania, including the Danube Delta.
    - ✓ Moldova: The river forms part of the border between Romania and Moldova.
    - ✓ Ukraine: The Danube Delta, a UNESCO World Heritage Site, is located in Ukraine.
- **The Mekong River is one of the world's great rivers. Covering a distance of nearly 5,000 km from its source on the Tibetan Plateau in China to the Mekong Delta, the river flows through six countries: China, Myanmar, Thailand, Lao PDR, Cambodia and Vietnam.**
- **The Amazon River passes through 4 countries Brazil, Columbia, Peru, and Venezuela, with Brazil holding by far the largest portion of the River.**
- **Volga River, despite being the longest river in Europe, only flows through one country: Russia.** While it stretches across a vast distance within Russia, it doesn't cross any international borders and remains entirely within Russian territory.



- Hence option (b) is the correct answer.

#### Q 7.C

- The term "shoe-leather cost" in the context of inflation refers to the real costs and inconveniences that people face as a result of a decrease in the purchasing power of their money.
  - This concept is metaphorical, suggesting that individuals may need to make more trips to the bank or ATMs (hence the term "shoe-leather") to withdraw cash as inflation erodes the value of money.
  - Thus costs that people incur to minimize their cash holdings during times of high inflation are often referred to as "shoe-leather costs"
- When inflation is high, the real value of money decreases over time. As a result, people may need to make more frequent trips to access cash to cope with rising prices.
  - This leads to additional time and effort spent on activities such as traveling to the bank, waiting in lines, and dealing with the administrative aspects of withdrawing and managing cash.
- In essence, "shoe-leather cost" highlights one of the tangible inconveniences that individuals experience during periods of inflation, emphasizing the practical impact on everyday activities and the increased effort required to maintain one's purchasing power.
  - It serves as a way to describe the hidden costs of inflation beyond the numerical changes in prices.
- Hence option (c) is the correct answer.

#### Q 8.A

- Ministry of Cooperation has set up Bhartiya Beej Sahkari Samiti Limited under the Multi-State Cooperative Societies (MSCS) Act, 2002. **Hence statement 2 is not correct.**
- The BBSSL will undertake production, procurement & distribution of quality seeds under single brand through cooperative network to improve crop yield and develop a system for preservation and promotion of indigenous natural seeds. **Hence statement 1 is correct.**
- It is jointly promoted by the
  - Indian Farmers Fertilizer Cooperative Ltd (IFFCO)
  - Krishak Bharati Cooperative Ltd (KRIBHCO)
  - National Agricultural Cooperative Marketing Federation of India (NAFED)
  - National Dairy Development Board (NDDB)
  - National Cooperative Development Corporation (NCDC)

#### Q 9.C

- **The President of India is the head of state of the Republic of India.** The president is the nominal head of the executive, the first citizen of the country, as well as the supreme commander of the Indian Armed Forces. The office of president was created when India became a republic on 26 January 1950 when its constitution came into force. **Hence statement 1 is not correct.**

- The President of India is elected by the Members of an Electoral College consisting of (a) the elected members of both Houses of Parliament and (b) the elected members of the Legislative Assemblies of the States [including National Capital Territory of Delhi and the Union Territory of Puducherry vide the Constitution (Seventieth Amendment) Act, 1992 (Article 54). The nominated members of either House of Parliament or the Legislative Assemblies of State are not eligible to be included in the Electoral College.
- **The Constitution (Eighty-fourth Amendment) Act, 2001** provides that the population of the States for the purposes of calculation of value of votes for the Presidential Election shall mean the **population as ascertained at the 1971 census**.
- The election shall be held in accordance with the system of **Proportional Representation by means of the single transferable vote** and the voting at such election shall be by secret ballot. The value of vote of each elector is pre-determined. For example, the **value of vote of each Member of Parliament is 708**. The value of vote of each Member of the Legislative Assembly of Uttar Pradesh is 208 and that of Sikkim is 7. **Thus the value of votes for the Members of each Legislative Assembly varies. Hence statement 2 is correct.**
- **The security deposit for the election is Rs.15,000/-** which will be required to be made along with the nomination paper. This amount can either be deposited in cash with the Returning Officer at the time of presentation of the nomination paper or receipt showing that such amount has been deposited by the candidate or on his behalf in the Reserve Bank of India or in a Government Treasury can be furnished along with the nomination paper. **Hence statement 3 is not correct.**
- An election petition calling in question an election to the office of the President may be presented by any candidate at such election or by any twenty or more electors joined together as petitioners. **The authority having jurisdiction to try an election petition is the Supreme Court of India. Hence statement 4 is not correct.**
- An election petition shall be presented within 30 days from the date of publication of the declaration containing the name of the returned candidate.

#### Q 10.A

- Laser Land leveling (LLL) is a methodology of leveling land surface ( $\pm 2$  cm) from its average elevation utilizing laser machine-equipped drag buckets to achieve precision in land levelling. Laser Land leveling is necessary for good agronomic, soil, and crop management practices. **It enhances output in crop yield and improves the quality of produce while conserving irrigation water and facilitating field operations.** Level terrain also aids in the mechanization of numerous field tasks. **Hence statement I is correct.**
- Unevenness in the soil surface topography in a farm field has a major effect on crop management and crop yield. Fields that are not level have uneven water coverage, which means that more water is needed to wet up the whole field for land preparation and plant establishment. The additional water required takes additional time to irrigate the field or rainfed farms must wait until the next rainfall event. This extra time in water management reduces the effective time available to complete tasks and grow the crop. Fields that are not level have uneven crop stands, increased weed burdens, and uneven maturing of crops. All of these factors contribute to reduced yield and quality, which reduces the potential income from the crop. Effective land leveling will improve crop establishment, reduce the amount of effort required to manage the crop, and will increase both grain quality and yields. **Hence statement II is correct.**
- **Hence option (a) is the correct answer.**

#### Q 11.A

- The organisms in an ecosystem are organized categorically for the ease of research and studies. In this regard:
  - A **population** is a **group of individuals** that belong in the **same species** and live in the **same area**.
  - A **community** is inclusive of **all the populations of all the different species** that **live together** in a **particular area**.
  - An **ecosystem** is inclusive of **all the organisms** that live in a place, along **with their physical environment**.
  - And, a **biome** refers to the **community of plants and animals** that occur naturally in an area, often sharing common characteristics specific to that area. It is an area that includes communities of plants and animals that have a common adaptation to that particular environment.
- **Hence, the correct sequence is population, community, ecosystem, and biome.**
- **Hence option (a) is the correct answer.**



### Q 12.C

- Gold in its purest form is dense, soft malleable and ductile metal. It is one of the least reactive chemical elements (resistant to corrosion). Gold often occurs in free elemental (native) form, as nuggets or grains, in auriferous (rocks containing gold) rocks, in vein, and in alluvial deposits.
- The 10 world largest gold mines are located across nine different countries in North America, Oceania, Africa, and Asia. Together, they accounted for around 13 million ounces or 12% of global gold production in 2021.

Mine	Location
Nevada Gold Mines	U.S.
Muruntau	Uzbekistan
Grasberg	Indonesia
Olimpiada	Russia
Pueblo Viejo	Dominican Republic
Kibali	Democratic Republic of the Congo
Cadia	Australia
Lihir	Papua New Guinea
Canadian Malartic	Canada
Boddington	Australia

- Hence option (c) is the correct answer.

### Q 13.D

- *Strobilanthes kunthiana*, known as Kurinji or Neelakurinji is a that is found in the shola forests of the Western Ghats in Kerala, Karnataka and Tamil Nadu. The purplish blue flower blossoms only once in 12 years, and gave the Nilgiri Mountains range its name as nil (blue) + giri (mountains). The name Neelakurinji originates from the Malayalam language neela (blue) + kurinji (flower). The Paliyan tribal people living in Tamil Nadu used it as a reference to calculate their age. This plant flowers during August–October. However, blooming seasons have become unpredictable over the years due to changing weather patterns.
- Hence option (d) is the correct answer.

### Q 14.C

- **The 73rd Constitutional Amendment Act of 1992** has added a new Part-IX to the Constitution of India. This part is entitled 'The Panchayats' and consists of provisions from Articles 243 to 243 O. In addition, the act has also added a new **Eleventh Schedule to the Constitution**. This schedule contains 29 functional items of the panchayats. It deals with Article 243-G.
- **The right to property was deleted from the list of Fundamental Rights by the 44th Amendment Act, of 1978.** It is made a legal right under Article 300-A in Part XII of the Constitution.
- **The 77th Amendment Act was enacted in 1995.** It added a new provision in Article 16 that empowers the State to provide for **reservation in promotions of any services under the State in favor of the SCs and STs** that are not adequately represented in the state services.
- **Thirty-First Amendment Act, 1972 increased the number of Lok Sabha seats from 525 to 545.**
- Hence option (c) is the correct answer.

### Q 15.B

- **Justice Party:**
  - **Foundation and Objectives:**
    - ✓ **The Justice Party**, officially known as the "South Indian Liberal Federation," was founded on November 20, 1916, in Madras.

- ✓ **Founders included C. N. Mudaliar, T. M. Nair, P. Theagaraya, and A. M. Thayarammal. Hence pair 1 is not correctly matched.**
- ✓ The movement aimed to secure jobs and representation for non-Brahmins in the government.
- **Justice Movement (1916-1920):**
  - ✓ Struggle for communal representation for non-Brahmins in the Madras Presidency.
  - ✓ Conflict with the Home Rule League led by Annie Besant.
  - ✓ Demand for communal representation intensified with Montagu's proposed reforms.
- **Justice Party opposed Gandhi's Non-Cooperation Movement**
  - ✓ It aimed to leverage British presence and participated in the new political system.
- **1920 Election and Governance:**
  - ✓ Justice Party participated in the 1920 elections under the Diarchy System.
  - ✓ Won the first direct elections in Madras Presidency, forming the government.
  - ✓ Main political alternative to the Indian National Congress (INC) in Madras.
- **Decline and Transformation:**
  - ✓ The Justice Party lost to Congress in the 1937 elections.
  - ✓ **Joined the Self-Respect Movement led by Periyar E. V. Ramasamy.**
  - ✓ **Periyar became the president in 1938**, withdrew from electoral politics, and converted the party into a social reform organization.
- **The Unionist Party of Punjab:**
  - **The Unionist Party, founded by Sir Fazli Husain in 1923**, was a key player in the political landscape of Punjab province during the British Raj. Hence pair 2 is correctly matched.
  - **Founders and Objectives:**
    - ✓ Initiated by Sir Fazli Husain, a prominent Muslim leader, alongside Sir Sikandar Hayat Khan and Sir Chotu Ram. **Hence pair 2 is correctly matched.**
    - ✓ Aimed to represent the interests of landowning classes, including Muslims, Hindus, and Sikhs, in Punjab.
    - ✓ Distinguished itself from nationalist movements like the Indian National Congress by advocating for regional autonomy within British India and prioritizing local concerns over pan-Indian aspirations.
  - **Key Characteristics:**
    - ✓ Secular in nature, rejecting communal ideologies and promoting unity among different communities in Punjab.
    - ✓ Pro-British initially, cooperated with the Raj to safeguard regional interests and secure greater autonomy.
    - ✓ Opposed the Non-Cooperation Movement led by Mahatma Gandhi, considering it disruptive to Punjab's development.
- **Krishak Praja Party (KPP):**
  - **A. K. Fazlul Huq (1873-1962):**
    - ✓ Bengali lawyer and politician known as "Sher-e-Bangla" (Lion of Bengal).
    - ✓ Initially involved in the All India Muslim League, became critical of its elitism and shifted focus towards rural concerns.
    - ✓ Championed the rights and economic well-being of Muslim peasants.
  - **Formation of Krishak Praja Party (KPP) (1936):**
    - ✓ Transformed the Proja-Shamiti, a tenant's association, into the KPP. **Hence pair 3 is correctly matched.**
    - ✓ Promoted agrarian reforms, and improved rural infrastructure, and education for rural communities.
    - ✓ Gained strong support from Muslim peasants in Bengal.
  - **1937 Elections and Rise to Power:**
    - ✓ KPP performed well in the 1937 elections, becoming the third-largest party in Bengal.
    - ✓ Formed a coalition government with the Muslim League and independents, despite ideological differences.
    - ✓ Fazlul Huq became the Chief Minister, the first Muslim to hold that position in Bengal.
  - **Key Policies and Achievements:**
    - ✓ Implemented land reforms to reduce the burden on farmers.
    - ✓ Focused on rural development, irrigation projects, and agricultural improvement.
    - ✓ Advocated for Bengali language and cultural autonomy.

#### Q 16.A

- Representation of People Act, 1950 was enacted to provide:
  - For allocation of seats in the House of the People and in the Legislative Assemblies and Legislative Council of States.
  - Sought to confer on the President the power to delimit after consultation with the Election Commission.
  - For the registration of electors for Parliamentary Constituencies and for the Assembly and Council Constituencies and the qualification and disqualification for such registration.
  - Relaxation of the residence qualification in the case of displaced persons who migrated before 25th July 1949, to India from the territory of Pakistan.
  - For the preparation of electoral rolls, the period of currency of such rolls, and the revision and connection of such rolls during such period in special cases.
  - **Registration of political parties is governed by the provisions of section 29A of the Representation of the People Act, 1951.**
- Hence option (a) is the correct answer.

#### Q 17.B

- REITS or Real Estate Investment Trust is a company that owns, operates, or finances income-producing real estate properties. They pool money from the investors and invest it in commercial real estate projects like workspaces, malls, etc. **Currently, REITs are only permitted to engage in commercial real estate, not residential real estate. Hence statement 1 is correct.**
- REITs work like mutual funds. Mutual funds pool money from multiple investors and then invest in various asset classes like equity, debt, gold, etc. Similarly, REITs pool money from various investors and then invest the corpus in income-generating assets. In the return on their investments, REITs receives rental income and interest payment from these properties, which are further distributed to the investors as dividends. **As per the SEBI guidelines, they must distribute 90% of their earnings to the investors.**
- **The REITs are regulated by the Securities and Exchange Board of India (SEBI) through the SEBI (Real Estate Investment Trusts) Regulations, 2014.**
- SEBI-mandated criteria that REITs in India need to fulfill in order to qualify are as follows:
  - At least 80% of investments made by a REIT need to be in commercial properties that can be rented out to generate income. The remaining assets of the trust (up to the 20% limit) can be held in the form of stocks, bonds, cash, or under-construction commercial property.
  - At least 90% of the rental income earned by the REIT has to be distributed to its unitholders as dividends or interest.
  - Stock market listing of REIT is mandatory. **Hence statement 3 is correct.**
- In India too, REITs get a few key **tax exemptions** that are not available to other types of Real Estate companies:
  - **Interest payments and dividends received by a REIT from a Special Purpose Vehicle or SPV are exempted from tax.** In this context, SPV is a domestic company in which **at least a 50% stake is held by the REIT. A REIT can theoretically hold a 50% or higher stake in multiple SPVs that own individual Real Estate properties on behalf of the REIT. Hence statement 2 is not correct.** Any income obtained from renting or leasing Real Estate Assets that are owned by the REIT directly (i.e. not through an SPV) is also exempted from tax.

#### Q 18.D

- The formation of complex organisms through 'gradual change' from simple ancestral types over the course of geological time is termed **Organic Evolution**.
- **Evolution is caused by action of forces on Natural Selection of Variation. Reproductive Isolation keeps the species distinct** therefore the elemental forces of Organic Evolution are: (i) Variation (ii) Natural Selection (iii) Isolation.
- **Sources of organic variation:** Variation arises in an individual member of a population, and if favourable, spreads into the population through "differential reproduction" by the action of natural selection. Variations may occur by
  - **Mutation**, which is a sudden genetic change. It may be a change in a single gene (genic mutation or point mutation) or may affect many genes (chromosomal mutation).
  - **Genetic recombination**, which occurs in sexually reproducing organisms at every reproduction. The chromosomes and thus genes of the parents mix at random during zygote formation. That is why



offspring of same parents are different from each other as they have different combinations of parental genes. Variation is also brought about when crossing over occurs during gamete formation.

- **Gene flow** is when there is chance mixing of genes of closely related species through sexual reproduction.
- **Genetic drift** occurs in small populations when a part breaks off from a large population. Only representative genes of the large population are present which undergo change at a right time and the small population may evolve into a new subspecies or species.
- **Natural Selection**
  - Natural selection considered to be responsible for “differential reproduction of genes” which means that more of favourable genes get reproduced in a population.
- **Role of Reproductive Isolation**
  - Once new species arise from the parental species due to the effect of variation and natural selection, reproductive barriers prevent the two species from exchanging genes through reproduction. Thus two related species cannot mate with each other and remain distinct. Isolation means separation and reproductive isolation simply means that the two species are prevented from successful reproduction and kept genetically distinct from each other.
- **Hence option (d) is the correct answer.**

#### Q 19.A

- **The Official Languages Act (1963)** provided for the setting up of a **Committee of Parliament on Official Language to review the progress made in the use of Hindi for the official purpose of the Union.** Under the Act, this Committee was to be constituted after ten years of the promulgation of the Act (i.e., 26th January 1965). Accordingly, this Committee was set up in 1976. **This Committee comprises of 30 members of Parliament, 20 from Lok Sabha and 10 from Rajya Sabha. Hence statement 1 is not correct.**
  - The Act contains the following provisions relating to the functions of the committee:
  - It shall be the duty of the Committee to review the progress made in the use of Hindi for the official purposes of the Union and submit a report to the President making recommendations thereon and the President shall cause the report to be laid before each House of Parliament and sent it to all the State Governments.
  - The President may, after consideration of the report, and the views, expressed by the State Governments thereon, issue directions in accordance with the whole or any part of the report.
- **The Chairman of the Committee is elected by the members of the Committee.** As a convention, the Union Home Minister has been elected as Chairman of the Committee from time to time. **Hence statement 2 is not correct.**
- **The Committee is required to submit its report alongwith its recommendations to the President** after reviewing the position regarding the use of Hindi in Central Government Offices on the basis of its observations. **Hence statement 3 is correct.**

#### Q 20.C

- **Dhimsa:**
  - **Dhimsa is an official folk dance of Andhra Pradesh. Hence pair1 is correctly matched.**
  - Dhimsa dance is for both men and women.
  - The tribes hold this dance during the months of March and April.
  - Various types of instruments accompany this dance. They include the **Mori, Kiridi, Tudumu, Dappu and Jodukommulu.**
  - Other folk dances of Andhra Pradesh include **Kuchipudi, Vilasini Natyam, Andhra Natyam, Bhamakalpan, Veeranatyam, Dappu, Tappeta Gullu, Lambadi, Kolattam, Butta Bommalu.**
  - The Boda Dhimsa includes the ritual dance that is generally performed to honor the village Goddess. In Gunderi Dhimsa Dance or Usku Dance, the male dancers dancing with peacock feathers invite the females to participate with them.
- **Nati**
  - **Recent context:** Dressed in traditional attires of red and black, over one thousand women came together at Manali's Mall Road to perform the Mahanati in sync at the winter carnival.
  - **The very famous folk dance of Himachal Pradesh is known as Nati. Hence pair 2 is correctly matched.**
  - Himachal has not forgotten about its rich culture and historical heritage, even after modernisation.
  - Nati is mostly connected to Himachal Pradesh's Kullu district.
  - The dance tells the story of Krishna and the Gopis and represents the Raas Lila.

- Tunis is the name given to musicians in this region and they perform using the dhol, flute, nagara, karnal, narsingha, and a shenai.
- The dancers conduct a Yagya as a homage to the Gods and Goddesses at the end of a Nati dance.
- **Theyyam**
  - Theyyam is a Hindu ritualistic dance performed in northern Kerala and parts of Karnataka, often by people from Scheduled Castes, who are treated as God-like entities during the brief act. **Hence pair 3 is correctly matched.**
  - While most Theyyam performances depict Hindu and tribal fables, in some areas the dance form even includes Muslim characters.
  - This performance of Hindu ritualistic dance Theyyam begins with an Islamic prayer

#### Q 21.D

- **Korkai: It was an important Pandyan port, celebrated for its pearls in Sangam poems and Greek accounts.** The Arthashastra also refers to the pearl fisheries of Pandya country. Today, Korkai village is in Tirunelveli district, Tamil Nadu near the mouth of the Vaiga. Pearl oysters found at various levels in the excavations confirm the literary references to Korkai as an important centre of pearl fishing.
- **Vanji: Also known as Kuravur/Karur, was the capital of the Chera dynasty.** As many as 11 Sangam poets hailed from this place. It can be identified with Karur on the banks of the Amaravati River (a tributary of the Kaveri), in Tiruchirapalli, Tamil Nadu.
- **Muziris: It was the foremost port in the Chera kingdom.** The Periplus of the Erythraean Sea speaks of cargo-laden ships landing here from Arabia and Egypt and gives long lists of imports and exports.
- **Puhar or Poompuhar: It has been identified with Kaveripattinam, a small fishing village on the Tamil Nadu coast, located at the point where the Kaveri river flows into the Bay of Bengal. Kaverippumpattinam was the premier Chola port in early historical times. Classical accounts refer to it as Khabaris or Camara. The Tamil word pattinam means port, as in Kaverippumpattinam.**
  - An entire Sangam collection—the Pattinappalai—is devoted to a description of this place. There are references to its two bustling markets laid out between the two sectors of the city, guarded by officers of the king, and to its inhabitants who spoke different languages.
  - The large number of early medieval Chola coins found at Kaveripattinam indicates that it continued to be an important port in later times as well. The Tamil texts Silappadikaram and Manimekalai indicate that Buddhism and Jainism were well-established in cities of South India such as Puha, especially among merchants and artisans. The story of the Tamil epic Silappadikaram revolves around the city of Puhar. **Hence, option (d) is the correct answer.**

#### Q 22.C

- Lord Wellesley, as Governor General in 1798, expressed concern over the poor conditions in the Indian part of Calcutta. He identified issues like crowding, excessive vegetation, dirty tanks, and poor drainage, which were believed to contribute to diseases. Wellesley advocated for town planning to create open spaces for public health.
- **In 1803, Lord Wellesley issued a Minute emphasizing the need for town planning. He established committees to address the urban challenges, leading to the clearance of bazaars, ghats, burial grounds, and tanneries. This marked the beginning of town clearance and planning projects to improve public health. Hence, statement 1 is correct.**
- **After Wellesley's departure, the Lottery Committee was established in 1817 which took charge of town planning in Calcutta. Hence, statement 2 is not correct.**
  - It was created with the objective of raising funds for the development of towns in India. The establishment of this committee was a part of the British colonial government's efforts to modernise and develop urban areas in India.
- **The lottery committee, funded through public lotteries, commissioned a new map of the city. Its major activities included road building in the Indian part and clearing the riverbank of encroachments.**

#### Q 23.D

Pollutant	Sources
Lead	Auto exhaust (from gasoline, paints, storage batteries, pipes)
Cadmium	Coal, zinc, Incineration of plastic containers, refining of metals, tobacco smoke
Nickel	Combustion of coal, diesel, residual oils, tobacco smoke, chemicals and catalysts, steel and non-ferrous alloys manufacture.

Mercury	Combustion of fossil fuels, evaporation from ore mining, exhausts from metal smelters, chloroalkali cells, paints, pharmaceuticals.
Beryllium	Ceramic industry, rocket motor test facilities, coal combustion and Nuclear Power industry.
Asbestos	Vehicle brakes and asbestos industries.

- Hence option (d) is the correct answer.

#### Q 24.B

- The term "thermokarst" is most commonly associated with permafrost areas. Permafrost refers to the permanently frozen ground found in regions where the temperature remains below freezing for a significant portion of the year, usually in polar and subpolar regions.
- Thermokarst is a geological process specific to permafrost regions, wherein the thawing of frozen ground leads to the collapse of surface features. When permafrost thaws, it can result in the destabilization of the ground, causing the formation of depressions, sinkholes, and uneven terrain. These features are collectively referred to as thermokarst landforms.
- The thawing of permafrost can occur due to various factors, including rising temperatures, changes in precipitation patterns, or human activities such as mining or deforestation. As the permafrost thaws, the ice within the ground melts, leading to the loss of structural support and the collapse of surface materials.
- Thermokarst landscapes are characterized by their irregular topography, with numerous depressions and uneven surfaces. These features can have significant ecological and environmental implications, affecting water drainage patterns, vegetation growth, and wildlife habitat.
- Hence option (b) is the correct answer.

#### Q 25.A

- Boreal forests, or taiga is the term applied to the huge area of dense coniferous forests of North America, northern Europe and Asia occurring at high latitudes where the climate is characterised by very cold winters, usually about 40cm of rainfall and a short summer growing season. The dominant species are evergreens, such as pine, spruce, fir, whose water loss through transpiration is low in winter at the time when the soils may be permanently frozen.
- Unlike tropical forests which have a huge range of species, the boreal forest usually have rather few species of trees, shrubs and plants. In fact the undergrowth of boreal forests is almost non-existent. The species present are able to get their nutrient requirements from the very shallow layer of soil above the permafrost. The trees present have a notable climatic tolerance and survive on rather infertile soils.
- Most of the soils are strongly leached as a result of centuries of leaching and somewhat impoverished parent materials. The soils are generally strongly acid and the main soil process under this dominantly leaching climate is 'podzolisation' leading to podsol soils. The extreme climate coupled with the strong soil acidity means that relatively few organisms exist in the soil and the turnover of organic matter is slow.
- Therefore, low temperature and anaerobiosis (lack of oxygen) inhibit decomposition resulting in a buildup of organic matter, and soils become acidic in taiga climate. Hence option (a) is the correct answer.

#### Q 26.A

- Conservation reserves and community reserves in India are terms denoting protected areas of India which typically act as buffer zones to or connectors and migration corridors between established national parks, wildlife sanctuaries and reserved and protected forests of India. Such areas are designated as conservation areas if they are uninhabited and completely owned by the Government of India but used for subsistence by communities and community areas if part of the lands are privately owned.
- These protected area categories were first introduced in the Wildlife (Protection) Amendment Act of 2002 – the amendment to the **Wildlife Protection Act of 1972**. These categories were added because of reduced protection in and around existing or proposed protected areas due to private ownership of land, and land use.
  - **Conservation Reserves:** A State Government can declare Conservation Reserves in any area owned by it, particularly those adjacent to National Parks and Sanctuaries and those that link one protected area with another. Such a declaration should be made after consultations with the local communities.

- **Community Reserves:** The State Government can declare Community Reserves in any private or community land where an individual or a community has volunteered to conserve wildlife and its habitat. Such land should not be within a National Park, Sanctuary or Conservation Reserve.
- **The rights of people living inside a Conservation Reserve and Community Reserve are not affected.**
- **Reserved and Protected Forests:**
  - Reserved (reserve) forests and protected forests, declared through a notification by the respective state governments, are granted protection under the Indian Forest Act of 1927. Typically, reserved forests are often upgraded to the status of wildlife sanctuaries, which in turn may be upgraded to national parks, with each category receiving a higher degree of protection and government funding. **Hence statement 1 is not correct and statement 2 is correct.**
  - **The protected forests and reserved forests differ in one single aspect:** rights to all activities like hunting, grazing, etc., in Reserved Forests are banned unless specific orders are issued otherwise (all activities are prohibited unless permitted). **In Protected Forests, such rights are sometimes given to communities living on the fringes of the forest, who sustain their livelihood from forest resources or products. Hence statement 3 is not correct.**

#### Q 27.B

- **Incineration** is the process of burning hazardous materials at **high temperatures (in the presence of oxygen)** to destroy contaminants. It is a **thermal process** conducted in an “**incinerator**” (a type of furnace designed for burning hazardous materials in a combustion chamber).
- **Pyrolysis** is the **heating of an organic material**, such as **biomass**, in the **absence of oxygen**. It is also a **thermal process** utilized to **convert biomass into an intermediate liquid product** that can be refined into drop-in **hydrocarbon biofuels, oxygenated fuel additives, and petrochemical replacements**.
- **Hence, statement 1 is not correct and statement 2 is correct.**
- **Temperature:** Incineration requires very high temperatures above 850 to 1000°C. In pyrolysis, the process occurs at lower temperatures from 400 to 1000°C.
- **Residues:** Incineration produces significant amounts of ash as a residue, which is waste and has to be landfilled. The ash is contaminated by toxic pollutants that will pollute the soil. In contrast, the solids produced through pyrolysis are high-value products like char.
- **Energy Recovery:** Incineration produces energy in the form of electricity or heat generation. Pyrolysis produces transportable and storable biofuels like syngas and tire pyrolysis oil, which can be used as fuel for combustion for industrial purposes and as a partial substitute for diesel.

#### Q 28.B

- **Ashoka's Major Rock Edicts:**
  - **Major Rock Edict I**
    - ✓ **Prohibition of animal sacrifice, especially during festive seasons. Hence pair 1 is correctly matched**
  - **Major Rock Edict II**
    - ✓ **Medical treatment of humans and animals, planting of fruits, medicinal herbs, and the digging of wells. Mentions the Pandyas, Satyapuras and Keralaputras of South India.**
  - **Major Rock Edict III**
    - ✓ **Generosity to Brahmins. About Yuktas, Pradeshikas, and Rajukas who would go every five years to different parts of his empire to spread Dhamma.**
  - **Major Rock Edict IV**
    - ✓ **Dhammaghosha (sound of Dhamma/righteousness) over Bherighosha (sound of war). The King Ashoka attached greatest value to his duty. Hence pair 3 is correctly matched.**
  - **Major Rock Edict V**
    - ✓ **About Dhammamahamatras. Talks about treating slaves right. A special cadre of officials, Dhamma Gosha were appointed and entrusted with the duty of spreading Dhamma within the kingdom**
  - **Major Rock Edict VI**
    - ✓ **Talks about King's responsibility toward the welfare of the people.**
  - **Major Rock Edict VII**
    - ✓ **Tolerance towards all religions and sects.**
  - **Major Rock Edict VIII**
    - ✓ **Describes Asoka's first Dhamma Yatra to Bodhgaya & Bodhi Tree.**
  - **Major Rock Edict IX**



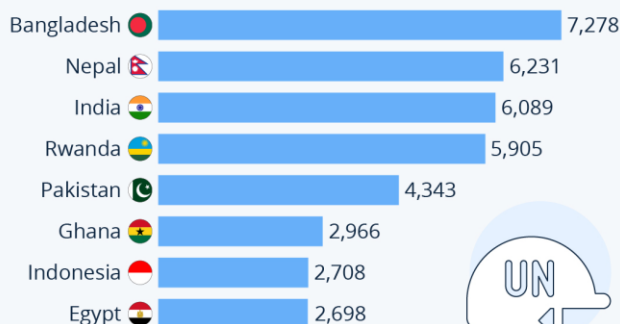
- ✓ Importance of ceremonies of Dhamma; condemns popular ceremonies.
- ✓ Condemns desire for fame and glory.
- Major Rock Edict XI
  - ✓ Dhamma is the major policy to follow. It also includes respect for elders and concern for slaves and servants.
- Major Rock Edict XII
  - ✓ **Tolerance among different religious sects.** Also written in Greek in the Kandahar Greek Edict of Ashoka.
  - ✓ It mentions **Mahamattas in charge of women's welfare.**
- Major Rock Edict XIII
  - ✓ It is the largest inscription from the edict. **It talks about Ashoka's (268 - 232 BCE) victory over Kalinga (262 - 261 BCE) and mentions his remorse for the half million killed or deported during his conquest, by Dhamma. Hence pair 2 is not correctly matched.**
  - ✓ Mentions Ashoka's Dhamma victory over Greek Kings Antiochus of Syria (Amtiyoko), Ptolemy of Egypt (Turamave), Magas of Cyrene (Maka), Antigonos of Macedon (Amtikini), Alexander of Epirus (Alikasudaro). Also mentions Pandyas, Cholas, etc.
- Major Rock Edict XIV
  - ✓ **Describes engraving of inscriptions in different parts of the country.**

### Q 29.C

- Blue Helmets are the military personnel of the U.N. that work alongside the U.N. Police and civilian colleagues to promote “stability, security, and peace processes”. The personnel get their name from the iconic blue helmets or berets they wear. All military personnel under Blue Helmets are members of their national armies first who are seconded to work under the U.N. command. **Hence statement 1 is correct.**
- While decisions about establishing, maintaining, or expanding a peacekeeping operation are taken by the Security Council, the financing of UN Peacekeeping operations is the collective responsibility of all UN Member States. Every Member State is legally obligated to pay their respective share towards peacekeeping. **Hence statement 2 is correct.**
- The U.N. began its Peacekeeping efforts in 1948 when it deployed military observers to West Asia. The Peacekeeping mission’s role was to monitor the Armistice Agreement between Israel and its Arab neighbours. U.N. Peacekeepers provide security as well as political and peacebuilding support to conflict-ridden countries. The three basic principles that guide the U.N.’s Peacekeeping missions are:
  - Consent of the parties
  - Impartiality
  - Non-use of force except in self-defense and defence of the mandate. **Hence statement 3 is correct.**
- The UN states that Bangladesh was the top contributing country in terms of personnel deployed globally as of May 2023 with 7,278 peacekeepers, while Nepal provided the second largest contribution with 6,231 and India ranked third with 6,089. There were 76,694 uniformed personnel deployed worldwide on peace missions, the majority of whom (65,607) were troops. **Hence statement 4 is not incorrect.**

## The Biggest Contributors to UN Peacekeeping Operations

Main contributors of uniformed personnel to UN peacekeeping operations as of May 31, 2023\*



\* Uniformed personnel constitute mission experts, police units, staff officers and troops  
Source: UN Peacekeeping

- **Hence option (c) is the correct answer.**



### Q 30.C

- **Patents:** A patent is a form of preservation of intellectual property. It is an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something, or offers a new technical solution to a problem. To get a patent, technical information about the invention must be disclosed to the public in a patent application.
- **Patentability Criteria for an Invention:** It should be novel. Must involve an inventive step (technical advancement) Capable of industrial application.
- **Term of Patent:** The term of every patent in India is twenty years from the date of filing the patent application, irrespective of whether it is filed with provisional or complete specification.
- The **Indian Patent Act 1970** grants patent rights to discoveries that cover **innovative processes, products, or articles of manufacturing** that can fulfill the minimum criteria for eligibility of a patent, taking into account **inventive steps, novelty, and capability for industrial uses**.
- According to **Section 3 (j)** of the Act, **plants and animals in whole or any part** thereof other than micro-organisms, including **seeds, varieties, and species**, and essentially **biological processes** for the production or propagation of plants and animals, are **not patentable** inventions.
- **Hence, options 1, 2, and 3 are correct.**
- The Act was amended by the Patents (Amendment) Act, 2005, wherein product patent was extended to all fields of technology including food, drugs, chemicals, and microorganisms.

### Q 31.C

#### Rise of Sects in Jainism

- In a few centuries after Mahavira's nirvana, the Jain community, known as Sangha, became more intricate. **Within the Sangha, some members were very strict and focused on asceticism, while others were more open-minded.** Their disagreements, mainly about the way monks should live, caused a split in Jainism. This division started around the second century BCE and resulted in the formation of two distinct sects by the first century CE. Later, **many other points of disagreement e.g., the question regarding the life story of Mahavira, the canon of Scriptures, the position of women, etc. contributed to the schism. Thus, there arose two branches of Jainism:**
  - **Digambaras (literally, "the sky-clad")** maintained that:
    - ✓ Monks must be naked because nakedness is proof of the conquest of sin.
    - ✓ Tirthankars should be represented naked without ornaments.
    - ✓ Mahavira never married
    - ✓ Only males can achieve enlightenment. Consequently, women do not become naked ascetics. They cannot obtain Moksha.
  - **The Shvetambaras, meaning "the white-clad,"** disagreed with the mentioned beliefs. They preferred wearing a simple white garment. The division between these groups might have been influenced by regional factors. The Digambaras played a significant cultural role in South and Central India, receiving support from local kings. They also contributed to the development of vernacular language in these areas. On the other hand, the Shvetambaras played a similar role in the North and the West of India.
- By the 11th and 12th centuries CE, the Digambaras had to retreat to the north, owing to the disfavor they incurred from the local kings, which itself on account of the spread of the Hindu Bhakti movement.
- By the 16th century Jainism had reached its current geographical status and from now on it witnessed various reform movements within. **From among the Shvetambaras, a reformist sect arose about the 15th century named the Sthanakvasi Sect: criticizing image-worship, and temple-cult because it was not even mentioned once in the Scriptures. On the contrary, Lonka Sa pointed out that the practice was not lawful. So there arose after him Lonka Sa Sect.**
- From the Lonka Jains still another reformer arose, Viraji of Surat. He was critical of the Sadhus that they were leading less austere life.
- **In the 16th century there arose two sects from among the Digambaras too. As against Vishvapanthis (or Bispanthis) who install images of gods like Bhairava in their temples, cover idols with saffron clothes, offer flowers, sweets and wave lights etc., the Terapanthis did not accept any of these.**
- **Hence option (c) is the correct answer.**

#### Q 32.D

- The term unemployment refers to a situation where a person actively searches for employment but is unable to find work. Unemployment is considered to be a key measure of the health of the economy.
- **Frictional unemployment is a natural result of the fact that market processes takes time and information can be costly.** People changing jobs, recruiting new workers, and matching the right workers to the right jobs all take time and effort. This results in frictional unemployment. It is a type of unemployment that is usually short-lived. It is also the least problematic from an economic standpoint.
- **Cyclical unemployment** is the variation in the number of unemployed workers over the course of economic upturns and downturns, such as those related to changes in oil prices. Unemployment rises during recessionary periods and declines during periods of economic growth.
- **Structural unemployment** comes about through a technological change in the structure of the economy in which labor markets operate. Technological changes can lead to unemployment among workers displaced from jobs that are no longer needed.
- **Institutional unemployment** results from long-term or permanent institutional factors and incentives in the economy.
- The following can all contribute to institutional unemployment:
  - Government policies, such as high minimum wage floors, generous social benefits programs, and restrictive occupational licensing laws.
  - Labor market phenomena, such as efficiency wages and discriminatory hiring.
  - Labor market institutions, such as high rates of unionization.
- **Hence option (d) is the correct answer.**

#### Q 33.B

- **In 1973, states signed the Convention for the Prevention of Pollution from Ships known as MARPOL,** the treaty imposes strict rules on the shipping industry, helping to prevent spills and pollution from routine operations. The treaty is administered by the International Maritime Organization, which would become a key partner in UNEP efforts to prevent marine pollution.
- **The 1979 Convention on Long-Range Transboundary Air Pollution (LRTAP),** the first multilateral agreement addressing transboundary air pollution, created a regional framework applicable to Europe, North America and Russia, and former East Bloc countries for reducing transboundary air pollution and better understanding air pollution science. LRTAP has contributed to a dramatic decline in air pollution emissions in the region, particularly for sulfur, and economic growth and air pollution trends have been progressively decoupled. It is the world's first legally binding instrument to address regional air quality.
- **In 1989, States adopted the Basel Convention:** Signed by 183 states, the treaty places strict rules on the movement and disposal of hazardous waste. It would help prevent the jettisoning of dangerous chemicals in the developing world, including in Africa which had seen an epidemic of toxic dumping. It entered into force in 1992. Since 2013, the secretariats of the Basel, Rotterdam, and Stockholm conventions have been merged into one.
- **In 1997, the United Nations Environment Program released the first Global Environment Outlook** and held Earth Summit+5. The Global Environment Outlook presents a clear assessment of the state of the environment and outlines the biggest challenges facing the planet. As well, five years after meeting in Rio, Member States reviewed the state of the environment at the Earth Summit+5 in New York.
- **Hence option (b) is the correct answer.**

#### Q 34.C

- **Dhokra art:** (Context: PM Modi gifted Dokra Art with Ramayana Theme from Chattisgarh to South Africa's President Cyril Ramaphosa)
  - **Dokra art is a non-ferrous metal casting art that uses the lost-wax casting technique.** This technique has been in use for over 4,000 years in India and is still practiced by artisans in central and eastern India. It is in great demand in domestic and foreign markets because of its primitive simplicity, folk motifs, and forceful form. **Hence statement 1 is correct.**
  - It is an art that connects the collectors as well as the creators with the Indus Valley Civilisation that flourished in a large part of northwestern India and modern-day Pakistan. The most famous creation of this art, called Dhokra, also belongs to the Mohenjo-Daro, the hub of Indus Valley Civilisation, and is referred to as the **Dancing Girl, a lost-wax casting sculpture made of bronze that dates back to over 4600 years ago. Hence statement 2 is correct.**



### Q 35.A

- Unlike the American Constitution, the Indian Constitution has established an integrated judicial system with the Supreme Court at the top and the high courts below it. Under a high court (and below the state level), there is a hierarchy of subordinate courts, that is, district courts and other lower courts. This **single system of courts enforces both Central laws as well as the state laws. In USA, on the other hand, the federal laws are enforced by the federal judiciary and the state laws are enforced by the state judiciary. Hence statement 1 is correct.**
- The **Supreme Court has special advisory jurisdiction** in matters which may specifically be referred to it by the President of India under **Article 143 of the Constitution. The US Constitution does not have a parallel provision of an advisory opinion.** There is neither express power nor an express ban on the use of such power within the constitution. However, the US Supreme Court has maintained a consistent opinion that no such power could be exercised by the court as it violates the principle of separation of powers. **Hence statement 2 is not correct.**

### Q 36.B

- Scientists have discovered a new species of pangolin called *Manis mysteria*.
- Pangolins are nocturnal mammals that dig burrows and feed on ants and termites, and play a vital role in ecosystem management, mostly in aerating and adding moisture to the soil.
- Pangolins are known for their unique appearance. They have scales made of keratin that cover their entire body. When threatened, they can roll into a ball to protect themselves.
- Pangolins are the only mammals that are **wholly covered in scales. Hence statement 1 is correct.**
- There are four species of pangolins found in Africa: Black-bellied pangolin, White-bellied pangolin, Giant Ground pangolin, and Temminck's Ground pangolin. **Four species are found in Asia: Indian pangolin, Philippine pangolin, Sunda pangolin, and the Chinese pangolin**
- **The Chinese, Philippine, and Sunda pangolins are listed as Critically Endangered on the IUCN Red List.**
- **The Indian pangolin is listed in Schedule I of the Wildlife (Protection) Act, 1972, and as Endangered on the IUCN Red List 1. Hence statement 2 is correct and statement 3 is not correct.**
- **Habitat:**
  - It is adaptable to a wide range of habitats including primary and secondary tropical forests, limestone and bamboo forests, grasslands, and agricultural fields.
  - The Indian Pangolin is found across the Indian subcontinent; Bihar, West Bengal, and Assam also have the presence of Chinese pangolin. All pangolin species are listed in the Convention on International Trade in Endangered Species (CITES) Appendix I.

### Q 37.A

- The Constitution provides for a three-fold distribution of legislative subjects between the Centre and the states, viz., List-I (the Union List), List-II (the State List) and List-III (the Concurrent List) in the Seventh Schedule:
  - The Parliament has exclusive powers to make laws with respect to any of the matters enumerated in the **Union List**. This list has at present 98 subjects (originally 971 subjects) like defence, banking, foreign affairs, currency, atomic energy, **insurance, communication, inter-state trade and commerce**, census, audit and so on. **Hence pair 2 is not correctly matched.**
  - The state legislature has "in normal circumstances" exclusive powers to make laws with respect to any of the matters enumerated in the State List. This has at present 59 subjects (originally 662

subjects) like public order, police, **public health and sanitation**, agriculture, prisons, local government, fisheries, markets, theaters, **betting and gambling** and so on. **Hence pair 1 is correctly matched and pair 3 is not correctly matched.**

- Both, the Parliament and state legislature can make laws with respect to any of the matters enumerated in the Concurrent List. This list has at present 52 subjects (originally 473 subjects) like criminal law and procedure, civil procedure, marriage and divorce, population control and family planning, electricity, labour welfare, economic and social planning, drugs, newspapers, books and printing press, and others.

#### Q 38.D

- Several manufacturing states, including Gujarat, Maharashtra, Karnataka, Haryana, and Tamil Nadu, were concerned about potential revenue loss due to the consumption-based nature of the GST. To address these concerns, the government introduced the GST Compensation Cess, designed to offset any potential revenue losses incurred by these manufacturing states.
- In accordance with the GST (Compensation to States) Act of 2017, a **compensation cess is imposed on five goods that are deemed to be “sin” or “luxury,” such as Pan Masala, Tobacco, and Automobiles. Hence statement 1 is not correct.**
- It has to be paid by all the taxpayers except those who export the notified goods and those who have opted for the GST composition scheme.
- **Any unused money from the compensation fund at the end of the transition period shall be distributed between the states and the center as per any applicable formula. Hence statement 2 is not correct.**
- **All the proceeds received from the GST compensation cess would be credited to a non-lapsable fund known as the Goods and Services Tax Compensation Fund.** The funds would then be used for compensating tax revenue loss to States on account of GST implementation.
- The government has extended the time for levy of GST compensation cess by nearly 4 years till March 31, 2026. The levy of cess was to end on June 30, 2022, but the GST Council, chaired by Union Finance Minister and comprising state FMs, decided to extend it till March 2026 to repay the loans taken in the last two fiscal years to make up for the shortfall in their revenue collection.

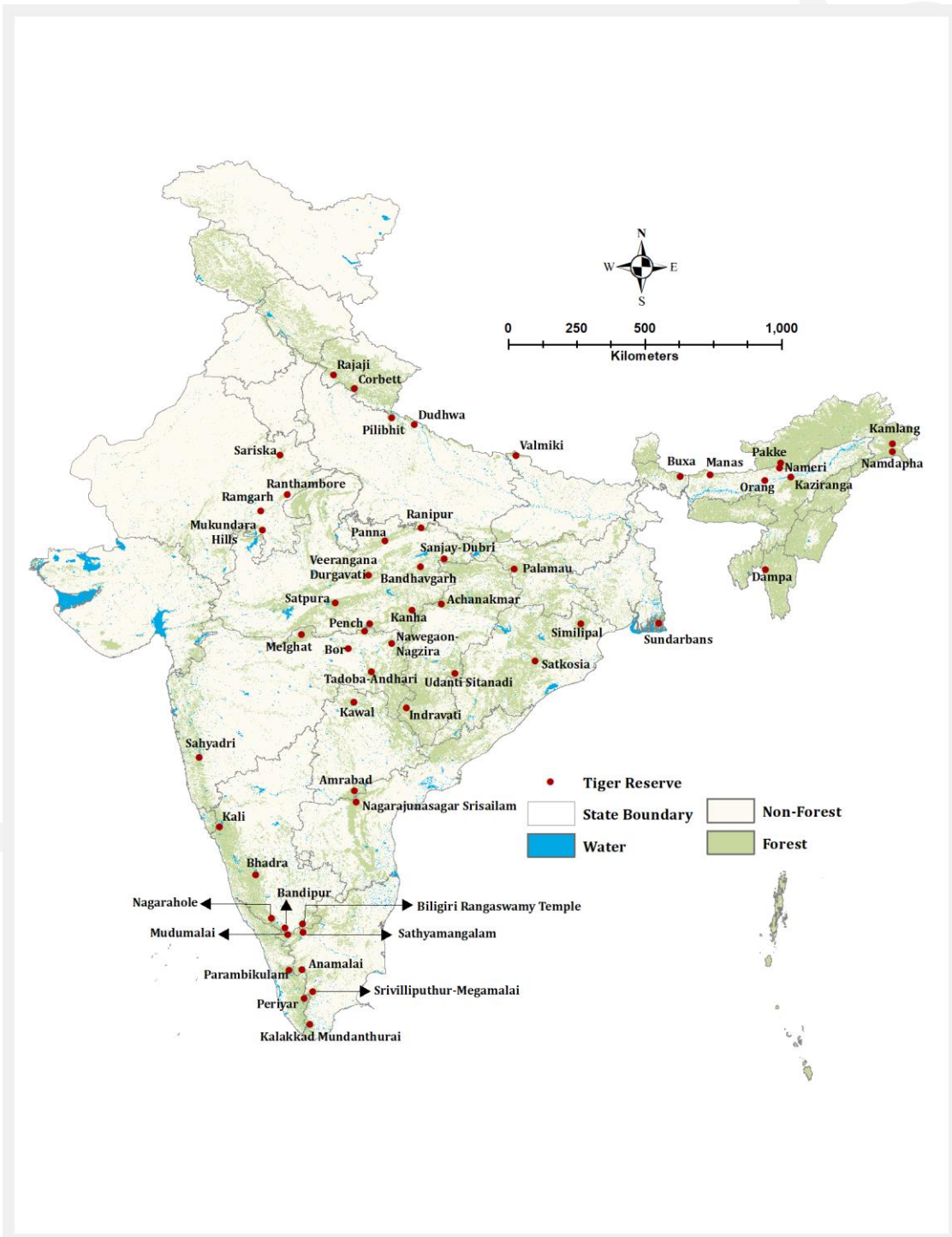
#### Q 39.A

- Hot water springs, also known as thermal springs or hot springs, are natural occurrences where groundwater is heated by geothermal energy and emerges at the Earth's surface. These springs are found in various geological settings, typically in regions with volcanic activity, tectonic plate boundaries, or areas with deep fault lines.
- **Manikaran is a renowned pilgrimage site among the Hindu and Sikh community, Manikaran Sahib shrine stands on top of multiple hot water springs on the banks of Parvati River in Himachal Pradesh. Hence pair 1 is not correctly matched.**
- **Yumthang hot springs are one of the most famous hot springs in Sikkim. It is located at an elevation of more than 11,800 feet above sea level. These hot water springs are located in the Lachung river's course. Hence pair 2 is correctly matched.**
- Panamik is a wonderful village surrounded by high mountain peaks in Ladakh. Ladakh is a Union Territory of India and Panamik village is situated on the Indo Tibetan Border in Ladakh. Panamik is also near the Siachen Glacier camp area. **Panamik village is well known for its panamik hot springs. The sulphur rich hot water springs are the main reason for making this village famous and the springs have come to be known as the ‘Panamik Hot Water Springs. Hence pair 3 is not correctly matched.**
- **Other important hot springs are**
  - Chumathang, Ladakh
  - Kheerganga, Himachal Pradesh
  - Kasol, Himachal Pradesh
  - Vashisht, Himachal Pradesh
  - Gaurikund, Uttarakhand
  - Rishikund, Uttarakhand
  - Suryakund, Uttarakhand
  - Dhuni Pani, Madhya Pradesh
  - Atri, Orissa
  - Akoli, Maharashtra
- **Hence option (a) is the correct answer.**



Q 40.C

- Madhya Pradesh Government has officially announced the establishment of the "Veerangana Durgavati Tiger Reserve," marking the seventh tiger reserve in the state and **54th in the country**. This newly designated Tiger Reserve will encompass areas within the Nauradehi (Wildlife) & Veerangana Durgavati Sanctuary, recognized for their ecological significance in preserving biodiversity, including flora, fauna, geology, and zoology. The declaration is in accordance with the provisions of the **Wildlife (Protection) Act, 1972**. The newly established Veerangana Durgavati Tiger Reserve covers an extensive area of 2,339 square kilometers and is located approximately 20 kilometers from Bhopal. It spans three districts—Narsinghpur, Sagar, and Damoh. **Hence statement 1 is correct.**
- The Chambal River forms the boundary between Rajasthan and Madhya Pradesh for a major portion of its length and connects forests on both sides of the river. Dholpur Karauli Tiger Reserve, Ranthambore Tiger Reserve and Ramgarh Vishdhari Tiger Reserve lie on the western bank of Chambal River. **Hence statement 2 is not correct.**
- Out of the total 54 tiger reserves in India, Madhya Pradesh has highest number of 7 followed by 6 in Maharashtra. **Hence statement 3 is correct.**



- Hence option (c) is the correct answer.



#### Q 41.B

- The report is released by the United Nations Environment Programme (UNEP). Adaptation is a process of reducing countries and communities' vulnerability to climate change by increasing their impact absorption ability. **Hence statement 1 is correct.**
- The adaptation gap is the difference between implemented adaptation and societally set goals. The report which looks at progress in planning, financing and implementing adaptation actions, finds that the adaptation finance needs of developing countries are 10-18 times as big as international public finance flows. **Hence statement 2 is correct.**
- The modeled costs of adaptation in developing countries are estimated at US\$215 billion per year this decade. The adaptation finance needed to implement domestic adaptation priorities is estimated at US\$387 billion per year. Despite these needs, public multilateral and bilateral adaptation finance flows to developing countries declined by 15 per cent to US\$21 billion in 2021. **Hence statement 3 is not correct.**

#### Q 42.D

- The Venus atmosphere is very dense. Venus has the most massive atmosphere of the terrestrial planets, which include Mercury, Earth, and Mars. **Its gaseous envelope is composed of more than 96 percent carbon dioxide and 3.5 percent molecular nitrogen. Trace amounts of other gases are present, including carbon monoxide, sulfur dioxide, water vapour, argon, and helium.** The composition is also very different from Earth. Venus is not hospitable, at least for organisms we know from Earth. The oxygen is produced on the planet's dayside by ultraviolet radiation from the sun that breaks down atmospheric carbon dioxide and carbon monoxide into oxygen atoms and other chemicals. Some of the oxygen is then transported by winds to the Venusian night side.
- The detection of atomic oxygen on Venus is direct proof for the action of photochemistry - triggered by solar UV radiation - and for the transport of its products by the winds of Venus' atmosphere. The oxygen was found concentrated between two layers of the Venusian atmosphere, at an altitude of about 60 miles (100 km) above the surface. The temperature of the oxygen ranged from about minus 184 degrees Fahrenheit (minus 120 degrees Celsius) on the planet's day side to minus 256 degrees Fahrenheit (minus 160 degrees Celsius) on its night side
- **Hence option (d) is the correct answer.**

#### Q 43.D

- The Indian Councils Act of 1861 enlarged the Governor General's Executive Council for the purpose of making laws. The Governor-General could now add from six to twelve members to the Executive Council. At least half of these nominations had to be non-officials, Indian or British. This council came to be known as the Imperial Legislative Council. It possessed no powers at all. It could not discuss the budget or a financial measure or any other important bill without the previous approval of the Government. It could not discuss the actions of the Administration.
- Despite the facade of including Indians in the executive council, the British maintained a sense of superiority. While moving the Indian Councils Bill of 1861, the Secretary of State for India, Charles Wood, said: All experience reaches us that where a dominant race rules another, the mildest form of Government is despotism.' A year later he wrote to Elgin, the Viceroy, that the only government suitable for such a state of things as exists in India is a despotism controlled from home."
- Indian members were few in number — in thirty years, from 1862 to 1892, only forty-five Indians were nominated to it. Moreover, the Government invariably chose rulers of princely states or their employees, big zamindars, big merchants, or retired high government officials as Indian members. **Only a handful of political figures and independent intellectuals such as Syed Ahmed Khan (1878-82), Kristodas Pal (1883), V.N. Mandlik (1884-87), K.L. Nulkar (1890-91) and Rash Behari Ghosh (1892) were nominated. The overwhelming majority of Indian nominees did not represent the Indian people or emerging nationalist opinion.**
- **Hence, option (d) is the correct answer.**

#### Q 44.B

- Union Minister for Fisheries, Animal Husbandry & Dairying has released the Basic Animal Husbandry Statistics 2023 (milk, egg, meat and wool production 2022-23) based on the Animal Integrated Sample Survey (March 2022-February 2023) during the National Milk Day event at Guwahati. The main features of the Basic Animal Husbandry Statistics are:
  - **Milk Production:** The total Milk production in the country is estimated as 230.58 million tonnes during 2022-23 registered a growth of 22.81% over the past 5 years which was 187.75 million tonnes

in 2018-19. **The highest milk producing State during 2022-23 was Uttar Pradesh with a share of 15.72 % of total milk production** followed by Rajasthan (14.44 %), Madhya Pradesh (8.73 %), Gujarat (7.49 %), and Andhra Pradesh (6.70 %). **Hence statement 1 is not correct.**

- **Egg Production:** The total Egg production in the country has been estimated as 138.38 billion nos. during 2022-23 registering a growth of 33.31% growth over the past 5 years as compared to the estimates of 103.80 billion numbers during 2018-19. **The Major contribution in the total Egg production comes from Andhra Pradesh with a share of 20.13 % of total Egg production** followed by Tamil Nadu (15.58 %), Telangana (12.77 %), West Bengal (9.94%) and Karnataka (6.51 %). **Hence statement 2 is correct.**
- **Meat Production:** The total Meat production in the country is estimated as 9.77 million tonnes during 2022-23 registering a growth of 20.39 % over the past 5 years as compared to the estimates of 8.11 million tonnes in 2018-19. **The Major contribution in the total meat production comes from Uttar Pradesh with a 12.20 % share** followed by West Bengal (11.93 %), Maharashtra (11.50 %), Andhra Pradesh (11.20 %) and Telangana (11.06 %).
- **Wool Production:** The total Wool production in the country is estimated as 33.61 million kg during 2022-23 registering a negative growth of 16.84% over the past 5 years as compared to the estimates of 40.42 million kg during 2018-19. **The Major contribution in the total Wool production comes from Rajasthan with a share of 47.98%** followed by Jammu & Kashmir (22.55%), Gujarat (6.01%), Maharashtra (4.73%) and Himachal Pradesh (4.27%). **Hence statement 3 is correct.**

#### Q 45.A

- **Article 22** grants protection to persons who are arrested or detained. The Article 22 has two parts – the first part deals with the cases of ordinary law and the second part deals with the cases of preventive detention law. **Preventive detention means detention of a person without trial and conviction by a court.** Its purpose is not to punish a person for a past offence but to prevent him from committing an offence in the near future.
- The second part of **Article 22 grants protection to persons who are arrested or detained under a preventive detention law.** This protection is available to both citizens as well as aliens and includes the following:
  - The detention of a person cannot exceed three months unless advisory board reports sufficient cause for extended detenti The board is to consist of judges of a high court.
  - The grounds of detention should be communicated to the dete However, the facts considered to be against the public inter need not be disclosed.
  - The detenu should be afforded an opportunity to make representation against the detention order.
  - **Hence statement 1 is correct.**
- **The Constitution has divided the legislative power with regard to preventive detention between the Parliament and the state legislatures.** The Parliament has exclusive authority to make a law of preventive detention for reasons connected with defence, foreign affairs and the security of India. Both the Parliament as well as the state legislatures can concurrently make a law of preventive detention for reasons connected with the security of a state, the maintenance of public order and the maintenance of supplies and services essential to the community. **Hence statement 2 is not correct.**
- Among central legislations, the National Security Act, the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA) are examples of laws under which preventive detention can be ordered. As many as 25 states also have preventive detention legislations,
- The State, which would be the **district magistrate, would issue an order** to detain a person when it is necessary to maintain “public order.” **This power can be delegated to the police as well under various laws enacted by the state legislative assemblies. Hence statement 3 is not correct.**
- **Article 22 authorises the Parliament to prescribe**
  - the circumstances and the classes of cases in which a person can be detained for more than three months under a preventive detention law without obtaining the opinion of an advisory board;
  - **the maximum period for which a person can be detained in any classes of cases under a preventive detention law;** and
  - the procedure to be followed by an advisory board in an inquiry.
  - **Hence statement 4 is not correct.**

#### Q 46.B

- **Under Article 146 of the Constitution of India, appointments of officers and servants of the Supreme Court shall be made by the Chief Justice of India or such other Judge or officer of the Court as he may direct:**

- provided that the President may by rule require that in such cases as may be specified in the rule, no person not already attached to the Court shall be appointed to any office connected with the Court, save after consultation with the Union Public Service Commission. **Hence statement 1 is correct.**
- **Section 3(1) of the Judges (Protection) Act, 1985** which directs that **no Court shall entertain any civil or criminal proceeding against** any person who is or was a Judge for any act, thing or word committed, done or spoken by him, or in the course of, acting or purporting to act in the discharge of his official and judicial duty or function. **Hence statement 2 is correct.**
- Salaries, gratuity, pension, allowances etc. in respect of Judges of Supreme Court are governed by the **Supreme Court Judges (Salaries and Conditions of Service) Act, 1958**. Salaries etc. of Judges of High Courts are governed by **High Court Judges (Salaries and Conditions of Service) Act, 1954**. **Hence statement 3 is not correct.**

**Q 47.A**

- **What are Neo Banks?**
  - Neo Banks Meaning - These are financial institutions with only an online presence and function digitally. **Hence, statement 1 is correct.**
  - They offer all traditional bank services via a digital setup or mobile apps without having any physical branches.
  - These are a kind of digital bank that caters to the financial needs of the tech-savvy generation, like immediate money transfers, lending, payments, etc.
  - However, it is essential to note that these neo-banks may not necessarily have their banking license but rely on their banking partners who offer financial services and products.
  - These are 100% digital banks.
  - **And since the RBI does not allow 100% digital banking operations, they cannot apply for a banking license.**
  - The expertise of these neo-banks lies in tying technology and artificial intelligence together to offer personalized financial services to customers. It is offered at a minimal cost.
- **What should customers consider before depositing money in Neo Banks?**
  - Neo banks are not banks- they are more like fintech companies with banking partners.
  - Neo banks are fintech companies that fall indirectly under RBI's jurisdiction. RBI doesn't recognise neo banks as 'banks', so the customers might get into legal trouble in case of an issue.
  - Neo banks offer limited products like savings accounts, small loans, debit cards, etc. and not all services of banks. **Hence, statement 2 is not correct.**
  - Customers will have to do all the banking on their mobile phones and may not have access to a personal banker.
- **How are Neo Banks Different from Digital Banks?**
  - Digital banks often exist as online subsidiaries of established banking and financial institutions. **They may be backed by larger financial institutions and have a few physical branches. On the other hand, neo-banks exclusively operate online and have no offline branches.**

**Q 48.A**

- **Scientists have discovered an entirely new class of antibiotic that appears to kill one of three bacteria considered to pose the greatest threat to human health because of their extensive drug-resistance. Zosurabalpin defeated highly drug-resistant strains of Carbapenem-resistant Acinetobacter baumannii (Crab) in mouse models of pneumonia and sepsis, and was being tested in human trials. Hence, option (a) is the correct answer.**
- Crab is classified as a priority 1 critical pathogen by the World Health Organization, alongside two other drug-resistant forms of bacteria – Pseudomonas aeruginosa and Enterobacteriaceae.
- Antibiotic-resistant infections pose an urgent threat to human health – particularly those caused by a large group of bacteria known as Gram-negative bacteria, which are protected by an outer shell containing a substance called lipopolysaccharide (LPS).

**Q 49.A**

- **Context: The International Labour Organisation has said the 70-hour work-week is not mandated under any national law in any country. This comes amid a raging debate on work hours triggered by Infosys co-founder NR Narayana Murthy's comment that the youth in India should work 70 hours a week.**

- Instead developed nations are moving towards the ILO's latest convention that mandates a 40-hour work-week in place of the 48-hour work convention, which was ratified by several countries including India way back in 1921.
- The very first ILO convention, adopted in 1919 (Hours of Work [Industry] Convention, 1919 [No. 1]), sets a maximum of 8 hours per day and 48 hours per week, with a few exceptions under special circumstances.
- **India was among the first nations to ratify ILO Convention 1 in 1921, setting the standard of eight working hours a day and 48 hours a week for industrial work. Hence, statement 1 is correct and statement 2 is not correct.**
- The ILO stresses that the belief that longer working hours lead to increased productivity is a misconception. Extended work hours have been found to lower hourly productivity due to increased fatigue. Workers with long hours and heavy workloads report reduced job satisfaction, and motivation, and higher rates of absenteeism and turnover, as stated in the ILO 2018 report on working time and the future of work.

#### Q 50.D

- For analysing the trade equilibrium of a country, another device that is employed is the **Offer Curve** or, more precisely, the **Trade Offer Curve** of a country. The trade offer curve indicates what quantities of a particular commodity one country is willing to offer in exchange for certain quantities of another commodity.
  - In other words, the offer curve shows the different quantities of a particular commodity demanded by one country from the other at the different relative prices of their products. It is because of this reason that the offer curve is also known as the reciprocal demand curve. The concept of offer curve was originally given by **Marshall and Edgeworth. Hence option (d) is the correct answer.**
- The **Rahn Curve** suggests that there is an optimal level of government spending which maximises the rate of economic growth. Initially, higher government spending helps to improve economic performance. But, after exceeding a certain amount of government spending, government taxes and intervention diminishes economic performance and growth rates.
- A **J Curve** is an economic theory which states that, under certain assumptions, a country's trade deficit will initially worsen after the depreciation of its currency—mainly because in the near term higher prices on imports will have a greater impact on total nominal imports than the reduced volume of imports. This results in a characteristic letter J shape when the nominal trade balance is charted as a line graph.
- **Beveridge curve** refers to a graphical representation that shows the relationship between the unemployment rate (on the horizontal axis) and the job vacancy rate (on the vertical axis) in an economy. It is named after British economist William Beveridge. The Beveridge curve usually slopes downwards because times when there is high job vacancy in an economy are also marked by relatively low unemployment since companies may actually be actively looking to hire new people. By the same logic, a low job vacancy rate usually corresponds with high unemployment as companies may not be looking to hire many people in new jobs.

#### Q 51.A

- Monetary Policy Committee was set up consequent to the agreement reached between the Government and RBI to task RBI with the responsibility for price stability and inflation targeting. The Reserve Bank of India and the Government of India signed the Monetary Policy Framework Agreement on 20 February 2015.
- The MPC replaced the erstwhile system where the RBI governor, with the aid and advice of his internal team and a technical advisory committee, has complete control over monetary policy decisions.
- Under this, it was written into the preamble of the RBI Act that the primary objective of the monetary policy is to maintain price stability, while keeping in mind the objective of growth, and to meet the challenge of an increasingly complex economy, RBI would operate a Monetary Policy Framework.
- **Recommendations to constitute MPC:**
  - Many committees have suggested setting up of MPC. For example, in 2002 the Y. V. Reddy Committee recommended for a MPC to decide policy actions. Subsequently, suggestions were made to set up a MPC in 2006 by the Tarapore Committee, **in 2007 by the Percy Mistry Committee**, in 2009 by the Raghuram Rajan Committee and then in 2013, both in the report of the Financial Sector Legislative Reforms Commission (FSLRC) and the Dr. Urjit R. Patel (URP) Committee. **Hence, statement 1 is correct.**



- **Composition of MPC**
  - MPC consists of six members - the RBI Governor (Chairperson), the RBI Deputy Governor in charge of monetary policy, one official nominated by the RBI Board and the remaining three members nominated by the Government of India.
  - The Government nominees are appointed based on the recommendations of a search cum selection committee consisting of the cabinet secretary (Chairperson), the RBI Governor, the secretary of the Department of Economic Affairs,
  - Ministry of Finance, and three experts in the field of economics or banking as nominated by the central government. The nominee will hold office for a period of four years and will not be eligible for re-appointment. **Hence, statement 4 is not correct.**
  - The RBI act lays down the required qualifications and eligibility for Members of MPC.
- **Functions of MPC**
  - RBI will be responsible for containing inflation targets at 4% (with a standard deviation of 2%) in the medium term.
  - **Central Government determines the inflation target in terms of the Consumer Price Index, once in every five years in consultation with the RBI. Hence, statement 2 is not correct.**
  - RBI would have to give an explanation in the form of a report to the Central Government, if it failed to reach the specified inflation targets. The report will give reasons for failure, remedial actions as well as estimated time within which the inflation target shall be achieved.
  - RBI is mandated to publish a Monetary Policy Report every six months, explaining the sources of inflation and the forecasts of inflation for the coming period of six to eighteen months.
  - **RBI has to organize at least four meetings of the MPC in a year. Hence, statement 3 is not correct.**
  - The MPC makes decisions based on a majority vote (by those who are present and voting). In case of a tie, the RBI governor will have the second or casting vote. The decision of the Committee would be binding on the RBI.

#### Q 52.D

- Money supply refers to the total amount of money that is in circulation within an economy. It includes both physical currency like paper notes and digital forms such as the value of your bank checking account.
- Several tools to stimulate economic activity and increase money supply:
  - Lower the reserve requirement for commercial banks, allowing them to lend out a larger portion of their deposits. This encourages banks to lend more money. **Hence option 1 is not correct.**
  - **Under Dovish monetary policy stance, the central bank decreases the benchmark interest rate, making borrowing cheaper for individuals and businesses.** This encourages borrowing and spending, thus boosting economic activity.
  - As the central bank increases the bank rate, the commercial banks would also have to increase their lending rates. Thus, by manipulating the benchmark policy rate central bank controls (lowers) the money flow in the market. **Hence option 2 is not correct.**
  - **When looking to increase money supply, central banks will purchase government debt securities from commercial banks, providing those banks more cash to loan out.** This injection of cash also allows banks to lower the federal funds rate and more easily loan excess reserves to other banks. **Hence option 3 is not correct.**

#### Q 53.B

- **Recent context:** Lok Sabha Speaker Om Birla admitted a motion of no-confidence against the government moved by Congress Deputy Leader in Lok Sabha Gaurav Gogoi.
- In a parliamentary democracy, a government can be in power only if it commands a majority in the directly elected House. Article 75(3) of our Constitution embodies this rule by specifying that the Council of Ministers are collectively responsible to the Lok Sabha.
- For testing this collective responsibility, the rules of Lok Sabha provide a particular mechanism – a motion of no-confidence. Any Lok Sabha MP, who can garner the support of 50 colleagues, can, at any point of time, introduce a motion of no-confidence against the Council of Ministers.
- Thereafter, a discussion on the motion takes place. MPs who support the motion highlight the government's shortcomings, and the Treasury Benches respond to the issues they raise.
  - Finally, a vote takes place – in case the motion carries, the government is bound to vacate the office. A no-confidence motion can only be moved in the Lok Sabha.



- The Constitution specifies that the Prime Minister is the head of the Council of Ministers. Therefore, the PM responds to the debate whenever MPs discuss a no-confidence motion in Lok Sabha. The opposition parties' move requires the PM to reply to the charges they bring during the discussion.
- **Twenty-seven no-confidence motions have been moved so far since independence. None of these motions, have been successful. Hence statement 2 is correct.**
- **In 1963, J B Kripalani moved the first no-confidence motion in Lok Sabha even though the government of Prime Minister Jawaharlal Nehru had a comfortable majority. Hence statement 1 is correct.**
- **The rules of procedure of Lok Sabha specify that after the no-confidence motion is admitted, the Speaker shall specify the date on which the debate will begin. This date should be within 10 days from the date the motion was accepted in the House. Hence statement 3 is not correct.**
  - The debate on a no-confidence motion is also wide-ranging. Participating MPs raise both national and state issues during this debate.

#### Q 54.A

- **A new material designed at the Indian Institute of Bombay (IIT Bombay) has made a breakthrough in the amount of heat that can be absorbed and stored. Called nanostructured hard-carbon florets or NCF in short, the material has shown the highest solar-thermal conversion efficiency so far—87%. It absorbs more than 97% of the ultraviolet, visible and infrared components of sunlight and converts this efficiently into thermal energy that can be effectively transferred to either air or water for practical applications. Hence, statement 1 is correct.**
- Solar thermal converters, like those present in solar water heaters, are already in use in many places around the world, but most of them are expensive, bulky and potentially harmful to the environment. “Conventional coatings and materials for solar-thermal conversion are based on chromium (Cr) or nickel (Ni) films.
- **While anodized chromium is a heavy metal and toxic to the environment, both Cr and Ni-films exhibit solar-thermal conversion efficiencies ranging between 60-70%. The best commercial ones in the market operate at 70% solar-thermal conversion efficiencies,” according to the studies. NCFs on the other hand, are made primarily of carbon, are inexpensive to produce, environment-friendly and easy to use. Hence, statement 2 is not correct.**
- Apart from its remarkable efficiency of converting sunlight into heat, another advantage of NCFs lies in their processability. Using a technique called chemical vapour deposition; carbon is deposited onto a substrate of amorphous dendritic fibrous nano silica (DFNS) to form the NCF. The materials are readily available and the technique is easily scalable, making large-scale manufacturing commercially inexpensive. Once manufactured, NCFs can be spray-painted onto almost any surface, similar to powder coating a surface, reducing the cost of application and maintenance.
- For efficient conversion of solar thermal energy into usable heat, a material needs to have two important but contrasting characteristics. **Firstly, the ability to successfully convert a large portion of the incoming packets of light or photons into heat - a process called photon thermalization.** Secondly, it should have the ability to retain that heat without loss due to thermal conductivity and radiation.
- When incoming photons strike a material they cause the atoms of the material to oscillate. These oscillations, called phonons, then travel through the material spreading the heat throughout the material. Materials with higher phonon thermal conductivity spread the heat faster, eventually losing a majority of the heat falling on the material. Hence a good heat absorber must have high photon thermalization and low phonon thermal conductivity. NCFs tick both these boxes.

#### Q 55.D

- **In an Indian Depository Receipt (IDR), foreign companies would issue shares to an Indian Depository like National Security Depository Limited (NSDL), which would in turn issue depository receipts to investors in India. It is a mechanism that allows the investors in India to invest in listed foreign companies, including MNCs, in the Indian rupees.** IDRs are denominated in Indian rupees and the actual shares underlying IDRs would be held by an Overseas Custodian which shall authorize Indian depository to issue IDRs.
- **Participatory notes** are issued by registered foreign portfolio investors (FPIs) to overseas investors who wish to be a part of the Indian stock markets without registering themselves directly.
- An **options contract** is an agreement between two parties to facilitate a potential transaction involving an asset at a present price and date.

- **Masala Bonds** represent rupee-denominated bonds that Indian entities issue outside of India. An example of Masala bonds is when the Indian Railway Finance Corporation (IRFC) issued rupee-denominated bonds in the international market, raising funds for rail infrastructure development.
- **Hence option (d) is the correct answer.**

#### Q 56.B

- **Recent context:** India has nominated the “Maratha Military Landscapes”, a network of forts that showcase the strategic military powers of Maratha rule, for inclusion in the UNESCO World Heritage list for 2024-25.
- **Extraordinary fortification -“Maratha Military Landscapes”**
  - The “Maratha Military Landscapes”, which developed between the 17th and 19th centuries, represent an extraordinary fortification and military system envisioned by the Maratha rulers.
  - This extraordinary network of forts, varying in hierarchies, scales, and typological features, is a result of integrating the landscape, terrain, and physiographic characteristics distinctive to the Sahyadri mountain ranges, the Konkan Coast, Deccan Plateau, and the Eastern Ghats in the Indian Peninsula.
  - Maharashtra has more than 390 forts out of which only 12 forts are selected under the “Maratha Military Landscapes”. Eight of these are protected by the Archaeological Survey of India (ASI) while four are protected by the Directorate of Archaeology and Museums, Government of Maharashtra.
  - The 12 components of this nomination are the forts of Salher, Shivneri, Lohagad, Khanderi, Raigad, Rajgad, Pratapgad, Suvarnadurg, Panhala, Vijaydurg and Sindhudurg in Maharashtra and Gingee Fort in Tamil Nadu.
- **Sindhudurg Fort:**
  - The fortress lies on Kurte Island, very near the coast of Malvan town in Sindhudurg District in the Konkan region of **Maharashtra**. The fort was built by Chhatrapati Shivaji Maharaj of the Maratha Empire. The construction of the fort began in 1664 and took three years to complete. **Hence pair 1 is correctly matched.**
- **Gingee Fort:**
  - **It is located in Tamil Nadu.** Kon dynasty established Gingee Fort as a fortified royal center. The Gingee country then came under the rule of the Hoysalas in the later part of the 13th and in the first half of the 14th century. From the Hoysalas, it passed to the first rulers of the Vijayanagara Empire. **Hence pair 2 is correctly matched.**
- **Vijaydurg Fort:**
  - **It is located in Devgad district of Maharashtra.** This fort was built by King Bhoj in 1205 and was known as “Gheria”. **Hence pair 3 is not correctly matched.**
  - Later Chatrapati Shivaji Maharaj took over this fort and named it “Vijaydurga”. Vijaydurg fort was also known as “Eastern Gibraltar” as this fort was impregnable for a long time like the fort “Gibraltar” in Europe.

#### Q 57.A

- **The Saffir-Simpson Hurricane Wind Scale is specifically designed to measure and categorize the intensity of hurricanes, which are also known as cyclones or typhoons depending on the region in which they occur.**
  - These storms are characterized by strong winds, heavy rainfall, and potential storm surges, and they can cause significant damage to coastal areas and communities.
- The scale categorizes hurricanes into five main categories based on their sustained wind speeds, ranging from Category 1 (weakest) to Category 5 (strongest).
  - It provides a standardized way to communicate the potential hazards associated with hurricanes and helps authorities and communities prepare for and respond to these dangerous storms.
- **Hence option (a) is the correct answer.**

#### Q 58.B

- **Second Anglo-Burmese War (1852-53):**
  - In 1852, commercial disputes in Rangoon prompted new hostilities between the British and the Burmese. The war was caused by the British commercial greed as they began to exploit the vast forests of upper Burma for timber. They wanted to expand their market for the sale of cotton products as well.
  - **Lord Dalhousie** was the governor-general of India (1848-56) who provoked this war. He dispatched Commodore Lambert to Burma over several minor issues related to the previous treaty. The Burmese

had started blocking commercial exploitation through the coasts. **Hence pair 1 is not correctly matched.**

- After the end of the Second Burmese War (1852), Dalhousie annexed Lower Burma with its capital at Pegu. The annexation of Lower Burma proved beneficial to Britain. Rangoon, Britain's most valuable acquisition from the war, became one of the biggest ports in Asia  
✓ **Lord Amherst was Governor general of Bengal during the first Anglo-Burmese war.**
- **First Anglo-Sikh War (1845–46):**
  - The outbreak of the first of the Anglo-Sikh wars has been attributed to the action of the Sikh army crossing the River Sutlej on December 11, 1845. This was seen as an aggressive manoeuvre that provided the **Lord Hardinge(1844-48)** with the justification to declare war. **Hence pair 2 is correctly matched.**
  - The war began in December 1845, with 20,000 to 30,000 troops in the British side, while the Sikhs had about 50,000 men under the **overall command of Lal Singh**. But the treachery of Lal Singh and Teja Singh caused five successive defeats to the Sikhs. Lahore fell to the British forces on February 20, 1846 without a fight.
  - The end of the first Anglo-Sikh War forced the Sikhs to sign a humiliating **Treaty of Lahore, 1846** in 1846.
- **First Anglo-Afghan War (1839-42):**
  - Following a protracted civil war that began in 1816, the Barakzay clan became the ruling dynasty of Afghanistan, with its most powerful member, Dost Moḥammad Khan, ascending the throne in 1826.
  - With Great Britain and Russia maneuvering for influence in Afghanistan, Dost Moḥammad was forced to balance his country between the two great powers.
  - The British, feeling that Dost Moḥammad was either hostile to them or unable to resist Russian penetration, moved to take a direct role in Afghan affairs. First they negotiated unsatisfactorily with Dost Moḥammad, and then an invasion of Afghanistan was ordered by the governor-general of India, **Lord Auckland**, with the object of restoring exiled Afghan ruler Shah Shoja' to the throne.
- **Lord Auckland served as Governor-General of India from 1836 to 1842. The first Anglo-Afghan war, which occurred during his reign, dealt a major blow to British prestige in India. He is noted for his mistakes in the Afghan wars and has been dubbed India's most disastrous Governor-General. Hence pair 3 is correctly matched.**

Q 59.A

- **Recent Context:** The Prime Minister inaugurated Akhil Bharatiya Shiksha Samagam 2023 at Bharat Mandapam, Pragati Maidan, New Delhi on 3rd anniversary of National Education Policy (NEP) 2020.
  - On the sidelines, the Union Minister of Education and Minister of Skill Development and Entrepreneurship, Shri Dharmendra Pradhan, launched the logo, slogan-Jan Jan Sakshar and mobile application of ULLAS: Nav Bharat Saksharta Karyakram at Bharat Mandapam.
- **ULLAS ((Understanding Lifelong Learning for All in Society) mobile application** marks a significant milestone in **harnessing the potential of technology to facilitate widespread access to basic literacy**. This **user-friendly and interactive app** available both on android and ios and will serve as a **digital gateway for learners to engage in diverse learning resources through the DIKSHA portal of NCERT**.
- The ULLAS app can be used for **registration of learners and volunteers either through self-registration or by surveyors**.
- ULLAS will focus on **promoting functional literacy, vocational skills, and many important life skills like financial literacy, legal literacy, digital literacy, and empowerment of citizens to involve in nation-building of the country**.
- **Hence option (a) is the correct answer.**

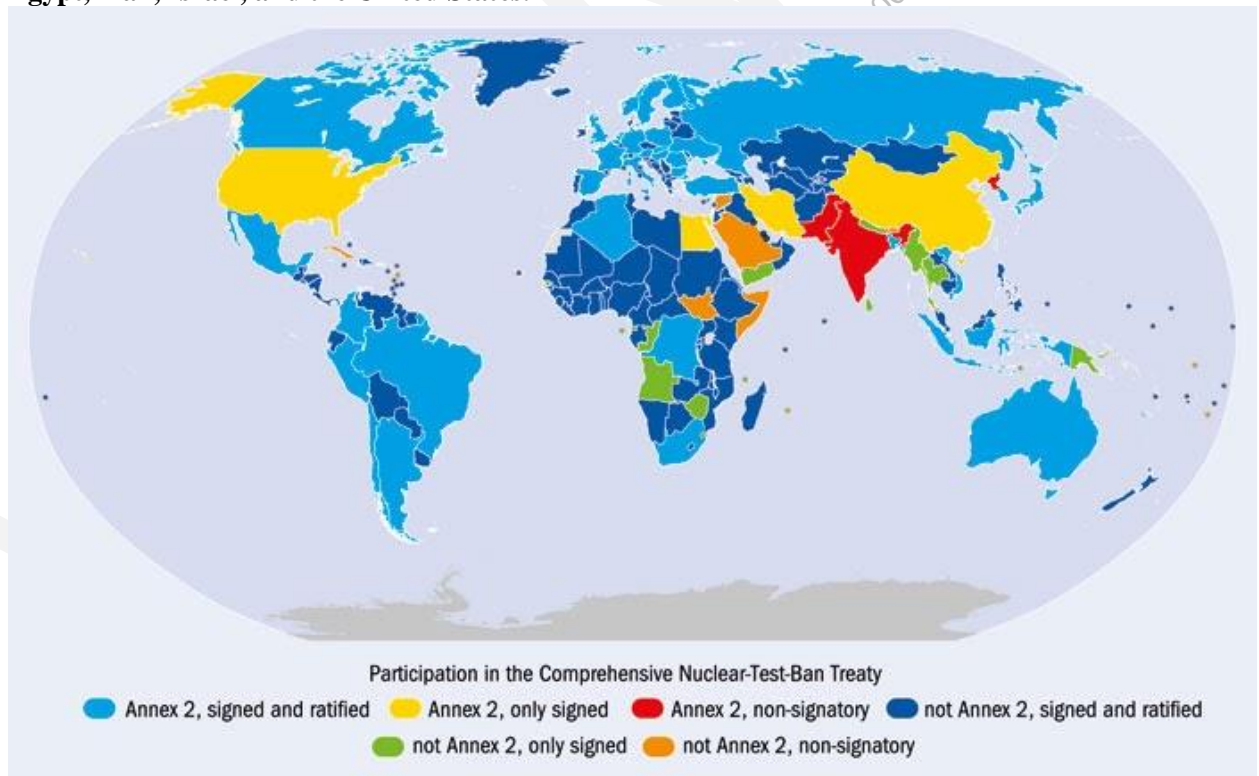
Q 60.A

- Light pollution is the human-made alteration of outdoor light levels from those occurring naturally. **Hence statement 1 is correct.**
- Components of light pollution include:
  - **Glare** — excessive brightness that causes visual discomfort
  - **Sky glow** — brightening of the night sky over inhabited areas
  - **Light trespass** — light falling where it is not intended or needed
  - **Clutter** — bright, confusing, and excessive groupings of light sources

- Humans are impacted by light pollution in several ways. The day-night cycles that are typically regulated by sunlight get interrupted, thereby suppressing the melatonin levels in our brains and making it more difficult to fall asleep. Though LED lights were meant to be efficient light alternatives to incandescent bulbs, many health officials have expressed concern over the widespread use of white/blue LEDs. Light pollution is also having a devastating impact on Indigenous communities who view the night sky as a vital part of their cultural identity. Light pollution and other such electromagnetic interference (from radio waves, for example) have an outsized effect on astrophotographers, amateur astronomers, and professional astronomers alike. **Hence statement 2 is correct.**
- The **Pench Tiger Reserve (PTR)** in Maharashtra has attained the distinction of becoming **India's inaugural Dark Sky Park** and the fifth in Asia. The decision to designate Pench as the first Dark Sky Park is driven by the need to shield the night sky from light pollution. A dark-sky preserve is an area, typically surrounding a park or observatory, that limits artificial light pollution. The primary objective of the dark-sky movement is generally to endorse astronomy. **Hence statement 3 is not correct.**

#### Q 61.D

- As tension between Moscow and Washington mounts, Russia on Wednesday passed the second and third readings of a Bill to revoke its ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT). Russian President Vladimir Putin had on October 5 urged the Duma, the Lower House of the country's Parliament, to make the change to "mirror" the position of the U.S., Reuters reported.
- The CTBT seeks to ban all nuclear explosions, for both military and peaceful purposes. So far, 187 countries have signed the treaty and 178 have ratified it. The treaty, however, has not legally come into force; it can only do so when it has been signed and ratified by the 44 countries that are part of the treaty's Annex 2 and had formally participated in the 1996 session of the Conference on Disarmament. These countries possessed nuclear power or research reactors at the time.
- **Of the 44 States included in Annex 2 required for entry into force of the CTBT, all have signed with the exceptions of the Democratic People's Republic of Korea (North Korea), India, and Pakistan. Five of the 44 Annex 2 States have signed but not ratified the CTBT; they are China, Egypt, Iran, Israel, and the United States.**



- **Hence option (d) is the correct answer.**

#### Q 62.A

- Kyasanur Forest Disease is a tick-borne viral haemorrhagic disease that can be fatal to humans and other primates. The causal agent, Kyasanur Forest Disease Virus, is a member of the tick-borne encephalitis (TBE) complex, which is transmitted by a range of tick species, with *Haemophysalis spinigera* being considered the principal vector. They generally survive on monkeys. Humans also contract the disease by contacting cattle bitten by ticks. **Hence statement 1 is not correct.**



- Kyasanur Forest Disease was first identified in 1957 in the Kyasanur Forest in the Western Ghats of India. It is caused by KFD virus (KFDV) which is an arbovirus of the family Flaviviridae. In recent years, there have been reports of KFDV infections in both Karnataka and in the neighboring provinces of Kerala, Tamil Nadu, and Maharashtra. **Hence statement 2 is correct.**
- A vaccine does exist for KFD and is used in endemic areas of India. Additional preventative measures include insect repellents and wearing protective clothing in areas where ticks are endemic. **Hence statement 3 is not correct.**
- Transmission to humans may occur after a tick bite or contact with an infected animal, most importantly a sick or recently dead monkey. No person-to-person transmission has been described. Large animals such as goats, cows, and sheep may become infected with KFD but play a limited role in the transmission of the disease. there is no evidence of disease transmission via the unpasteurized milk of any of these animals. **Hence statement 4 is not correct.**

#### Q 63.B

- Oceans are large bodies of saline water that cover approximately 71% of the Earth's surface.
  - Pacific Ocean: The largest and deepest ocean, covering about 30% of the Earth's surface. It is bounded by Asia and Australia to the west, the Americas to the east, and Antarctica to the south.
    - ✓ **The deepest point on Earth is known as the Challenger Deep, which is located in the Mariana Trench in the western Pacific Ocean. Hence statement 2 is not correct.**
  - Atlantic Ocean: The second-largest ocean, covering approximately 20% of the Earth's surface. It is bounded by the Americas to the west and Europe and Africa to the east.
  - Indian Ocean: The third-largest ocean, covering roughly 14% of the Earth's surface. It is bounded by Africa to the west, Asia to the north, Australia to the east, and the Southern Ocean to the south.
  - Southern Ocean: Also known as the Antarctic Ocean, it is the fourth-largest ocean and surrounds Antarctica. Its northern boundary is often defined by the Antarctic Circumpolar Current.
  - **Arctic Ocean: The smallest and shallowest ocean, located primarily in the Arctic region. It is bounded by Eurasia and North America. Hence statement 3 is correct.**
- **The surface waters of the North Atlantic have a higher salinity than those of any other ocean, reaching values exceeding 37 parts per thousand in latitudes 20° to 30° N. The basic salinity value of the Atlantic Ocean is highest in the North Atlantic, at 35.5 parts per thousand, and lowest in the South Atlantic, at 34.5 parts per thousand. Hence statement 1 is correct.**



#### Q 64.D

- **The RATS (Regional Anti-Terrorist Structure) is a body established within the framework of the Shanghai Cooperation Organisation (SCO), not under the mandate of the United Nations Security Council.** The SCO is a Eurasian political, economic, and security alliance comprising eight member states, namely China, Russia, India, Pakistan, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. RATS was established to facilitate cooperation among member states in combating terrorism, separatism, and extremism. **Hence statement 1 is not correct.**



- The Regional Anti-Terrorist Structure (RATS) is an integral component of the Shanghai Cooperation Organization (SCO), which primarily focuses on combating terrorism, separatism, and extremism among its member states. **While RATS coordinates intelligence sharing and counterterrorism efforts among member states, it does not possess its own peacekeeping forces. Hence statement 2 is not correct.**
- With its **headquarters in Tashkent, Uzbekistan**, the Regional Anti-Terrorist Structure (RATS) is a permanent organ of the Shanghai Cooperation Organization (SCO). **Hence statement 3 is not correct.**

#### Q 65.A

- Tyre-makers currently are under pressure to almost literally reinvent the wheel as regulators turn their scrutiny to tyre pollution that is set to surge with the rise of electric vehicles. When tyres make contact with the road, tiny particles are abraded and emitted. The extra weight of EVs linked to their batteries means more pollution from an estimated 2 billion tyres produced globally every year.
- **While tyres contain many toxic and carcinogenic chemicals, 6PPD, an antioxidant and antiozonant found in all tyres and it reduces cracking. It's a chemical that prevents automotive tires from degrading (i.e. breaking down) and helps them last longer.**  
When tyres make contact with the road, tiny particles are abraded and emitted. **The extra weight of EVs linked to their batteries means this little-discussed form of pollution - from an estimated 2 billion tyres produced globally every year- is becoming a bigger problem.**
- When 6PPD is exposed to air, it reacts with ozone to create 6PPD-quinone, pronounced like "qui-KNOWN," and also referred to as 6PPD-q. 6PPD-quinone is lethal to some fish and has been found in human urine in South China. It has been blamed for the mass deaths of Coho Salmon fish off the US West Coast. **Hence, option (a) is the correct answer.**

#### Q 66.D

- Article 309 empowers the Parliament and the State legislature to regulate the recruitment, and conditions of service of persons appointed, to public services and posts in connection with the affairs of the Union or of any State respectively. According to **Article 310**, members of the defense services, the civil services of the Centre, and the all-India services or persons holding military posts or civil posts<sup>3</sup> under the Centre **hold office at the pleasure of the president.**
- **Article 311 places two restrictions on the above 'doctrine of pleasure'.** In other words, it provides two safeguards to civil servants against any arbitrary dismissal from their posts:
  - A civil servant cannot be dismissed or removed by an authority subordinate to that by which he was appointed.
  - A civil servant cannot be dismissed or removed or reduced in rank except after an inquiry in which he has been informed of the charges against him and given a reasonable opportunity of being heard in respect of those charges.
- **The protection under Art. 311 is available only when the dismissal, removal, or reduction in rank is by way of punishment.** In *Parshotham Lal Dhingra v Union of India*, the Supreme Court has laid down **two tests to determine whether termination is by way of punishment** -
  - whether the servant had a right to hold the post or the rank (under the terms of contract or under any rule)
  - whether he has been visited with evil consequences If yes it amounts to punishment.
- **Suspension:**
  - **Suspension of a government employee is not a punishment.** It is neither dismissal or removal nor reduction in rank. So the **employee cannot claim a reasonable opportunity to be heard. Hence option 1 is correct.**
- **Article 311(2)** Provides that reasonable opportunity of being heard is not applicable in the following cases.
  - **where a person is dismissed or removed or reduced in rank on the ground of conduct which has led to his conviction on a criminal charge. Hence option 2 is correct.**
  - where the authority empowered to dismiss or remove a person or to reduce him in rank is satisfied that for some reason, to be recorded by that authority in writing, it is not reasonably practicable to hold such inquiry; or
  - where the President or the Governor, as the case may be, is satisfied that in the interest of the security of the State, it is not expedient to hold such inquiry.
- **Compulsory retirement simpliciter**, in accordance with the terms and conditions of service, **does not amount to dismissal or removal or reduction in rank under Article 311** because the Government servant does not lose the terminal benefits earned by him. It is done in 'public interest' and does not cast a

stigma on the Government servant. So **the employee cannot claim an opportunity to be heard before he is compulsorily retired from service. Hence option 3 is correct.**

- In the **State Of Punjab & Anr v Sukh Raj Bahadur**, the Supreme Court laid down the following principles regarding the applicability of Article 311 to temporary servants and probationers.
  - **The services of a temporary servant or a probationer can be terminated** under the rules of his employment and such termination without anything more **would not attract the operation of Art. 311 of the Constitution. Hence option 4 is correct.**

#### Q 67.B

- The Santiago Network was under the United Nations Framework Convention on Climate Change with the objective of “catalyzing technical assistance of relevant organizations, bodies, networks and experts, for the implementation of relevant approaches for averting, minimize and addressing loss and damage at the local, national and regional level, in developing countries that are particularly vulnerable to the adverse effects of climate change.” **Hence statement 1 is correct.**
- The Santiago Network was established at COP 25 held in Madrid in 2019 as part of the Warsaw International Mechanism for Loss and Damage (WIM). The COP (conference of parties) established the **Warsaw International Mechanism for Loss and Damage** associated with Climate Change Impacts (Loss and Damage Mechanism), to address loss and damage associated with impacts of climate change, including extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change at COP19 (2013) in Warsaw, Poland. **Hence statement 2 is not correct.**
- At COP28 held in Dubai in 2023, UNDRR(United Nations Office for Disaster Risk Reduction) and the United Nations Office for Project Services (UNOPS) were announced as the hosts of the Santiago Network secretariat.
- The **United Nations Office for Disaster Risk Reduction (UNDRR)** was created in December 1999 to ensure the implementation of the International Strategy for Disaster Reduction. UNDRR is part of the United Nations Secretariat and it supports the implementation & review of the Sendai Framework for Disaster Risk Reduction adopted by the Third UN World Conference on Disaster Risk Reduction 2015 in Sendai, Japan.
- The **United Nations Office for Project Services (UNOPS)** is a United Nations agency dedicated to implementing infrastructure and procurement projects for the United Nations System, international financial institutions, governments and other partners around the world. The organization's global headquarters is located at the UN City campus in Copenhagen, Denmark. UNOPS is in charge of disbursing more than \$3 billion worth of development projects and contracts for its partners every year. **Hence statement 3 is correct.**

#### Q 68.A

- **Kathi Samu - Andhra Pradesh:**
  - Kathi Samu is an ancient and historical martial art that originated in Andhra Pradesh, India. **Hence pair 1 is not correctly matched.**
  - Kathi means sword and Kathi Samu is a martial art that is fighting with swords.
  - Kathi Samu is an ancient skill that was mastered by the royal armies of Andhra Pradesh.
- **Silambam - Tamil Nadu:**
  - Silambam is a traditional martial art form originating from the Indian state of Tamil Nadu. **Hence pair 2 is not correctly matched.**
  - It involves the use of a long bamboo staff or stick, known as "Silambam," as the primary weapon.
  - Silambam practitioners are trained in various techniques of stick fighting, footwork, and self-defense.
  - While it is predominantly practiced in Tamil Nadu, it has also gained popularity in other parts of India and even internationally.
- **Gatka - Punjab:**
  - Gatka is a traditional martial art form from the Indian state of Punjab. **Hence pair 3 is correctly matched.**
  - It is a Sikh martial art that originated in the Punjab region and has been practiced by Sikhs for centuries.
  - Gatka primarily involves the use of wooden sticks (called "gatkas") and swords (known as "kirpans") in simulated combat. It emphasizes agility, coordination, and self-defense techniques.
  - Gatka is not only a martial art but also holds religious and cultural significance for the Sikh community.

### Q 69.C

- **The People's Republic of China has developed a variety of perennial rice named PR23 by cross-breeding regular annual rice *Oryza sativa* with a wild perennial variety from Africa.**
  - PR23 does not need to be planted every year and can yield eight consecutive harvests across four years because of stronger roots of plants.
  - PR23 yield is also comparable to regular rice varieties.
  - Benefits associated with this are: Soils accumulating close to a ton of organic carbon (per hectare per year), increases in water available to plants, save labour and input cost.
  - Concerns raised: Needs one to two more herbicide treatments than regular rice, more work to resow the perennial rice when its yield falters etc. **Hence the option (c) is correct.**
- **The Indian Agricultural Research Institute (IARI) has developed the country's first-ever non-GM (genetically modified) herbicide-tolerant rice varieties named Pusa Basmati 1985 and Pusa Basmati 1979.** It can be directly seeded that help in saving labour cost and water use. According to IARI, these rice varieties have been developed by crossing over two existing popular varieties — Pusa 1121 and Pusa 1509 — with Robin, which, in turn, is a drought-tolerant rice variety derived from Nagina 22, another deep root, drought and heat-tolerant rice breed.
- **Marcha rice:** a GI tag rice variety from Bihar famous for its aroma and taste. Marcha paddy is grown in select pockets of six blocks- Mainatar, Gaunaha, Narkatiaganj, Ramnagar, Lauriya and Chanpatia of the district.
- **DRR Dhan 60:** It is a paddy variety that require at least 30% lower phosphorous developed by Indian Institute of Rice Research. DRR Dhan 60 is first rice variety in country with low phosphorous tolerance for any crop. DRR Dhan 66, DRR Dhan 65, and WGL-1487 are the other varieties which offer same benefits. Phosphorous is a key macronutrient responsible for energy storage and transfer within cells. It helps speeding up root development, facilitates greater Nitrogen uptake and results in higher grain protein yields.

### Q 70.B

- On 19 June 2023, after almost 20 years of negotiations, the United Nations member states adopted a landmark treaty to ensure the conservation and sustainable use of marine Biodiversity in areas Beyond National Jurisdiction (the “BBNJ” treaty).
- The treaty was negotiated under the United Nations Convention on Laws of the Sea (UNCLOS) of 1982 which governs the rights of countries regarding marine resources. The proposed treaty concerns the ocean existing beyond the Exclusive Economic Zones (EEZ) that lie from the coast of a country to about 200 nautical miles (or 370 km into the sea), till where it has special rights for exploration. Waters beyond that are known as open seas or high seas. Currently, it is estimated high or open seas constitute two-thirds of the world's oceans, and only one per cent of them are legally protected. **Hence statement 1 is correct.**
- One of the cornerstones of the BBNJ treaty is the creation of a new mechanism for the fair and equitable sharing of benefits arising from activities with respect to “**marine genetic resources**” (“MGRs”) and “**digital sequence information**” (“DSI”) from MGRs. This mechanism is groundbreaking because it will require companies to pay for the use of genetic resources beyond national jurisdiction for the first time. Until now, under the existing Convention on Biological Diversity (“CBD”) and its Nagoya Protocol, companies were required to make (non-)monetary contributions only for the utilization of genetic resources under national jurisdiction (e.g., from national territories, national seas, and exclusive economic zones).
- The BBNJ creates new “Access and Benefit-Sharing” (“ABS”) obligations on MGRs from maritime areas beyond national jurisdiction (i.e., the High Seas and the Area). **Hence statement 2 is correct.**
- Under BBNJ, before carrying out “activities” (e.g., in situ collection of materials) with respect to MGRs and DSI from MGRs, interested parties will have to notify the newly created **Clearing House Mechanism** as early as possible and no less than six months in advance. This will allow for the monitoring of the collection and use of MGRs, as well as link it to the proper benefit-sharing obligations afterward. **Hence statement 3 is not correct.**

### Q 71.D

- The Indian National Satellite (INSAT) system is one of the largest domestic communication satellite systems in Asia-Pacific region with nine operational communication satellites placed in Geo-stationary orbit. Established in 1983 with commissioning of INSAT-1B, it initiated a major revolution in India's communications sector and sustained the same later.

- The INSAT system with more than 200 transponders in the C, Extended C and Ku-bands provides services to telecommunications, television broadcasting, satellite newsgathering, societal applications, weather forecasting, disaster warning, and Search and Rescue operations.
- While not a primary navigation system, INSAT can provide augmentation to satellite-based navigation systems. It offers location and timing information to enhance navigation accuracy in applications such as civil aviation and maritime navigation. GSAT-8 / INSAT-4G is an Indian Ku-band satellite carrying 18 transponders similar to that of INSAT-4A and INSAT-4B. It carries 2 BSS transponders and a GAGAN (Navstar Aided Geo Augmented Navigation) payload (satellite navigation for aviation). The satellite was originally planned to be launched during 2008-09, but was postponed until 2011.
- GSAT-7 or INSAT-4F is a multi-band military communications satellite developed by the Indian Space Research Organisation. **Hence option (d) is the correct answer.**

#### Q 72.B

- Composting is the aerobic method of decomposing solid waste.
- It involves micro-organisms to stabilise the organic matter like fungi during the first week and bacteria in the rest of the period (particularly actinomycetes bacteria)
- However, it doesn't use virus during the entire process
- Bioremediation is the process of decomposition of waste using micro-organisms like oil zipper bacteria and various other fungi for a breakdown of organic and inorganic materials. It again does not use virus for the purpose
- **Hence option (b) is the correct answer.**

#### Q 73.D

- In addition to the budget that contains the ordinary estimates of income and expenditure for one financial year, various other grants are made by the Parliament under extraordinary or special circumstances:
- **Supplementary Grant:**
  - It is granted when the amount authorised by the Parliament through the appropriation act for a particular service for the current financial year is found to be insufficient for that year.
- **Additional Grant:**
  - It is granted when a need has arisen during the current financial year for additional expenditure upon some new service not contemplated in the budget for that year.
- **Excess Grant:**
  - It is granted when money has been spent on any service during a financial year in excess of the amount granted for that service in the budget for that year.
- **Vote of Credit:**
  - It is granted for meeting an unexpected demand upon the resources of India, when on account of the magnitude or the indefinite character of the service, the demand cannot be stated with the details ordinarily given in a budget. Hence, it is like a blank cheque given to the Executive by the Lok Sabha.
- **Exceptional Grant:**
  - It is granted for a special purpose and forms no part of the current service of any financial year.
- **Token Grant:**
  - It is granted when funds to meet the **proposed expenditure on a new service can be made available by reappropriation**. A demand for the grant of a token sum (of Re 1) is submitted to the vote of the Lok Sabha and if assented, funds are made available. **Hence option (d) is the correct answer.**

#### Q 74.A

- **Periodic Labour Force Survey (PLFS) is a survey conducted by the National Statistical Office under the Ministry of Statistics and Programme Implementation (MoSPI) to measure the employment and unemployment situation in India.** It is done by estimating the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate)
- These indicators are defined as follows:
  - **Labour Force Participation Rate (LFPR):** LFPR is defined as the percentage of persons in labour force (i.e. working or seeking or available for work) in the population. **Hence pair 2 is correctly matched.**
  - **Worker Population Ratio (WPR):** WPR is defined as the percentage of employed persons in the population ( **not labour force**). **Hence pair 1 is not correctly matched.**
  - **Unemployment Rate (UR):** UR is defined as the percentage of persons unemployed among the persons in the labour force ( **not population**). **Hence pair 3 is not correctly matched.**



### Q 75.B

- **Buddhist sculpture** has a rich and diverse tradition that spans different regions and historical periods. Various skilled artists and sculptors have contributed to the creation of Buddhist sculptures, each leaving a unique mark on the artistic heritage of Buddhism.
- According to hagiographies, the **Buddha attained enlightenment while meditating under a tree**. Many early sculptors **did not show the Buddha in human form – instead, they showed his presence through symbols**. The empty seat was meant to indicate the meditation of the Buddha.
- The **stupa was meant to represent the Mahaparinibbana**. Another frequently used symbol was the **wheel**. This stood for the **first sermon** of the Buddha, delivered at Sarnath.
- Prince Gautama decides to renounce all worldly pleasures including his wife Yasodhara and son Rahula in quest of Supreme Knowledge, and this event is known as **Mahabhinishkramana** (the great Departure or Renunciation), represented by the symbol of the **Horse**.
- **Hence option (b) is the correct answer.**

### Q 76.D

- The Office of the Registrar General and Census Commissioner, India conducts the decennial Census in India, but it is not under the Ministry of Statistics and Program Implementation. It operates under the Ministry of Home Affairs. Until 1951, the Census Organisation was set up on an ad-hoc basis for each Census. **Hence statement 1 is not correct.**
- Census is conducted under the provisions of the Census Act, of 1948. The bill for this Act was piloted by Sardar Vallabhbhai Patel, the then Home Minister of India. The population census is a Union subject under Article 246 of the Indian Constitution. It is listed as serial number 69 of the seventh schedule of the constitution. All the censuses since 1951 were conducted under the 1948 Census of India Act, which predates the Constitution of India. The 1948 Census of India Act does not bind the Union Government to conduct the census on a particular date or to release its data in a notified period. **Hence statement 2 is not correct.**

### Q 77.B

- The East Asia Summit is a unique Leaders-led forum of 18 countries of the Asia-Pacific region formed to further the objectives of regional peace, security, and prosperity. It has evolved as a forum for strategic dialogue and cooperation on political, security, and economic issues of common regional concern and plays an important role in the regional architecture. Established in 2005, EAS allows the principal players in the Asia-Pacific region to discuss issues of common interest and concern, in an open and transparent manner, at the highest level.
- The membership of EAS consists of ten **ASEAN Member States (i.e. Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, the Philippines and Vietnam)**, **Australia, China, India, Japan, New Zealand, Republic of Korea, Russian Federation and the USA**. EAS is an initiative of ASEAN and is based on the premise of the centrality of ASEAN.



- **Hence option (b) is the correct answer.**

**Q 78.D**

- The International Partnership for Energy and Environment (IPEF) is a US-led initiative that aims to strengthen economic partnership among participating countries to enhance resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness in the Indo-Pacific region. The IPEF was launched in 2021 with a dozen initial partners who together represent 40% of the world GDP. **Hence statement 1 is not correct.**
- The IPEF is not a Free Trade Agreement (FTA). IPEF aims to establish “high-standard commitments” in four pillars: (1) Connected Economy (select trade issues); (2) Resilient Economy (supply chains); (3) Clean Economy (clean energy, decarbonization, infrastructure); and (4) Fair Economy (tax, anti-corruption issues). **India had joined Pillars II to IV of IPEF while it has an observer status in Pillar-I. Hence statement 2 is not correct.**
- IPEF has 14 partner countries including Australia, Brunei, Fiji, India, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, Vietnam & USA. It seeks to strengthen economic engagement among partner countries to advance growth, peace and prosperity in the region. **Hence statement 3 is not correct.**
- **Hence option (d) is the correct answer.**

**Q 79.A**

- **Jnanadeva or Jnaneshwar was the founder of the Bhakti Movement in Maharashtra in the thirteenth century.** It was called Maharashtra dharma. He wrote a commentary on the Bhagavad Gita called Gnaneshwari in Marathi. **Hence, statement 1 is not correct and statement 2 is correct.**
- Namdeva was a poet-saint belonging to the 14th century. He emphasized on cultural unity of the Marathas by introducing a tradition called Mahapurusha Sampradaya. Some of his devotional songs are found in the Guru Granth Sahib.
- **Varkari or Warkari (pilgrim) is a sampradaya (religious movement) under the Bhakti spiritual tradition, geographically linked to the Indian state of Maharashtra. Vitthal (also known as Vithoba), the presiding god of Pandharpur and a form of Krishna, is worshipped by Varkaris.** Dnyaneshwar, Namdev, Chokhamela, Eknath, and Tukaram are bhakti saints and gurus linked with the Varkari sampradhyaya.
- **Dharakari, are the followers of Ramadasa, a devotee of God Rama. Ramadasa is believed to be the spiritual guru and guide of Shivaji. Hence, statement 3 is not correct.**
- **Pandharpur Wari or Wari (Vari) is an annual pilgrimage (yatra) to Pandharpur - the seat of the Hindu god Vithoba in Maharashtra, in honour of the deity.**

**Q 80.A**

- **Tarafs were administrative divisions established by rulers of the Delhi Sultanate and later by the Bahmani Kingdom during the medieval period in India.**
- To efficiently govern the vast kingdom, **the Sultan would divide the territory into four distinct regions, each known as a "taraf."**
- **Each taraf was placed under the administration of a governor** responsible for maintaining order, collecting revenue, and ensuring the Sultan's authority.
- **The Bahmani Kingdom** was also divided into various provinces which were called taraf. The governors of these tarafs were known as tarafدارs. (Taraf means province and Araf is plural of Taraf).
- **Hence option (a) is the correct answer.**

**Q 81.B**

- The Universal Declaration of Human Rights (UDHR) is a document that acts like a global road map for freedom and equality – protecting the rights of every individual, everywhere. **The UDHR was adopted by the newly established United Nations on 10 December 1948, in response to the “barbarous acts which outraged the conscience of mankind” during the Second World War.** Its adoption recognized human rights to be the foundation for freedom, justice, and peace. **Hence statement 1 is correct.**
- **The Universal Declaration is not a treaty, so it does not directly create legal obligations for countries.** However, it is an expression of the fundamental values which are shared by all members of the international community. **Hence statement 2 is not correct.**
  - **Further, the Universal Declaration has given rise to a range of other international agreements which are legally binding on the countries that ratify them.** These include
    - ✓ the International Covenant on Civil and Political Rights (ICCPR) and
    - ✓ the International Covenant on Economic, Social and Cultural Rights (ICESCR)

- Hansa Mehta is widely credited with changing the phrase "All men are born free and equal" to "All human beings are born free and equal" in Article 1 of the Universal Declaration of Human Rights.
- **Article 14 of UDHR states that Everyone has the right to seek and to enjoy in other countries asylum from persecution.** This right may not be invoked in the case of prosecutions genuinely arising from non-political crimes or acts contrary to the purposes and principles of the United Nations. **Hence statement 3 is correct.**

#### Q 82.A

- **'Moh-Juj'**
  - **The traditional buffalo fight, popularly known as 'Moh-Juj',** was organized after a gap of nine years at Ahatguri as part of the 'Magh Bihu' celebration in Assam. **Hence option (a) is the correct answer.**
  - These fights, deeply ingrained in Assam's local culture, carry significant importance during the mid-January Magh Bihu celebrations, featuring organized combat between two male buffaloes.
  - Despite a previous ban influenced by the 2014 Supreme Court ruling on jallikattu in Tamil Nadu, reports indicate that the state government has opted to allow buffalo and bulbul fights during this year's Magh Bihu celebrations.

#### Q 83.C

- **Recent Context:** Ten public sector banks transferred Rs 11,617 crore worth of bad loans to the National Asset Reconstruction Company Ltd (NARCL) by November end.
  - Of this, State Bank of India assigned the largest amount of debt worth Rs 4,508 crore, followed by Punjab National Bank which transferred Rs 2,138 crore, Canara Bank that assigned Rs 1,858 crore of debt and Union Bank that transferred Rs 1,831 crore.
  - Reported Non-Performing Assets (NPAs) of Rs 3.77 lakh crore as on September 30 this year.
- **National Asset Reconstruction Company Limited (NARCL) has been incorporated under the Companies Act and has applied to Reserve Bank of India for license as an Asset Reconstruction Company (ARC).** NARCL has been set up by banks to aggregate and consolidate stressed assets for their subsequent resolution. **Hence Statement-I is correct.**
- NARCL will have a dual structure – it will consist of an asset management company (AMC) and an asset reconstruction company (ARC) to recover and manage stressed assets. It is a collaboration between private and public sector banks (PSBs), but **PSBs will maintain 51% ownership in NARCL.**
- **NARCL will be capitalised through equity from banks and non-banking financial companies (NBFCs). If necessary, it will also issue new debt.** The guarantee provided by the Government of India will lower the need for up-front capital. The NARCL will be assisted by the India Debt Resolution Company Ltd (IDRCL). **Hence Statement-II is not correct.**

#### Q 84.C

- **An anticyclone, often referred to as a high-pressure system, is a large-scale circulation of air in the atmosphere where the air descends and diverges outward from the center.**
- Anticyclones are associated with descending air motion. As the air descends, it warms adiabatically, inhibiting the formation of clouds and precipitation. This leads to stable atmospheric conditions.
- Due to the descending air and lack of moisture, anticyclones typically bring clear skies and sunny weather. They are often associated with fair weather conditions.
- Anticyclones generally exhibit light winds near the surface. The air diverges outward from the center of the high-pressure system, resulting in relatively calm wind conditions.
- In certain conditions, anticyclones can lead to the formation of temperature inversions. As the air near the surface cools overnight, it can become cooler than the air above, trapping pollutants and leading to poor air quality in urban areas.
- **In the Northern Hemisphere, anticyclones rotate in a clockwise direction, while in the Southern Hemisphere, they rotate counterclockwise. This rotation is due to the Coriolis effect, which deflects moving objects to the right in the Northern Hemisphere and to the left in the Southern Hemisphere. Hence statement 2 is correct.**
- Anticyclones are commonly associated with fair weather conditions, characterized by clear skies, sunshine, and dry weather. The descending air within the high-pressure system inhibits cloud formation and precipitation, leading to generally pleasant and stable atmospheric conditions. **Hence statement 1 is correct.**

**Q 85.C**

- Government e-Marketplace (GeM), a Government-to-Business platform (G2B), is a one stop portal to facilitate online procurement of common use Goods & Services required by various Government Departments / Organizations / PSUs. GeM aims to enhance transparency, efficiency and speed in public procurement.
- It is managed by GeM Special Purpose Vehicle, a 100% Government Owned, Section 8 Company under the Department of Commerce, the Ministry of Commerce and Industries. **Hence statements 1 and 2 is not correct.**
- The Government of India has mandated all organizations and departments under the Central Government to procure from GeM. It provides the tools of e-bidding, reverse e-auction and demand aggregation to help governments achieve the best value for their money. **Hence statement 4 is correct.**
- It is a completely paperless, cashless and system driven e-Marketplace. Purchase upto Rupees 25000 can be made from any available supplier on the GEM directly meeting the requisite quality, specification and delivery time. However, purchase beyond rupees 25000 shall be done through price comparison, bidding or reverse auction. **Hence the statement 3 is not correct.**

**Q 86.C**

- **Inflation-indexed bonds or IIBs is a type of bond designed to protect investors from the rising inflation, which is the rise in the overall price level of goods and services in an economy over time.** As inflation erodes the purchasing power of money, it can adversely affect individuals and create economic instability. However, these bonds serve as a shield against inflation by offering a fixed rate of return that accounts for changes in the inflation rate.
- **Both the principal amount and interest payments on these bonds are adjusted** to maintain their real value, ensuring that investors' investments are safeguarded from the impacts of inflation. **Hence statement 1 is correct.**
- **IIBs would be Government securities (G-Sec) and the different classes of investors eligible to invest in G-Secs would also be eligible to invest in IIBs.** FIIs would be eligible to invest in the forthcoming IIBs but subject to the overall cap for their investment in G-Secs (currently USD 25 billion). **Hence statement 2 is correct.**
- **IIBs would be a G-Sec and therefore, would be eligible for short-sale and repo.** IIBs would be a G-Sec and issued as part of the approved Government market borrowing programme. Therefore, IIBs would automatically get SLR status. **Hence statement 3 is correct.**

**Q 87.A**

- **Capital Adequacy Ratio (CAR) is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.** It is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process. **Hence statement 1 is correct.**
- The Basel III norms stipulated a capital to risk weighted assets of 8%. However, as per RBI norms, Indian scheduled commercial banks are required to maintain a CAR of 9% while Indian public sector banks are emphasized to maintain a CAR of 12%. **Hence statement 2 is not correct.**
- The Bank of International Settlements separates capital into Tier 1 and Tier 2 based on the function and quality of the capital. Tier 1 capital is the primary way to measure a bank's financial health. It includes shareholder's equity and retained earnings, which are disclosed on financial statements.
- As it is the core capital held in reserves, Tier 1 capital is capable of absorbing losses without impacting business operations. On the other hand, **Tier 2 capital includes revalued reserves, undisclosed reserves, and hybrid securities. Since this type of capital has lower quality, is less liquid, and is more difficult to measure, it is known as supplementary capital.** Hence statement 3 is not correct.

**Q 88.C**

- **Ramsar Convention:** The Ramsar Convention, also known as the Convention on Wetlands, is an international treaty for the conservation and sustainable use of wetlands. **Hence statement 1 is correct.**
- It was signed on **February 2, 1971**, in the **Iranian city of Ramsar.**
- The Convention's **mission** is to ensure the **wise use of wetlands and their resources.** India is **one of the Contracting Parties** to the Ramsar Convention, signed in **Ramsar, Iran**, in 1971 India signed it on **1st Feb 1982.** **Hence statement 2 is correct.**
- **Ramsar sites in India:** As of May 2023, India has designated **75** wetland sites as **Ramsar Sites.**



- Some of these sites are **Kolleru Lake, Deepor Beel, Kanwar (Kabar) Taal, Chandra Taal, Pong Dam Lake, Ashtamudi Wetland, Chilika Lake, Keoladeo National Park** etc. Hence statement 3 is correct.
- **Some other facts:** There are currently over **2,300 Ramsar Sites** around the world. They cover over **2.5 million square kilometers**, an area larger than Mexico. The world's first Site was the **Cobourge Peninsula in Australia**, designated in **1974**. The largest Sites are **Ngiri-Tumba-Maindombe in the Democratic Republic of Congo** and **Queen Maud Gulf in Canada**; these Sites each cover over **60,000 square kilometers**. The countries with the most Sites are the **United Kingdom with 175** and **Mexico with 142**. **Bolivia** has the most significant area with **148,000 km<sup>2</sup>** under Ramsar protection.

#### Q 89.D

- **Over the past few weeks, a number of improbable images went viral:** former US President Donald Trump getting arrested; Pope Francis wearing a stylish white puffer coat; Elon Musk walking hand in hand with General Motors CEO Mary Barra. These pictures are not that improbable though: President Trump was indeed getting arrested; Popes are known to wear ostentatious outfits; and Elon Musk has been one-half of an unconventional pairing before. What is peculiar though is that they are all fake images created by generative artificial intelligence software.
- **AI image generators like DALL-E and Midjourney are popular and easy to use.** Anyone can create new images through text prompts. Both applications are getting a lot of attention. DALL-E claims more than 3 million users. Midjourney has not published numbers, but they recently halted free trials citing a massive influx of new users. Midjourney and DALL-E are two of the top generative AI image-creation tools available today, offering users a remarkable range of creative tools for both pre-existing and new imagery.
  - **Midjourney:** Best for highly customizable and high-quality image generation. Compared to DALL-E, Midjourney offers more developer-level, enterprise-level, and design-quality features and editing tools.
  - **DALL-E:** Best for accessible image generation for all user types. Compared to Midjourney, DALL-E is available through more user-friendly interfaces, including ChatGPT Plus, Team, and Enterprise; it is integrated in a manner that enables it to be used for AI-based world-building and storytelling content creation. **Hence option (d) is the correct answer.**

#### Q 90.D

- **Rejuvenating Watershed for Agricultural Resilience through Innovative Development (REWARD)** is a **World Bank supported** multi-state project. **Hence, statement 1 is not correct.**
- It is being implemented from **2021 to 2026 (a six year project)**. The Development Objectives of REWARD program is to "Strengthen capacities of National and State institutions to adopt improved watershed management for increasing farmers resilience and support value chains in selected watersheds of participating States". **Hence, statement 2 is not correct.**
- The total allocation for the Project is approximately USD 250 million of which USD178.5 million is International Bank for Reconstruction and Development (IBRD) loan from the World Bank and the balance is funded by the Government of India/ State Governments. **The funding pattern is 70:30, between World Bank and States whereas it is 50:50 between World Bank and DoLR.**

#### Q 91.B

- **Press Committee 1921:**
  - In 1921 a Press Committee was appointed under the **chairmanship of Sir Tej Bahadur Sapru**, then Law Member of the Viceroy's Executive Council, **to review the working of press laws**. On the recommendations of the Committee, the Press Acts of 1908 and 1910 were repealed. **Hence option (b) is the correct answer.**
- **Sir Tej Bahadur Sapru(1875-1949)**, was a jurist and statesman important in the progress of British India toward self-government. For his integrity and wisdom, he was trusted both by the British government and by Indian intellectual and political leaders. He was knighted in 1922.
  - He was a member of the United Provinces Legislative Council (1913–16) and of the Imperial Legislative Council (1916–20),
  - A law member of the Viceroy's Council (1920–23),
  - A **delegate to the three Round Table Conference sessions in London (1930–32)** concerning the government of India.
  - **He became a privy councilor in 1934.**
  - **His mediation helped to bring about the Gandhi-Irwin Pact (1931).**
  - Unlike most of his political colleagues in India, he supported the World War II effort of the British Empire without insisting on an early grant of independence in return.

#### Q 92.B

- **The Constitution does not grant any immunity to the ministers for their official acts.** But, since they are not required to countersign (as in Britain) the official acts of the president and the governors, **they are not liable in the courts for those acts.** Moreover, **they are not liable for the official acts done by the president and the governors on their advice as the courts are debarred from inquiring into such advice.** However, **the ministers do not enjoy any immunity for their acts and can be sued for crimes as well as torts (wrongful acts) in ordinary courts like common citizens.** Hence **statement 1 is correct and statement 2 is not correct.**
- Under the Constitution, **civil servants are conferred personal immunity from legal liability for official contracts.** This means that the civil servant who made a contract in his official capacity is not personally liable in respect of that contract but it is the government (Central or state) that is liable for the contract. But, if the contract is made without complying with the conditions specified in the Constitution, then the civil servant who made the contract is personally liable. **Hence statement 3 is correct.**
- According to Article 310, members of the defense services (central services), the civil services of the Centre and the all-India services or persons holding military posts or civil posts under the Centre, hold office at the pleasure of the president. **Similarly, members of the civil services of a state (who are appointed by the governor of that state) or persons holding civil posts under a state, hold office at the pleasure of the governor of the state.** Hence **statement 4 is not correct.**

#### Q 93.A

- **A central bank digital currency (CBDC) is a digital version of fiat currency, issued by a central bank i.e. Reserve Bank of India (RBI).**
  - It is a type of digital money that is equivalent to physical cash but exists only in electronic form.
  - CBDCs could help to increase financial inclusion by making it easier for people to access digital financial services. This could be especially beneficial for people in rural areas who may not have access to traditional banking services.
- **For utilizing CBDC, it does not require users to have a bank account.** This is in contrast to other digital payment methods, such as UPI, which require users to have a bank account to use them. It is done to make the CBDC more accessible to people who do not have bank accounts. **Hence statement 1 is not correct.**
- **Central bank digital currency (CBDC) in India does not have any intrinsic value because it is not backed by any physical asset.** Hence **statement 2 is correct.**
- **Retail CBDC is directly available to the general public. It is intended to be used for everyday transactions, such as buying groceries or paying bills. Wholesale CBDC is only available to financial institutions. It is intended to be used for large-value transactions.** Retail CBDC would be potentially available for use by all, viz., private sector, nonfinancial consumers, and businesses, while Wholesale CBDC is designed for restricted access to select financial institutions. **Hence statement 3 is not correct.**

#### Q 94.B

- In many of the peasant movements in later half of Eighteenth century period, religion played an important role in providing a discursive field within which the peasants understood colonial rule and conceptualised resistance. In other words, their religion defined their ideology of protest.
- The earliest of these was the **Sanyasi and Fakir rebellion**, which rocked northern Bengal and adjacent areas of Bihar between 1763 and 1800.
- **The Dasnami Sanyasis**, known for their martial tradition, were involved in landholding, monoculturing and trade in raw silk, piecegoods, broad cloth, copper and spices.
- **The Madari Fakirs, who traced their origin from the Sufi order initiated by Sha-i-Madar, enjoyed rent free tenures and retained armed followers during the Mughal days.** Hence **statement 1 and 2 are correct.**
- Both these groups of armed wandering monks were affected by the Company's high revenue demands, resumption of rent-free tenures, and commercial monopoly. And then, their ranks were inflated by the sufferers from the famine of 1769-70, a large number of aggrieved small zamindars, disbanded soldiers and the rural poor.
- **The remarkable philosophical affinity between the two religious orders, their mutual relationship, organisational network and communication with the followers, facilitated mobilisation of the rebels. The both groups fought against Company's rule.** Hence **statement 3 is not correct.**
- However, what made the conflict inevitable was the Company-state's unwillingness to tolerate such wandering bands of armed monks, who would seriously challenge its cherished ideal of a settled peasant society in Bengal that would regularly pay revenue without resorting to resistance.

**Q 95.D**

- To the east of Sindhu, **Kashmir was the first important state**. Kashmir has its history written from the earliest times in a text called **Rajatarangini**. **Rajatarangini was written by Kalhana in the twelfth century CE**.
- The **Karkota dynasty was an early medieval dynasty that ruled Kashmir** from the century. Its most notable ruler was **Lalitaditya Muktapida**. **Lalitaditya** ascended the throne in about **CE 724**. He mainly concentrated on expeditions during his reign. He allied with **Yasodharman** and **defeated the Tibetans**. **Lalitaditya** was also successful against the mountain **tribes on the north and north-western frontier** of his kingdom, such as the Dards, Kambojas, and Turks.
- The most powerful **expedition was against Yasodharman** made him the master of Kanauj. After defeating Yasodharman, he proceeded towards the **eastern ocean and reached Kalinga**. The king of **Gauda probably acknowledged his suzerainty** without a fight. After reaching the bank of **Kaveri he even conquered some of the islands**. In the west, he overran the seven Konkanas and advanced as far as Dvaraka (in the western extreme of the Kathiawar Peninsula).
- His conquests made the kingdom of Kashmir one of the greatest empires after the Gupta Empire in northern India. Kashmiris chose to call him the '**universal monarch**'. He adorned his kingdom with beautiful towns and decorated the towns with fine buildings, monasteries, temples, and images of gods. Kalhana's account implies that he was a celebrated ruler.
- **Hence option (d) is the correct answer.**

**Q 96.C**

- Ecosan toilet or ecological sanitation toilet is a cost-effective toilet technology that operates on the concept of treating human waste for with less water, electricity and without a sewage treatment system. **The EcoSan toilet is a closed system that does not need water**, so is an alternative to leach pit toilets in places where water is scarce or where the water table is high and the risk of groundwater contamination is increased. **Hence statement 1 is correct.**
- The toilet is **based on the principle of recovery and recycling of nutrients from excreta to create a valuable resource for agriculture**. When the pit of an EcoSan toilet fills up it is closed and sealed. After about eight to nine months, the faeces are completely composted to organic manure and can be used on farms. **Hence statement 2 is correct.**

**Q 97.A**

- **Doddabetta is the highest mountain in the Nilgiri Mountains at 2,637 metres**. There is a reserved forest area around the peak. It is 9 km from Ooty, on the Ooty-Kotagiri Road in the Nilgiris District of Tamil Nadu, India.



- Hence option (a) is the correct answer.

Q 98.A

- **Chirala-Perala movement:** It was led by Duggirala Gopalakrishnayya, a captivating poet, speaker, songwriter, philosopher and singer, who was fondly conferred the name 'Andhra Ratna'. Gopala Krishnaiah was a devotee of the Hindu deity Rama and he organised a cadre of workers whom he called Rama Dandu (meaning Rama's Army) to work for the cause of Swaraj.
- **The movement emerged in response to the government's decision to merge the contiguous villages of Chirala and Perala into a municipality in 1919.** In January 1921 the residents decided not to pay the taxes and the government clamped down by arresting, prosecuting and sentencing several protesters.
- **Following the Bezvada Congress session in 1921,** Mahatma Gandhi visited Chirala where Gopalakrishnayya sought his advice on the future course of action. Gandhi advised the continuation of a nonviolent struggle.
- **Heeding Gandhi's advice Duggirala Gopalakrishnayya convinced the people to abandon Chirala-Perala and relocate to Ramanagar,** a camp he had established on the outskirts. This unique strategy gained national attention as many residents willingly moved, making it an unprecedented act during that time. The 'Rama Dandu,' a team of disciplined cadres, played a crucial role in sustaining the resistance. **Hence, statement 1 is correct.**
- **Alluri Sitarama Raju: He Led the Rampa Rebellion (1922-1924) against the Madras Forest Act 1882,** using guerrilla warfare to liberate tribal people in the Eastern Ghats. The rebellion sought to protect the traditional Podu cultivation and cultural identity of tribal people in the Eastern Ghats region. **Hence, statement 2 is not correct.**



Q 99.B

- **Article 282 empowers both the Centre and the states to make any grants for any public purpose, even if it is not within their respective legislative competence.** Under this provision, the Centre makes grants to the states. **Hence option (b) is the correct answer.**
- These grants are also known as discretionary grants, the reason being that the Centre is under no obligation to give these grants and the matter lies within its discretion. These grants have a two-fold purpose: to help the state financially to fulfil plan targets; and to give some leverage to the Centre to influence and coordinate state action to effectuate the national plan.

Q 100.D

#### **Union Public Service Commission**

- **The Union Public Service Commission (UPSC) is the central recruiting agency in India.** It is an independent constitutional body in the sense that it has been directly created by the Constitution. **Articles 315 to 323 in Part XIV of the Constitution** contain elaborate provisions **regarding the composition, appointment, and removal of members along with the independence, powers, and functions of the UPSC.**
- **It consists of a chairman and other members appointed by the President of India.**
- **The Constitution, without specifying the strength of the Commission has left the matter to the discretion of the President, who determines its composition. Hence statement 1 is not correct.**
- Usually, the commission consists of nine to eleven members including the chairman.
- Further, no qualifications are prescribed for the Commission's membership except that one-half of the members of the Commission should be such persons who have held office for at least ten years either under the Government of India or under the government of a state.
- **The Constitution also authorizes the President to determine the conditions of service of the chairman and other members of the Commission.**
- **The UPSC presents, annually, to the president a report on its performance. The President places this report before both Houses of Parliament, along with a memorandum explaining the cases where the advice of the Commission was not accepted and the reasons for such non-acceptance. Hence statement 2 is not correct.**
- All such cases of non-acceptance must be approved by the Appointments Committee of the Union cabinet. An individual ministry or department has no power to reject the advice of the UPSC.

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