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**2024**

**PRELIMINARY  
EXAMINATION**

**GENERAL  
STUDIES**

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**1993-2024**

Answers with Detail Analytical Explanation based on NCERT & REVISED ANSWER-KEY



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# UNION PUBLIC SERVICE COMMISSION

## Civil Services (Preliminary Exam) - 2022

### GENERAL STUDIES : PAPER-I

Time : 2 hours

(Exam date : 05.06.2022)

Maximum Number : 200

1. "Rapid Financing Instrument" and "Rapid Credit Facility" are related to the provisions of lending by which one of the following?

- (a) Asian Development Bank
- (b) International Monetary Fund
- (c) United Nations Environment Programme Finance Initiative
- (d) World Bank

**Ans. (b) : The Rapid Financing Instrument (RFI)** is the lending facility of the International Monetary Fund (IMF) that provides rapid financial assistance, which is available to all member countries, who are facing an urgent balance of payments need. The Rapid Financing Instrument was created as part of a broader reform to make the IMF's financial support more flexible to address the diverse needs of member countries. Whereas, the **Rapid Credit Facility (RCF)** facility of IMF provides rapid concessional financial assistance to low-income countries facing an urgent balance of payments (BoP) need with no ex post conditionality, where a full-fledged economic program is neither necessary nor feasible.

2. With reference to the Indian economy, consider the following statements:

- 1. An increase in Nominal Effective Exchange Rate (NEER) indicates the appreciation of rupee.
- 2. An increase in the Real Effective Exchange Rate (REER) indicates an improvement in trade competitiveness.
- 3. An increasing trend in domestic inflation relative to inflation in other countries is likely to cause an increasing divergence between NEER and REER.

Which of the above statements are correct?

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

**Ans. (c) : Statement 1 is correct:** NEER (Nominal Effective Exchange Rate) is a measure of the value of a currency against a weighted average of several foreign currencies. An increase in NEER indicates an appreciation of the local currency against the weighted basket of currencies of its trading partners.

**Statement 2 is incorrect:** REER (Real Effective Exchange Rate) is the measure of the value of a currency against a weighted average of several foreign currencies divided by a price deflator or index of costs. An increase in REER implies that exports become more expensive and imports become cheaper; therefore, an increase indicates a loss in trade competitiveness.

**Statement 3 is correct:** An increasing trend in domestic inflation relative to inflation in other countries is likely to cause an increasing divergence between NEER and REER.

3. With the reference to the Indian economy consider the following statements :

- 1. If the inflation is too high, Reserve Bank of India (RBI) is likely to buy government securities.

- 2. If the rupee is rapidly depreciating, RBI is likely to sell dollars in the market.
- 3. If interest rates in the USA or European Union were to fall, that is likely to induce RBI to buy dollars.

Which of the statements given above are correct?

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

**Ans. (b):** If the inflation is too high, the Reserve Bank of India (RBI) is likely to reduce the money supply in the economy to control inflation. Thus, RBI sells the government securities so as to suck the excess of the money supply from the economy to control the inflation.

The Reserve Bank of India intervenes in the currency market to support the rupee as a weak domestic unit can increase country's import bill. If RBI wishes to prop up the rupee value, then it can sell dollar and when it needs to bring down rupee value, it can buy dollars.

When the United States raises its domestic interest rates, this tends to make India less attractive for the currency trade. As a result, some of the money may be expected to move out of the Indian markets and flow back to the United States, therefore decreasing the value of India's currency against the US dollar. Thus, if interest rates in the USA or European Union were to fall, the value of rupee against the dollar increases and that is likely to induce RBI to buy dollars.

Hence only 2<sup>nd</sup> and 3<sup>rd</sup> statements are correct.

4. With reference to the "G20 Common Framework", consider the following statements:

- 1. It is an initiative endorsed by the G20 together with the Paris Club.
- 2. It is an initiative to support Low Income Countries with unsustainable debt.

Which of the statements given above is/are correct?

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

**Ans. (c) :** The Common Framework for debt treatment beyond the DSSI (Common Framework) is an initiative endorsed by the G20, together with the Paris Club to support in a structural manner for Low-Income Countries with unsustainable debt. The Common Framework is intended to deal with insolvency and protracted liquidity problems, along with the implementation of an IMF-supported reform program.

5. With reference to the Indian Economy, what are the advantages of "Inflation-Indexed Bonds (IIBs)"?

- 1. Government can reduce the coupon rates on its borrowing by way of IIBs.
- 2. IIBs provide protection to the investors from uncertainty regarding inflation.
- 3. The interest received as well as capital gains on IIBs are not taxable.

Which of the statements given above are correct?

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

**Ans. (a) :** Inflation-indexed bonds (IIBs) provide insurance to investors from inflation and cost savings for the Government on account of reduction in coupon payments with lowering inflation rate, elimination of uncertainty risk premium and containing inflationary expectations. Hence statements 1 and 2 are correct. However, extant tax provisions will be applicable on interest payment and capital gains on IIBs. There will be no special tax treatment for these bonds. Therefore 3<sup>rd</sup> statement is incorrect.

**6. With reference to foreign-owned e-commerce firms operating in India, which of the following statements is/are correct?**

1. They can sell their own goods in addition to offering their platforms as market-place.
2. The degree to which they can own big sellers on their platforms is limited.

**Which of the statement given above are correct?**

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

**Ans. (d) :** Statement 1 is incorrect: Foreign firms are prevented from holding inventory or selling their own goods. They can offer their platforms only as "marketplaces" for other buyers and sellers. Statement 2 is incorrect: The degree to which they can own all sellers (not big sellers) on their platforms is limited, to prevent those sellers from acting covertly on their behalf.

**7. Which of the following activities constitute real sector in the economy?**

1. Farmers harvesting their crops
2. Textile mills converting raw cotton into fabrics
3. A commercial bank lending money to a trading company
4. A corporate body issuing Rupee Denominated Bonds overseas

**Select the correct answer using the code given below :**

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

**Ans. (a) :** The real sector of the economy consists of enterprises (non-financial corporations), households and non-profit institutions serving households. Non-financial organizations comprise all resident units involved in the production of market goods and non-financial services. For example, farmers harvesting their crops and Textile mills converting raw cotton into fabrics. Corporations principally engaged in financial intermediation or in auxiliary financial activities that contribute to financial intermediation are considered as the financial sector. Hence only options 1 and 2 are correct.

**8. Which one of the following situations best reflects "Indirect Transfers" often talked about in media recently with reference to India?**

- (a) An Indian company investing in a foreign enterprise and paying taxes to the foreign country on the profits arising out of its investment
- (b) A foreign company investing in India and paying taxes to the country of its base on the profits arising out of its investment
- (c) An Indian company purchases tangible assets in a foreign country and sells such assets after their value increases and transfers the proceeds to India
- (d) A foreign company transfers share and such shares derive their substantial value from assets located in India.

**Ans. (d) :** Indirect transfers refer to situations when foreign entities own shares or assets in India. The shares of such foreign entities are transferred instead of a direct transfer of the underlying assets in India.

**9. With reference to the expenditure made by an organization or a company, which of the following statements is /are correct?**

1. Acquiring new technology is capital expenditure.
2. Debt financing is considered capital expenditure, while equity financing is considered revenue expenditure.

**Select the correct answer using the code given below :**

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

**Ans. (a) :** Capital expenditures are funds used by a company to acquire, upgrade, and maintain physical assets such as property, plants, buildings, technology, or equipment.

When a company borrows money to be paid back at a future date with interest it is known as debt financing. Repayment of loan is an example of capital expenditure. Equity financing is the process of raising capital through the sale of shares. It is an example of non-debt capital receipts. Capital receipts are receipts that create liabilities or reduce financial assets. They also refer to incoming cash flows. Therefore only statement 1 is correct.

**10. With reference to the Indian economy, consider the following statements:**

1. A share of the household financial savings goes towards government borrowings.
2. Dated securities issued at market-related rates in auctions form a large component of internal debt.

**Which of the above statements is/are correct?**

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

**Ans. (c) :** Household Savings is often deposited in financial institutions, which are used by them to buy government securities. Hence, Statement-1 is correct. Internal debt consists of marketable debt and non-marketable debt. Marketable debt comprises of Government dated securities and Treasury Bills. Dated Securities form a large component of internal debt.

**11. Consider the following statements:**

1. Pursuant to the report of H.N. Sanyal Committee, the Contempt of Courts Act, 1971 was passed.
2. The Constitution of India empowers the Supreme Court and the High Courts to punish for contempt of the mselves.
3. The Constitution of India defines Civil Contempt and Criminal Contempt.
4. In India, the Parliament is vested with the Powers to make laws on Contempt of Court.

**Which of the statements given above is/are correct?**

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

**Ans. (b) :** The Contempt of Courts Act, 1971 was passed after the Report of the H. N. Sanyal Committee on Contempt of Courts, 1963. Hence 1st statement is correct.

The Supreme Court and the High Courts of India have been empowered with the power to penalize for Contempt of Court under Articles 129 and 215 of the Constitution of India. Hence 2nd statement is correct.

The Constitution of India does not define Civil Contempt and/or Criminal Contempt. Hence Statement 3 is incorrect.

Parliament framed the Contempt of Courts Act, 1971, laying down procedure and punishment for contempt of court. Parliament has power to amend certain clauses of the Contempt of Courts Act, 1971 but according to latest Supreme Court ruling, no law can take away Court's power to punish for contempt. Hence statement 4 is correct.

**12. With reference to India, consider the following statements:**

1. Government law officers and legal firms are recognised as advocates, but corporate lawyers and patent attorneys are excluded from recognition as advocates.
2. Bar Councils have the power to lay down the rules relating to legal education and recognition of law colleges.

**Which of the statements given above is/are correct?**

(a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

**Ans. (b):** Corporate Lawyers, as well as patent attorneys, are too recognized as lawyers and there's no prohibition on their recognition as lawyers. Hence 1<sup>st</sup> statement is incorrect. The Bar Council of India visits and inspects Universities/Law colleges in the country as part of its statutory function of promoting legal education and laying down standards in consultation with the Universities in India and the State Bar Councils. The Bar Council of India is a statutory body established under section 4 of the Advocates Act 1961 that regulates the legal practice and legal education in India. Hence 2<sup>nd</sup> statement is correct.

**13. Consider the following statements:**

1. A bill amending the Constitution requires a prior recommendation of the President of India.
2. When a Constitution Amendment Bill is presented to the President of India, it is obligatory for the President of India to give his/her assent.
3. A Constitution Amendment Bill must be passed by both the Lok Sabha and the Rajya Sabha by a special majority and there is no provision for joint sitting.

**Which of the statements given above is/are correct?**

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

**Ans. (b):** The Bill amending the constitution does not require a prior recommendation from the President of India. Hence 1<sup>st</sup> statement is incorrect.

When a Constitution Amendment Bill is presented to the President of India, it is obligatory for the President of India to give his/her assent. The President cannot exercise his veto powers with reference to the Constitution amendment bill. Also according to Article 368, the Constitution can be amended only by a 2/3rd majority in both Houses. There is no provision for a joint sitting in case of a disagreement between both Houses. Hence 2<sup>nd</sup> and 3<sup>rd</sup> statements are correct.

**14. Consider the following statement:**

1. The Constitution of India classifies the ministers into four ranks viz. Cabinet Minister, Minister of State with Independent Charge, Minister of State and Deputy Minister.
2. The total number of ministers in the Union Government, including the Prime Minister, shall not exceed 15 percent of the total number of members in the Lok Sabha.

**Which of the statements given above is/are correct?**

(a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

**Ans. (b):** There is no classification in the Constitution of India for the Council of Ministers. Article 74 provides that there shall be a Council of Ministers with the Prime Minister at the head to aid and advise the President who shall, in the exercise of his functions, act in accordance with such advice. Hence 1<sup>st</sup> statement is incorrect.

According to the Constitution (91st Amendment) Act, 2003, that amended article 75, the total number of ministers, including the Prime Minister, in the cabinet of ministers shall not exceed 15% of the total strength of the Lok Sabha. Hence 2<sup>nd</sup> statement is correct.

**15. Which of the following is/are the exclusive power(s) of Lok Sabha?**

1. To ratify the declaration of Emergency
2. To pass a motion of no-confidence against the Council of Ministers.
3. To impeach the President of India

**Select the correct answer using the code given below:**

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

**Ans. (b) :** The Proclamation of Emergency must be approved by both the Houses of Parliament within one month from the date of its issue. If approved by both the Houses of Parliament, the emergency continues for six months, and can be extended to an indefinite period with an approval of the Parliament for every six months. As per Article 61, when a President is to be impeached for violation of the Constitution, the charges can be initiated by either House of Parliament. The impeachment resolution needs to be passed by a majority of two-thirds of the total membership in each house. Thus, it is not an exclusive power of the Lok Sabha.

However Article 75 (3) provides that the Council of Ministers shall be collectively responsible to the House of the People. So, only Lok Sabha can pass a no-confidence motion against the Council of Ministers. Hence it is an exclusive power of the Lok Sabha.

**16. With reference to anti-defection law in India, consider the following statements:**

1. The law specifies that a nominated legislator cannot join any political party within six months of being appointed to the House.
2. The law does not provide any time-frame within which the presiding officer has to decide a defection case.

**Which of the statements given above is/are correct?**

(a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

**Ans. (b):** A nominated member of a House shall be disqualified for being a member of the House if he joins any political party after the expiry of six months from the date on which he takes his seat after complying with the requirements of article 99 or, as the case may be. Hence 1<sup>st</sup> statement is incorrect. The law does not specify a time period for the Presiding Officer to decide on a disqualification plea under the Tenth Schedule. Hence 2<sup>nd</sup> statement is correct.

**17. Consider the following statements:**

1. Attorney General of India and Solicitor General of India are the only officers of the Government who are allowed to participate in the meetings of the Parliament of India.
2. According to the Constitution of India, the Attorney General of India submits his resignation when the Government which appointed him resigns.

**Which of the statement given above is/are correct?**

(a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

**Ans. (d) :** However, the Attorney General of India has the right to audience in all Courts in India as well as the right to take part in the proceedings of Parliament without the right to vote. The Solicitor General of India has no such privilege.

As per Article 76, the Attorney General shall hold office during the pleasure of the President. There is no mention in the Indian Constitution of the need for him to submit his resignation when the Government which appointed him resigns.

Hence both the statements are incorrect.

**18. With the reference to the writs issued by the Courts in India, consider the following statements :**

1. Mandamus will not lie against a private organisation unless it is entrusted with a public duty.
2. Mandamus will not lie against Company even though it may be a Government Company.
3. Any public minded person can be a petitioner to move the Court to obtain the writ of Quo Warranto.

**Which of the statements given above are correct?**

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

**Ans. (c) :** Mandamus is a command issued by the court to a public official asking him to perform his official duties that he has failed or refused to perform. It can also be issued against **any public body**, a corporation, an inferior court, a tribunal, or a government for the same purpose. It is usually not usable against a private entity unless it is entrusted with a public duty.

Quo Warranto is issued by the court to enquire into the legality of the claim of a person to a public office. Hence, it prevents illegal usurpation of public office by a person. Unlike the other writs, this can be sought by any interested person and not necessarily by the aggrieved person.

Hence only 1<sup>st</sup> and 3<sup>rd</sup> statements are correct. However the commission has considered option (d) is as correct answer.

**19. With reference to Ayushman Bharat Digital Mission, consider the following statements:**

1. Private and public hospitals must adopt it.
2. As it aims to achieve universal health coverage, every citizen of India should be part of it ultimately.
3. It has seamless portability across the country.

**Which of the statements given above is/are correct?**

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

**Ans. (b):** Only the 3<sup>rd</sup> statement is correct. Ayushman Bharat Digital Mission will have a national footprint and will enable seamless portability across the country through a Health ID – Personal Health Identifier. The Mission (ABDM) has not made it mandatory for adoption by private and public hospitals. Its adoption so far would be voluntary. The aim of the Ayushman Bharat Digital Mission is to facilitate the ease of access to medical records and it is not been mandated to have every citizen as its part though the facility is available to every citizen on a consent basis.

**20. With reference to Deputy Speaker of Lok Sabha, consider the following statements:**

1. As per the Rules of Procedure and Conduct of Business in Lok Sabha, the election of Deputy Speaker shall be held on such date as the Speaker may fix.

2. There is a mandatory provision that election of a candidate as Deputy Speaker of Lok Sabha shall be from either the principal opposition party or the ruling party.
3. The Deputy Speaker has the same power as of the Speaker when presiding over the sitting of the House and no appeal lies against his rulings.
4. The well established parliamentary practice regarding the appointment of Deputy Speaker is that the motion is moved by the Speaker and duly seconded by the Prime Minister.

**Which of the statements given above are correct?**

(a) 1 and 3 only (b) 1, 2 and 3  
(c) 3 and 4 only (d) 2 and 4 only

**Ans. (a):** As per Rule 8 of Procedure and Conduct of Business in Lok Sabha, the election of a Deputy Speaker shall be held on such date as the Speaker may fix, and the Secretary-General shall send to every member notice of this date. There is no mandatory provision that the election of a candidate, as Deputy Speaker of Lok Sabha, shall be from either the principal opposition party or the ruling party. It is only by convention that the position of Deputy Speaker is offered to the opposition party in India. In case of the absence of the Speaker, the Deputy Speaker presides over the sessions of the Lok Sabha and conducts the business in the house. The Deputy Speaker has the same power as the Speaker when presiding over the sitting of the House. The Deputy Speaker is also elected by the Lok Sabha from amongst its members right after the election of the Speaker has taken place. There is no provision and or established practice of moving the motion for his election by the speaker and it is seconded by the prime minister.

**21. Among the following crops, which one is the most important anthropogenic source of both methane and nitrous oxide?**

(a) Cotton (b) Rice (c) Sugarcane (d) Wheat

**Ans. (b):** Rice (Paddy) is considered as one of the most important sources of methane and nitrous oxide emissions, which have attracted considerable attention due to their contribution to global warming.

**22. “System of Rice Intensification” of cultivation, in which alternate wetting and drying of rice fields is practised, results in:**

1. Reduced seed requirement
2. Reduced methane production
3. Reduced electricity consumption

**Select the correct answer using the code given below:**

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

**Ans. (d):** The System of Rice Intensification involves cultivating rice with as much organic manure as possible. It includes a method called Alternate Wetting and Drying (AWD) which is a form of controlled or intermittent irrigation of the rice crops. It has the following benefits and impacts, compared to conventional methods of paddy cultivation:

It increases paddy yields usually by 20-50% and sometimes up to 100%.

It reduces required seeds for transplanting by 60-80%, The electricity consumption will be less as it enables reduce use of chemical fertilizers and agrichemicals and reduced use of irrigation water by 25-50%.

By stopping flooding and relying mostly on organic fertilization, methane emissions are greatly reduced without offsetting increases in nitrous oxide.

Hence all the given statements are correct.

**23. Which one of the following lakes of West Africa has become dry and turned into a desert?**

- (a) Lake Victoria (b) Lake Faguibine  
(c) Lake Oguta (d) Lake Volta

**Ans. (b) :** Lake Faguibine in northern Mali started to disappear after catastrophic droughts in the 1970s. Over several years, droughts in the 1970s dried up the lake.

**24. Gandikota canyon of South India was created by which one of the following rivers?**

- (a) Cauvery (b) Manjira  
(c) Pennar (d) Tungabhadra

**Ans. (c) :** Gandikota canyon of South India was created by The river Pennar. The swift-flowing waters of River Pennar cut through the granite rocks near the village of Gandikota, naturally eroding the rock and forming Gandikota Canyon.

**25. Consider the following pairs:**

- | Peak              | Mountains        |
|-------------------|------------------|
| 1. Namcha Barwa - | Garhwal Himalaya |
| 2. Nanda Devi -   | Kumaon Himalaya  |
| 3. Nokrek -       | Sikkim Himalaya  |

**Which of the pairs given above is/are correctly matched?**

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

**Ans. (b) :** Namcha Barwa is a mountain in Arunachal Pradesh and not in Garhwal Himalaya. It is considered as the Eastern point of the Himalayas. Nanda Devi peak is in the state of Uttarakhand. It is a part of the Garhwal Himalayas. The Nokrek is located in the northeast of India on the Tura Range, which forms part of the Meghalaya Plateau. Nokrek is the highest peak of the Garo hills.

**26. The term "Levant" often heard in the news roughly corresponds to which of the following regions?**

- (a) Region along the eastern Mediterranean shores  
(b) Region along North African shores stretching from Egypt to Morocco  
(c) Region along Persian Gulf and Horn of Africa  
(d) The entire coastal areas of Mediterranean Sea

**Ans. (a) :** The Levant is an approximate historical geographical term referring to a large area in the Eastern Mediterranean region of Western Asia, roughly corresponding to modern-day Israel, Jordan, Lebanon, Syria, and certain adjacent areas.

**27. Consider the following countries:**

- |               |                 |
|---------------|-----------------|
| 1. Azerbaijan | 2. Kyrgyzstan   |
| 3. Tajikistan | 4. Turkmenistan |
| 5. Uzbekistan |                 |

**Which of the above have borders with Afghanistan?**

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

**Ans. (c) :** Afghanistan is bounded to the east and south by Pakistan (including those areas of Pak occupied Kashmir), to the west by Iran, and to the north by the Central Asian states of Turkmenistan, Uzbekistan, and Tajikistan.

**28. With reference to India, consider the following statements:**

- Monazite is a source of rare earths.
- Monazite contains thorium.
- Monazite occurs naturally in the entire Indian coastal sands in India.
- In India, Government bodies only can process or export monazite.

**Which of the statements given above are correct?**

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

**Ans. (b) :** Though monazite is found in most coastal areas of India. It is questionable for monazite to be found along entire coast. The main mines are found along the coasts of southern India in Kerala, Tamil Nadu and in Orissa. Rests of the statements are correct.

**29. In the northern hemisphere, the longest day of the year normally occurs in the:**

- (a) First half of the month of June  
(b) Second half of the month of June  
(c) First half of the month of July  
(d) Second half of the month of July

**Ans. (b) :** The longest day of the year for those living north of the Equator is June 21. This day is referred to as the summer solstice. It occurs when the sun is directly over the Tropic of Cancer. Hence the correct answer to the question would be 2<sup>nd</sup> half of the month of June.

**30. Consider the following pairs:**

- | Wetland/Lake           | Locations        |
|------------------------|------------------|
| 1. Hokera Wetland -    | Punjab           |
| 2. Renuka Wetland -    | Himachal Pradesh |
| 3. Rudrasagar Lake -   | Tripura          |
| 4. Sasthamkotta Lake - | Tamil Nadu       |

**How many pairs given above are correctly matched?**

- (a) Only one pair (b) Only two pairs  
(c) Only three pairs (d) All four pairs

**Ans. (b) :** The Hokera wetland is a Ramsar site at Zainakote near Srinagar in Jammu and Kashmir. Renuka wetland is in the Sirmour district of Himachal Pradesh. Rudrasagar Lake, also known as Rudijala is a famous lake situated in the Melaghar Block under Sonamura Sub-Division in the West Tripura District in Tripura. Sasthamkotta lake also known as the Queen of Lakes is the largest freshwater lake in Kerala. Hence only two pairs are correctly matched.

**31. Consider the following :**

- |                 |           |
|-----------------|-----------|
| 1. Aarogya Setu | 2. CoWIN  |
| 3. DigiLocker   | 4. DIKSHA |

**Which of the above are built on top of open-source digital platforms?**

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

**Ans. (d) :** Open source software is software with source code that anyone can inspect, modify, and enhance. Digilocker, Diksha, Aarogya Setu, the Covid-19 vaccination platform CoWIN have been built on top of open-source digital platforms.

**32. With reference to Web 3.0, consider the following statements:**

- Web 3.0 technology enables people to control their own data.
- In Web 3.0 world, there can be blockchain based social networks.
- Web 3.0 is operated by users collectively rather than a corporation.

**Which of the statements given above are correct?**

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

**Ans. (d) :** Web 3.0 is the third generation web technology. Web 3.0 will have a strong emphasis on decentralized applications and make extensive use of blockchain-based technologies. An emerging governance ideal within the blockchain and Web 3.0 community is the concept of a Decentralized Autonomous Organization (DAO). Instead of having a central authority that governs the operations of a platform, with a DAO, Web 3.0 technologies and communities provide a form of self-governance in an attempted decentralized approach. Presently, only centralized repositories are the ones that own user data and profit from it. In Web 3.0, users can own and be properly compensated for their time and data. In Web 3.0 people will control their own data.

**33. With reference to “Software as a Service (SaaS),” consider the following statements:**

1. SaaS buyers can customise the user interface and can change data fields.
2. SaaS users can access their data through their mobile devices.
3. Outlook, Hotmail and Yahoo! Mail are forms of SaaS.

**Which of the statements given above are correct?**

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

**Ans. (d):** Software as a service (SaaS) is a way of delivering applications over the Internet as a service. Instead of installing and maintaining software, user can simply access it via the Internet, freeing themselves from complex software and hardware management. Examples of popular SaaS providers include: BigCommerce, Google Workspace, Salesforce, Dropbox, Outlook, Hotmail and Yahoo! Mail etc. Also SaaS buyers can customize the user interface and can change data fields and can access their data through their mobile devices. Therefore all the given statements are correct.

**34. Which one of the following statements best reflects the idea behind the “Fractional Orbital Bombardment System” often talked about in media?**

- (a) A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space.
- (b) A spacecraft lands on another planet after making several orbital motions.
- (c) A missile is put into stable orbit around the Earth and deorbits over a target on the Earth.
- (d) A spacecraft moves along a comet with the same speed and places a probe on its surface.

**Ans. (c):** A Fractional Orbital Bombardment System (FOBS) is a warhead delivery system that uses a low earth orbit towards its target destination. Just before reaching the target, it de-orbits through a retrograde engine burn. It was developed in 1960s by Soviet Union.

**35. Which one of the following is the context in which the term “qubit” is mentioned?**

- (a) Cloud Services
- (b) Quantum Computing
- (c) Visible Light Communication Technologies
- (d) Wireless Communication Technologies

**Ans. (b):** A “Qubit” is a quantum bit, the counterpart in quantum computing to the binary digit or bit of classical computing. Just as a bit is the basic unit of information in a classical computer, a qubit is the basic unit of information in a quantum computer.

**36. Consider the following communication technologies :**

1. Closed-circuit Television
2. Radio Frequency Identification
3. Wireless Local Area Network

**Which of the above are considered Short-Range devices/ Technologies?**

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

**Ans. (d) :** Short Range Devices (SRD) are radio devices that offer a low risk of interference with other radio services, usually because their transmitting power, and their low range. The definition ‘Short Range Device’ may be applied to many different types of wireless equipment, including various forms of:

- Access control (including door and gate openers)
- Alarms and movement detectors
- Closed-circuit television (CCTV)
- Cordless audio devices, including wireless microphones
- Wireless Local Area Networks
- Remote control
- Radio frequency identification (RFID)
- Telemetry etc.

**37. Consider the following statements:**

1. Biofilms can form on medical implants within human tissues.
2. Biofilms can form on food and food processing surfaces.
3. Biofilms can exhibit antibiotic resistance.

**Which of the statements given above are correct?**

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

**Ans. (d) :** A biofilm is an assemblage of surface-associated microbial cells that is enclosed in an extracellular polymeric substance matrix. Biofilms can form on medical implants within human tissues. It can form on food and food processing surfaces and can exhibit antibiotic resistance. The biofilm provides a favorable environment for the microorganisms.

**38. Consider the following statements in respect of probiotics:**

1. Probiotics are made of both bacteria and yeast.
2. The organisms in probiotics are found in foods we ingest but they do not naturally occur in our gut.
3. Probiotics help in the digestion of milk sugars.

**Which of the statements given above is/are correct?**

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

**Ans. (c) :** Probiotics are defined as live micro-organisms which confer a health benefit on the host. Although most probiotics are bacteria, one strain of yeast, *Saccharomyces boulardii*, has been found to be an effective probiotic in double-blind clinical studies. Probiotics live naturally in our body. *L. acidophilus* is a probiotic bacteria that naturally occurs in the human gut. Yogurt is a well-known food source of probiotics. Certain strains of bacteria in yogurt have  $\beta$ -D-galactosidase, which is an enzyme that helps to break down lactose in dairy products into the sugars glucose and galactose. Thus Probiotics help in the digestion of milk sugars.

**39. In the context of vaccines manufactured to prevent COVID-19 pandemic, consider the following statements:**

1. The Serum Institute of India produced COVID-19 vaccine named Covisheild using mRNA platform.



2. Sputnik V vaccine is manufactured using vector based platform.
3. COVAXIN is an inactivated pathogen based vaccine.

**Which of the statements given above are correct?**

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

**Ans. (b) :** Serum Institute's Covishield used the viral vector platform. It used a chimpanzee adenovirus, ChAdOx1, a type of common cold virus, which attaches itself to cells and injects DNA that tells the cells to make corona virus spike protein. Hence 1<sup>st</sup> statement is incorrect. Rests of the statements are correct.

**40. If a major solar storm (solar-flare) reaches the Earth, which of the following are the possible effects on the Earth?**

1. GPS and navigation systems could fail.
2. Tsunamis could occur at equatorial regions.
3. Power grids could be damaged.
4. Intense auroras could occur over much of the Earth.
5. Forest fires could take place over much of the planet.
6. Orbits of the satellites could be disturbed.
7. Shortwave radio communication of the aircraft flying over Polar Regions could be interrupted.

**Select the correct answer using the code given below:**

- (a) 1, 2, 4 and 5 only      (b) 2, 3, 5, 6 and 7 only  
(c) 1, 3, 4, 6 and 7 only      (d) 1, 2, 3, 4, 5, 6 and 7

**Ans. (c) :** Statements 2 and 5 are incorrect. Solar flares can temporarily alter the upper atmosphere creating disruptions. But it does not cause Tsunamis. It only affects the upper atmosphere. Also there is no causal link between the coronal mass ejections (CMEs) and the deadly forest fires. There is a common misconception that solar storms are associated with extreme geological and atmospheric effects on Earth. Rests of the statements are correct.

**41. "Climate Action Tracker" which monitors the emission reduction pledges of different countries is a:**

- (a) Database created by coalition of research organizations  
(b) Wing of "International Panel of Climate Change"  
(c) Committee under "United Nations Framework Convention on Climate Change"  
(d) Agency promoted and financed by United Nations Environment Programme and World Bank

**Ans. (a) :** The Climate Action Tracker is an independent scientific analysis that tracks government climate action and measures it against the globally agreed Paris Agreement aim of "holding global warming well below 2°C, and pursuing efforts to limit warming to 1.5°C." A collaboration of two organisations, Climate Analytics and New Climate Institute, the Climate Action Tracker has been providing this independent analysis to policymakers since 2009.

**42. Consider the following statements:**

1. "The Climate Group" is an international non-profit organization that drives climate action by building large networks and runs them.
2. The International Energy Agency in partnership with the Climate Group launched a global initiative "EP100".

3. EP100 brings together leading companies committed to driving innovation in energy efficiency and increasing competitiveness while delivering on emission reduction goals.
4. Some Indian companies are members of EP100.
5. The International Energy Agency is the Secretariat to the "Under2 Coalition."

**Which of the statements given above are correct?**

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

**Ans. (b) :** EP100 is a global initiative led by The Climate Group and the Alliance to Save Energy, not by International Energy Agency. Hence 2<sup>nd</sup> statement is incorrect. Also, 5<sup>th</sup> Statement is incorrect as Climate Group is the Secretariat to the Under 2 Coalition and not the International Energy Agency. Rests of the statements are correct.

**43. "If rainforests and tropical forests are the lungs of the Earth, then surely wetlands function as its kidneys." Which one of the following functions of wetlands best reflects the above statement?**

- (a) The water cycle in wetlands involves surface runoff, subsoil percolation and evaporation.  
(b) Algae form the nutrient base upon which fish, crustaceans, molluscs, birds, reptiles and mammals thrive.  
(c) Wetlands play a vital role in maintaining sedimentation balance and soil stabilization.  
(d) Aquatic plants absorb heavy metals and excess nutrients

**Ans. (d) :** According to The Ramsar Convention, "wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six metres."

Wetlands are vital for humans, for other ecosystems and for our climate, providing essential ecosystem services such as water regulation, including flood control and water purification. Wetlands also absorb carbon dioxide to help slow global heating and reduce pollution, hence have often been referred to as the "Kidneys of the Earth".

Therefore, option (d) is the correct answer.

**44. In the context of WHO Air Quality Guidelines, consider the following statements:**

1. The 24 hour mean of PM<sub>2.5</sub> should not exceed 15 µg/m<sup>3</sup> and annual mean of PM<sub>2.5</sub> should not exceed 5 µg/m<sup>3</sup>.
2. In a year, the highest levels of ozone pollution occur during the periods of inclement weather.
3. PM<sub>10</sub> can penetrate the lung barrier and enter the bloodstream.
4. Excessive ozone in the air can trigger asthma.

**Which of the statements given above are correct?**

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

**Ans. (b) :** Ozone at ground level is formed by the reaction with sunlight (photochemical reaction) of pollutants such as nitrogen oxides (NOx) from vehicle and industry emissions and volatile organic compounds (VOCs) emitted by vehicles, solvents and industry. As a result, the highest levels of ozone pollution occur during periods of sunny weather and not during inclement weather. Hence 2<sup>nd</sup> statement is incorrect. Again, while particles with a diameter of 10 microns or

less, ( $\leq$  PM10) can penetrate and lodge deep inside the lungs, the even more health-damaging particles are those with a diameter of 2.5 microns or less, ( $\leq$  PM2.5). PM2.5 can penetrate the lung barrier and enter the blood system. Hence 3<sup>rd</sup> statement is also incorrect. Rests of the statements are correct.

**45. With reference to "Guchhi" sometimes mentioned in the news, consider the following statements:**

1. It is a fungus.
2. It grows in some Himalayan forest areas.
3. It is commercially cultivated in the Himalayan foothills of north-eastern India.

**Which of the statements given above is/are correct?**

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

**Ans. (c) :** Guchhi mushroom is a species of fungus in the family Morchellaceae of the Ascomycota. They are pale yellow in colour with large pits and ridges on the surface of the cap, raised on a large white stem. guchhi faces lots of challenges in its cultivation. The mushrooms cannot be cultivated commercially and grow in conifer forests across temperature regions, and the foothills in Himachal Pradesh, Uttarakhand, and Jammu and Kashmir. And it takes months for villagers to collect enough of these mushrooms, dry them and bring them to the market.

**46. With reference to polyethylene terephthalate, the use of which is so widespread in our daily lives, consider the following statements:**

1. Its fibres can be blended with wool and cotton fibres to reinforce their properties.
2. Containers made of it can be used to store any alcoholic beverage.
3. Bottles made of it can be recycled into other products.
4. Articles made of it can be easily disposed of by incineration without causing greenhouse gas emissions.

**Which of the statement given above are correct?**

- (a) 1 and 3 (b) 2 and 4 (c) 1 and 4 (d) 2 and 3

**Ans. (a) :** Plastic packaging is dangerous to human health and the country liquor and country made foreign liquor cannot be sold in such bottles. That's why Maharashtra government has announced the ban on sale of alcohol in PET bottles from April 1. Therefore 2<sup>nd</sup> statement is incorrect. Again, Polyethylene, like other plastics, is not inert and is known to release additives and other degradation products into the environment throughout its lifetime. Hence 4<sup>th</sup> statement is also incorrect.

PET fibres are often used in durable-press blends with other fibres such as rayon, wool, and cotton, reinforcing the inherent properties of those fibres while contributing to the ability of the fabric to recover from wrinkling. Also Polyethylene terephthalate is the most widely recycled plastic.

**47. Which of the following is not a bird?**

- (a) Golden Mahseer (b) Indian Nightjar  
(c) Spoonbill (d) White Ibis

**Ans. (a):** Golden Mahseer is a fish that lives in fast-moving waters, inhabiting hill streams with a rocky and stony substrate. Rests are type of birds.

**48. Which of the following are nitrogen-fixing plants?**

- |                     |             |
|---------------------|-------------|
| 1. Alfalfa          | 2. Amaranth |
| 3. Chickpea         | 4. Clover   |
| 5. Purslane (Kulfa) | 6. Spinach  |

**Select the correct answer using the code given below:**

- (a) 1, 3 and 4 only (b) 1, 3, 5 and 6 only  
(c) 2, 4, 5 and 6 only (d) 1, 2, 4, 5 and 6

**Ans. (a):** Out of the given options only Alfalfa, Chickpea and Clovers are nitrogen-fixing plants. Nitrogen-Fixing Plants are capable of fixing Nitrogen in a natural way to provide plant-adjusted Nitrogen without any industrial harm to nature.

**49. "Biorock technology" is talked about in which one of the following situations?**

- (a) Restoration of damaged coral reefs  
(b) Development of building materials using plant residues  
(c) Identification of areas for exploration/extraction of shale gas  
(d) Providing salt licks for wild animals in forest/protected areas

**Ans. (a) :** The Zoological Survey of India (ZSI), with help from Gujarat's forest department, is attempting a process for the first time to restore coral reefs using bio rock or mineral accretion technology. A bio rock structure was installed one nautical mile off the Mithapur coast in the Gulf of Kachchh.

**50. The "Miyawaki method" is well known for the:**

- (a) Promotion of commercial farming in arid and semi-arid areas  
(b) Development of gardens using genetically modified flora  
(c) Creation of mini forests in urban areas  
(d) Harvesting wind energy on coastal area and on sea surfaces.

**Ans. (c) :** Miyawaki is a method of afforestation that requires quite a small space, at least 20 square feet. One must seed plants very close to save space and dense plant growth. It was developed by Akira Miyawaki of Japan. Bombay Municipal Corporation (BMC) has been using the Miyawaki method to create tiny urban forests in the Metropolitan areas of Mumbai.

**51. In the Government of India Act 1919, the functions of Provincial Government were divided into "Reserved" and "Transferred" subjects. Which of the following were treated as "Reserved" subjects ?**

1. Administration of Justice
2. Local Self-Government
3. Land Revenue
4. Police

**Select the correct answer using the code given below**

- (a) 1, 2 and 3 (b) 2, 3 and 4 (c) 1, 3 and 4 (d) 1, 2 and 4

**Ans. (c):** Subjects were divided into two lists reserved and transferred in the Government of India act 1919.

Reserved subjects: Law and order, finance, land revenue, irrigation, police etc. to be administered by the governor through his executive council.

Transferred subjects: Education, health, local government, industry, agriculture, excise etc. to be administered by ministers nominated from among the elected members of legislative council.

**52. In medieval India, the term "Fanam" referred to:**

- (a) Clothing (b) Coins (c) Ornaments (d) Weapons

**Ans. (b):** The Fanam coins were the regular unit of currency in medieval Travancore and appear to have been extensively used for trading in the region of South India. The words Fanam and Panam literally mean money and are still used as a synonym for wealth in Kerala in the native language of Malayalam.

**53. Consider the following freedom fighters:**

1. Barindra Kumar Ghosh
2. Jogesh Chandra Chatterjee
3. Rash Behari Bose

**Which of the statement given above are correct?**

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

**Ans. (d):** The Ghadar Party was a political revolutionary organization founded in the United States of America by migrated Indians. The formation of the Ghadar Party was primarily the work of Sikhs. Sohan Singh, Kartar Singh, Abdul Mohamed Barakatullah, and Rashbehari Bose were among the prominent leaders who laid the groundwork for the establishment of an Indian political organization in the United States and Canada.

**54. With reference to the proposals of Cripps Mission, consider the following statements:**

1. The Constituent Assembly would have members nominated by the Provincial Assemblies as well as the Princely States.
2. Any Province, which is not prepared to accept the new Constitution would have the right to sign a separate agreement with Britain regarding its future status.

**Which of the statements given above is/are correct?**

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

**Ans. (b):** In March 1942, a mission headed by Stafford Cripps was sent to India with constitutional proposals to seek Indian support for the war.

The main proposals of the Cripps mission were as follows: An Indian Union with a dominion status would be set up; it would be free to decide its relations with the Commonwealth and free to participate in the United Nations and other international bodies.

After the end of the war, a constituent assembly would be convened to frame a new constitution. Members of this assembly would be partly elected by the provincial assemblies through proportional representation and partly nominated by the princes. (Hence, Statement 1 is incorrect).

The British government would accept the new constitution subject to two conditions: (i) any province not willing to join the Union could have a separate constitution and form a separate Union, and (ii) the new constitution-making body and the British government would negotiate a treaty to effect the transfer of power and to safeguard racial and religious minorities. (Hence, Statement 2 is correct).

In addition to that, defence of India would remain in British hands and the governor-general's powers would remain intact.

**55. With reference to Indian history, consider the following texts:**

1. Nettipakarana
2. Parishishtaparvan
3. Avadanashataka
4. Trishashtilakshana Mahapurana

**Which of the above are Jaina texts?**

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

**Ans. (b) :** 1. Nettipakarana is a guide to help those who already understand the teaching and present it to others. The Netti methods were taught by the Buddha's disciple Kaccana (also Katyayana or Kaccayana).

2. The Parishishtaparvan also known as the Sthaviravalicharitra is a 12th-century Sanskrit

mahakavya by Hemachandra which details the histories of the earliest Jain teachers.

3. The Avadanashataka (A Hundred Glorious Deeds) are Jataka Stories (Buddhist tales) are thematically organized into ten books that portray the truth of the doctrine of karma (action) and the power of religious dana (giving), faith, and devotion.

4. Trishashtilakshana Mahapurana is a major Jain text composed largely by Acharya Jinasena during the rule of Rashtrakutas.

**56. With reference to Indian history, consider the following pairs:**

Historical person	Known as
1. Aryadeva	- Jaina scholar
2. Dignaga	- Buddhist scholar
3. Nathamuni	- Vaishnava scholar

**How many pairs given above are correctly matched?**

- (a) None of the pairs (b) Only one pair  
(c) Only two pairs (d) All three pairs

**Ans. (c) : Correct match is-**

1. Aryadeva - Buddhist scholar
2. Dignaga - Buddhist scholar
3. Nathamuni - Vaishnava scholar

**57. With reference to Indian history, consider the following statements:**

1. The first Mongol invasion of India happened during the reign of Jalal-ud-din Khalji.
2. During the reign of Ala-ud-din Khalji, one Mongol assault marched up to Delhi and besieged the city.
3. Muhammad-bin-Tughlaq temporarily lost portions of north-west of his kingdom to Mongols.

**Which of the statements given above is/are correct?**

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

**Ans. (b): Statement:1** The first Mongol invasion of India happened during the reign of Behram Shah in 1241 AD. Hence statement 1 is not correct.

**Statement: 2** During the reign of Alauddin Khilji, Mongols invaded India and put a siege around Delhi in 1303. So, it is correct.

**Statement: 3** After 1307 AD, the Mongol threat suddenly receded; and only on one occasion subsequently does it appear to have attained to the same proportions. Early in the reign of Muhammad Tughluq, the Chaghatai Khan Tarmashirin led an incursion in which the Mongol forces once again advanced to the Juma but retired without actually entering the capital when he was paid a ransom. Thereafter, India was free of major inroads from this quarter for another sixty years or more, until the invasion of Delhi by Timur in 1398. So, Statement 3 is not correct.

**58. With reference to Indian history, who of the following were known as "Kulah-Daran"?**

- (a) Arab merchants (b) Qalandars  
(c) Persian calligraphists (d) Sayyids

**Ans. (d) :** The Sayyids put on a pointed cap (kulah) and they were known as 'Kulah Daran' during Delhi sultanate.

The Sayyids were claimed to descent from the Prophet through his daughter Fatima. They Commanded special respect in Muslim society.

Even the Timur protected the life of Sayyids during his invasion in India, although his policy was of general slaughter.

**59. With reference to Indian history, consider the following statements:**

1. The Dutch established their factories/warehouses on the east coast on lands granted to them by Gajapati rulers.
2. Alfonso de Albuquerque captured Goa from the Bijapur Sultanate.
3. The English East India Company established a factory at Madras on a plot of land leased from a representative of the Vijayanagara empire.

**Which of the statements given above are correct?**

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

**Ans. (b):** Gajapati rulers in Odisha lasted from 1434AD to 1541AD. Dutch factories established on the eastern coast are: Masulipattanam (1605), Pulicat (1610), Bimilipatam / Bhimunipatnam (1641), Chinsura (1653). So, statement 1 is not correct.

Alfonso de Albuquerque captured Goa for Portuguese in 1510 from Adil Shahi rulers of Bijapur. So, statement 2 is correct.

In 1639, the English East India Company received permission from local ruler Darmala Venkatadri Nayaka to establish a factory at Madras. Fort Saint George was built in 1640. Madras was the first piece of land leased by the English East India Company, and significantly without any war but through friendship and negotiation. Raja Darmala Venkatadri was a representative of the Vijayanagara Empire. So, statement 3 is correct.

**60. According to Kautilya's Arthashastra, which of the following are correct?**

1. A person could be a slave as a result of a judicial punishment.
2. If a female slave bore her master a son, she was legally free.
3. If a son born to a female slave was fathered by her master, the son was entitled to the legal status of the master's son.

**Which of the statements given above are correct?**

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

**Ans. (d) :** The Arthashastra is an Indian treatise on politics, economics, military strategy, the function of the state, and social organization attributed to Kautilya (also known as Chanakya). He was instrumental in establishing the reign of the great king Chandragupta Maurya (321-297 BCE). There are several types of enslavement that is given in Arthashastra. One of the prime methods of enslavement was to have a person as a slave as a result of judicial punishment for some sort of criminal demeanor. Thus statement 1 is correct.

There were variety of protection offered to the slaves, especially to the women slaves. As per the Arthashastra, when a child is begotten on a female slave by her master, both the child and its mother shall at once be recognised as free.

If a son born to a female slave was fathered by her master, the son was entitled to the legal status of the master's son. So, statement 2 and statement 3 are correct. However UPSC has considered option (b) as correct.

**61. Consider the following statements:**

1. Tight monetary policy of US Federal Reserve could lead to capital flight.
2. Capital flight may increase the interest cost of firms with existing External Commercial Borrowings (ECBs).
3. Devaluation of domestic currency decreases the currency risk associated with ECBs.

**Which of the statements given above are correct ?**

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

**Ans. (a):** Tight monetary policy is an action undertaken by a central bank such as the Federal Reserve to slow down overheated economic growth. Central banks engage in tight monetary policy when an economy is accelerating too quickly or inflation is rising too fast.

Capital flight destabilizes interest rates and exchange rates and also reduces monetary control. It drives up the marginal costs of foreign borrowing. Thus, capital flight may increase the interest cost of firms with existing external commercial borrowings. So, statement 2 is correct.

Statement 3 is incorrect: Devaluation of domestic currency does not affect the External Commercial Borrowings as it is denominated in the foreign currency and not in the domestic currency.

**Note :** UPSC has deleted the question.

**62. Consider the following States:**

1. Andhra Pradesh
2. Kerala
3. Himachal Pradesh
4. Tripura

**How many of the above are generally known as tea-producing States?**

- (a) Only one State (b) Only two States  
(c) Only three States (d) All four States

**Ans. (d):** Major tea producing states are Assam, hills of Darjeeling and Jalpaiguri districts, West Bengal, Tamil Nadu and Kerala. Apart from these, Himachal Pradesh, Uttarakhand, Meghalaya, Andhra Pradesh and Tripura are also tea-producing states, but in a small quantity.

**63. Consider the following statements**

1. In India, credit rating agencies are regulated by Reserve Bank of India.
2. The rating agency popularly known as ICRA is a public limited company.
3. Brickwork Ratings is an Indian credit rating agency.

**Which of the statements given above are correct?**

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

**Ans. (b) : Statement 1 is incorrect:** Credit Rating Agencies form an essential part of the financial markets. They are regulated by SEBI and not by RBI under the powers derived from the Securities and Exchange Board of India (Credit Rating Agencies) Regulations, 1999.

ICRA Limited (formerly Investment Information and Credit Rating Agency of India Limited) was set up in 1991 by leading financial/investment institutions, commercial banks and financial services companies as an independent and professional investment Information and Credit Rating Agency. ICRA is a Public Limited Company, with its shares listed on the Bombay Stock Exchange and the National Stock Exchange. So, **statement 2 is correct.**

**Statement 3 is correct:** Brickwork Ratings (BWR) is a SEBI registered Indian Credit Rating Agency. It has also been accredited by RBI. It offers rating services on Bank Loans, NCD, Commercial Paper, Fixed deposits, Securitized paper, Security receipts etc.

**64. With reference to the Banks Board Bureau (BBB), which of the following statements are correct?**

1. The Governor of RBI is the Chairman of BBB.
2. BBB recommends for the selection of heads for Public Sector Banks.
3. BBB helps the Public Sector Banks in developing strategies and capital raising plans.

**Select the correct answer using the code given below:**

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



**Ans. (b): Statement 1 is incorrect:**

Banks Board Bureau comprises the Chairman, three ex-officio members i.e. Secretary, Department of Public Enterprises, Secretary of the Department of Financial Services and Deputy Governor of the Reserve Bank of India, and five expert members, two of which are from the private sector. The Chairman is selected by the central government and RBI governor does not head it. The BBB advises the Government on matters relating to appointments, confirmation or extension of tenure and termination of services of the Board of Directors in Public Sector Banks (PSBs) and financial institutions (FIs). It is responsible for the selection and appointment of Board of Directors of PSBs and FIs. So, **statement 2 is correct.**

One of the functions of the BBB is to help Public Sector Banks in terms of developing business strategies and capital raising plan etc. So, **statement 3 is correct.**

**65. With reference to Convertible Bonds, consider the following statements:**

1. As there is an option to exchange the bond for equity, Convertible Bonds pay a lower rate of interest.
2. The option to convert to equity affords the bondholder a degree of indexation to rising consumer prices.

**Which of the statements given above is/are correct?**

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

**Ans. (c): Statement 1 is correct:** Convertible bonds tend to offer a lower coupon rate or rate of return in exchange for the value of the option to convert the bond into common stock. Investors will generally accept a lower coupon rate on a convertible bond, compared with the coupon rate on another identical regular bond, because of its conversion feature. This enables the issuer to save on interest expenses, which can be substantial in the case of a large bond issue.

One of the advantages of convertible bonds is that the option to convert to equity affords the bondholder a degree of indexation to rising consumer prices. So, **statement 2 is correct.**

**66. Consider the following:**

1. Asian Infrastructure Investment Bank
2. Missile Technology Control Regime
3. Shanghai Cooperation Organisation

**India is a member of which of the above?**

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

**Ans. (d):** The Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank that aims to improve economic and social outcomes in Asia. India joined Asian Infrastructure Investment Bank on 11<sup>th</sup> January, 2016, **Option 1 is correct.**

**Option 2 is correct.** The Missile Technology Control Regime (MTCR) is a multilateral export control regime whose members have an informal political understanding to limit the proliferation of missiles and missile technology. India became a member of the MTCR in 2016.

The Shanghai Cooperation Organization (SCO) is an intergovernmental organization founded in Shanghai on 15 June 2001. The SCO currently comprises eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan). India became permanent member of the SCO in 2017. So, **statement 3 is correct.**

**67. Consider the following statements:**

1. Vietnam has been one of the fastest growing economies in the world, in the recent years.
2. Vietnam is led by a multi-party political system
3. Vietnam's economic growth is linked to its integration with global supply chains and focus on exports.
4. For a long time Vietnam's low labour costs and stable exchange rates have attracted global manufacturers.
5. Vietnam has the most productive e-service sector in the Indo-Pacific region.

**Which of the statements given above are correct?**

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

**Ans. (c) :** According to a forecast by Pricewaterhouse Coopers in February 2017, Vietnam may be the fastest-growing economy of the world, with a potential annual GDP growth rate of about 5.1%, which would make its economy the 10th-largest in the world by 2050. Hence, **Statement 1 is correct.**

Vietnam is a Marxist–Leninist one-party state based on democratic centralism. Hence, **Statement 2 is incorrect.**

Vietnam's economic growth is linked to its integration with global supply chains and focus on exports. Hence, **Statement 3 is correct.**

Vietnam has low labour costs and stable exchange rates which attract global investments. Hence, **Statement 4 is correct.**

**68. In India, which one of the following is responsible for maintaining price stability by controlling inflation?**

- (a) Department of Consumer Affairs  
(b) Expenditure Management Commission  
(c) Financial Stability and Development Council  
(d) Reserve Bank of India

**Ans. (d):** Reserve Bank of India is India's central bank, which has key function to keep check on the inflation by use of monetary policy in forms of qualitative and quantitative measures.

**69. With reference to Non-Fungible Tokens (NFTs), consider the following statements:**

1. They enable the digital representation of physical assets.
2. They are unique cryptographic tokens that exist on a blockchain.
3. They can be traded or exchanged at equivalency and therefore can be used as a medium of commercial transactions.

**Which of the statements given above are correct?**

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

**Ans. (a):** Non-fungible tokens, often referred to as NFTs, are blockchain-based tokens that each represent a unique asset like a piece of art, digital content, or media. An NFT can be thought of as an irrevocable digital certificate of ownership and authenticity for a given asset, whether digital or physical. They cannot be traded or exchanged at equivalency and therefore, cannot be used as a medium of commercial transactions.

**70. Consider the following pairs:**

Reservoirs	States
1. Ghataprabha	- Telangana
2. Gandhi Sagar	- Madhya Pradesh
3. Indira Sagar	- Andhra Pradesh
4. Maithon	- Chhattisgarh

**How many pairs given above are not correctly matched?**

- (a) Only one pair (b) Only two pairs  
(c) Only three pairs (d) All four pairs

**Ans. (c):**

Reservoirs	States
Ghataprabha	- Karnataka
Gandhi Sagar	- Madhya Pradesh
Indira Sagar	- Madhya Pradesh
Maithon	- Jharkhand

**71. In India, which one of the following compiles information on industrial disputes, closures, retrenchments and lay-offs in factories employing workers?**

- (a) Central Statistics Office  
(b) Department for Promotion of Industry and Internal Trade  
(c) Labour Bureau  
(d) National Technical Manpower Information System

**Ans. (c):** Labour Bureau is an attached office under Ministry of Labour and Employment. It was set up on 1st October 1946. It is entrusted with the work of compilation, collection, analysis and dissemination of statistics on different aspects of labour.

**72. In India, what is the role of the Coal Controller's Organization (CCO)?**

- CCO is the major source of Coal Statistics in Government of India.
- It monitors progress of development of Captive Coal/Lignite blocks.
- It hears any objection to the Government's notification relating to acquisition of coal-bearing areas.
- It ensures that coal mining companies deliver the coal to end users in the prescribed time.

**Select the correct answer using the code given below :**

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

**Ans. (a):** The Coal Controller's Organisation (CCO) is a subordinate office of the ministry of coal, having its headquarters at Kolkata. It collects and maintains coal production data of all private and public sector coal mines in the country. Under Collection of Statistics Act, 2008, Coal Controller has been made the statistical authority with respect to coal and lignite statistics, entrusted with the responsibility of carrying out Annual Coal & Lignite survey and publishing of Provisional Coal Statistics and Coal Directory of India. It is also entrusted with the task of monitoring captive mines. Work such as permission for opening and reopening of coal mine has been entrusted to CCO.

Under Coal Bearing Area (Acquisition and Development) Act, 1957- Coal Controller is the competent authority to hear any objection to the Central Government's Notification relating to acquisition of coal bearing land and to furnish his reports to Central Government.

Ensuring that coal mining companies deliver the coal to end users in the prescribed time is not the function of Coal Controller's Organization (CCO).

**73. If a particular area is brought under the Fifth Schedule of the Constitution of India, which one of the following statements best reflects the consequence of it?**

- (a) This would prevent the transfer of land of tribal people to non-tribal people.  
(b) This would create a local self-governing body in that area.  
(c) This would convert that area into a Union Territory.  
(d) The State having such areas would be declared a Special Category State.

**Ans. (a):** The Fifth Schedule of the Constitution deals with the administration and control of Scheduled Areas as well as of Scheduled Tribes residing in any State other than the States of Assam, Meghalaya, Tripura and Mizoram.

Under the provisions of 5<sup>th</sup> scheduled of the constitution of India the Governor can make regulations which would prevent the transfer of land of tribal people to non-tribal people.

**74. Consider the following statements:**

- The India Sanitation Coalition is a platform to promote sustainable sanitation and is funded by the Government of India and the World Health Organization.
- The National Institute of Urban Affairs is an apex body of the Ministry of Housing and Urban Affairs in Government of India and provides innovative solutions to address the challenges of Urban India.

**Which of the statements given above is/are correct?**

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

**Ans. (d) :** The India Sanitation Coalition was launched on June 25, 2015, at FICCI, New Delhi. ISC is a multi-stakeholder platform that brings together the private sector, government, financial institutions, civil society groups, media, donors/bi-lateral/multilateral, experts etc. to work in the sanitation space to drive sustainable sanitation through a partnership model. It is not funded by WHO. Hence 1<sup>st</sup> statement is incorrect.

The National Institute of Urban Affairs (NIUA) is India's leading national think tank on urban planning and development. As a hub for the generation and dissemination of cutting-edge research in the urban sector, NIUA seeks to provide innovative solutions to address the challenges of a fast urbanizing India, and pave the way for more inclusive and sustainable cities of the future. It was established 1976 as an autonomous body under the societies Registration Act. Hence 2<sup>nd</sup> statement is correct.

**75. Which one of the following has been constituted under the Environment (Protection) Act, 1986?**

- (a) Central Water Commission  
(b) Central Ground Water Board  
(c) Central Ground Water Authority  
(d) National Water Development Agency

**Ans. (c):** Central Ground Water Authority (CGWA) has been constituted under Section 3 (3) of the Environment (Protection) Act, 1986 to regulate and control development and management of ground water resources in the country.

**76. With reference to the "United Nations Credentials Committee", consider the following statements:**

- It is a committee set up by the UN Security Council and works under its supervision.
- It traditionally meets in March, June and September every year.
- It assesses the credentials of all UN members before submitting a report to the General Assembly for approval.

**Which of the statements given above is/are correct?**

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

**Ans. (a) :** The United Nations Credentials Committee is a committee of the United Nations General Assembly. Hence 1<sup>st</sup> statement is incorrect.

A Credentials Committee is appointed at the beginning of each regular session (intensively from September to December) of the General Assembly. Hence 2<sup>nd</sup> statement is also incorrect.

The Committee reports to the Assembly on the credentials of representatives. The Committee is mandated to examine the credentials of representatives of Member States and to report to the General Assembly thereon (Rule 28 of the Rules of Procedure of the General Assembly). Therefore 3<sup>rd</sup> statement is correct.

**77. Which one of the following statements best describes the 'Polar Code'?**

- It is the international code of safety for ships operating in polar waters.
- It is the agreement of the countries around the North Pole regarding the demarcation of their territories in the polar region.
- It is a set of norms to be followed by the countries whose scientists undertake research studies in the North Pole and South Pole.
- It is a trade and security agreement of the member countries of the Arctic Council.

**Ans. (a) :** Polar Code is the International code of safety for ships operating in polar waters that covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles.

**78. With reference to the United Nations General Assembly, consider the following statements:**

- The UN General Assembly can grant observer status to the non-member States.
- Inter-governmental organisations can seek observer status in the UN General Assembly.
- Permanent Observers in the UN General Assembly can maintain missions at the UN headquarters.

**Which of the statements given above are correct ?**

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

**Ans. (d) :** All the given statements are correct regarding the United Nations General Assembly i.e. The United Nations General Assembly may grant non-member states, international organizations and other entities Permanent Observer Status. However, The UN Charter and the General Assembly Rules of Procedure have no provisions related to granting permanent observer status and is based on practice only. Permanent Observers may participate in the sessions and workings of the General Assembly and maintain missions at the UN Headquarters.

**79. With reference to the "Tea Board" in India, consider the following statements:**

- The Tea Board is a statutory body.
- It is a regulatory body attached to the Ministry of Agriculture and Farmers Welfare.
- The Tea Board's Head Office is situated in Bengaluru.
- The Board has overseas offices at Dubai and Moscow.

**Which of the statements given above are correct ?**

- (a) 1 and 3 (b) 2 and 4 (c) 3 and 4 (d) 1 and 4

**Ans. (d) :** The Tea Board of India is a statutory body set up under section 4 of the Tea Act, 1953 and constituted on 1st April 1954. Hence 1<sup>st</sup> statement is correct.

It is functions under the Ministry of Commerce and its Head Office is situated in Kolkata and not in Bengaluru. (Hence 2<sup>nd</sup> and 3<sup>rd</sup> statements are incorrect).

The Tea Board of India has overseas offices in Moscow, Dubai, Hamburg, London and New York. Hence 4<sup>th</sup> statement is correct.

**80. Which one of the following best describes the term "greenwashing"?**

- Conveying a false impression that a Company's products are eco-friendly and environmentally sound
- Non-inclusion of ecological/ environmental costs in the Annual Financial Statements of a country
- Ignoring the disastrous ecological consequences while undertaking infrastructure development
- Making mandatory provisions for environmental costs in a government project/ programme

**Ans. (a) :** Greenwashing is the process of conveying a false impression or providing misleading information about how a company's products are more environmentally sound. Greenwashing is considered an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly.

**81. Consider the following statements:**

- High clouds primarily reflect solar radiation and cool the surface of the Earth.
- Low clouds have a high absorption of infrared radiation emanating from the Earth's surface and thus cause warming effect.

**Which of the statements given above is/are correct?**

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

**Ans. (d) :** High clouds are often thin and do not reflect very much. They let lots of the Sun's heat into it. They radiate less energy into space than the lower warmer clouds. Therefore, high clouds work to "trap" more energy than the low clouds. Statement (1) is incorrect. Low clouds are often quite thick and reflect lots of sunlight back to space. Low clouds are excellent reflectors. But, they don't stop the longwave energy from escaping to space. Therefore, low clouds help to cool the Earth. Statement (2) is incorrect.

**82. Consider the following statements:**

- Bidibidi is a large refugee settlement in north-western Kenya.
- Some people who fled from South Sudan civil war live in Bidibidi.
- Some people who fled from civil war in Somalia live in Dadaab refugee complex in Kenya.

**Which of the statements given above is/are correct?**

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

**Ans. (c) :** The Bidibidi Refugee Settlement is located in the West Nile Area of Uganda, and is home to over 270,000 South Sudanese refugees, the second largest refugee settlement in the world. Hence, statement 1 is not correct and statement 2 is correct.

The Dadaab refugee complex has a population of over 2 lakh registered refugees and asylum seekers. Dadaab

refugee complex consists of three camps. The first camp was established in 1991, when refugees fleeing the civil war in Somalia started to cross the border into Kenya. So, statement 3 is correct.  
Therefore, option (c) is the correct answer.

**83. Consider the following countries:**

1. Armenia      2. Azerbaijan      3. Croatia
4. Romania      5. Uzbekistan

**Which of the above are members of the Organization of Turkic States?**

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

**Ans. (c) :** The Organization of Turkic States, formerly called the Turkic Council or the Cooperation Council of Turkic Speaking States, is an international organization comprising prominent independent Turkic countries: Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey and Uzbekistan. Therefore the correct answer is option (c).

**84. Consider the following statements:**

1. Gujarat has the largest solar park in India.
2. Kerala has a fully solar powered International Airport.
3. Goa has the largest floating solar photovoltaic project in India.

**Which of the statements given above is/are correct?**

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

**Ans. (b) :** India's Bhadla Solar Park in Rajasthan is the largest solar power park in the world. Hence, Statement (1) is incorrect.

Kerala's Cochin International Airport Ltd (CIAL) is the first airport in the world that would be running fully on solar power. Hence, Statement (2) is correct.

The 600 MW capacity floating solar project on Omkareshwar reservoir (in Madhya Pradesh) is not only India's but also the world's largest floating solar project so far. Statement 3 is incorrect.

**85. With reference to the United Nations Convention on the Law of Sea, consider the following statements:**

1. A coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baseline determined in accordance with the convention.
2. Ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.
3. The Exclusive Economic Zone shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

**Which of the statements given above are correct?**

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

**Ans. (d) :** According to Article 3 under section 2 of United Nations conventions (UNCLOS) regarding the territorial limits of the sea, every state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention. Hence, Statement 1 is correct.

According to Article 17 under section 3 of United Nations conventions (UNCLOS), ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea. Hence, Statement 2 is correct.

The 1982 United Nations Convention on the Law of the Sea (UNCLOS) defines an Exclusive Economic Zone (EEZ). It is an area that shall not extend beyond 200 nautical miles from the baselines. The EEZ is measured from the breadth of the territorial sea. Hence, Statement 3 is correct.

Hence, option (d) is the correct answer.

**86. Which one of the following statements best reflects the issue with Senkaku Islands, sometimes mentioned in the news?**

- (a) It is generally believed that they are artificial islands made by a country around South China Sea.
- (b) China and Japan engage in maritime disputes over these islands in East China Sea.
- (c) A permanent American military base has been set up there to help Taiwan to increase its defence capabilities.
- (d) Though International Court of Justice declared them as no man's land, some South-East Asian countries claim them.

**Ans. (b) :** The Senkaku Islands are a group of uninhabited islands in the East China Sea. They are known in China as the Diaoyu Islands. The islands are the focus of a territorial dispute between Japan and China. China claims the discovery and ownership of the islands from the 14th century, while Japan maintained ownership of the islands from 1895 until its surrender at the end of World War II. Hence option (b) is the correct answer.

**87. Consider the following pairs:**

Country	Important reason for Being in the news recently
1. Chad	- Setting up of permanent military base by China
2. Guinea	- Suspension of Constitution and Government by military
3. Lebanon	- Severe and prolonged economic depression
4. Tunisia	- Suspension of Parliament by President

**How many pairs given above are correctly matched?**

- (a) Only one pair (b) Only two pairs  
(c) Only three pairs (d) All four pairs

**Ans. (c) :** In 2020, President Idris Deby Itno was killed during fighting against rebels in northern Chad, he was succeeded by his son, Mahamat Idriss Deby Itno, as the head of a military junta. It was not in the news for setting up of permanent military base by China. So, pair (1) is not correctly matched.

Some US officials are reported to have warned that Beijing plans to establish a permanent military installation in Guinea. Recently, Guinea's military leaders have suspended the constitution and closed the country's borders. So, pair (2) is correctly matched.

Lebanon is enduring a severe and prolonged economic depression. According to the latest World Bank Lebanon Economic Monitor (LEM), the economic and financial crisis is likely to rank in the top 10, possibly top 3, most severe crises episodes globally since the mid-nineteenth century. So, pair (3) is correctly matched.

Tunisia's President Kais Saied has dissolved the country's parliament. So, pair (4) is correctly matched.



88. Consider the following pairs:

Region often mentioned in the news	Country
1. Anatolia	- Turkey
2. Amhara	- Ethiopia
3. Cabo Delgado	- Spain
4. Catalonia	- Italy

How many pairs given above are correctly matched?

- (a) Only one pair (b) Only two pairs  
(c) Only three pairs (d) All four pairs

**Ans. (b) :** Anatolia – Turkey, Amhara – Ethiopia  
Cabo delgado – Mozambique, Catalonia – Spain

89. With reference to Indian laws about wildlife protection, consider the following statements:

- Wild animals are the sole property of the government.
- When a wild animal is declared protected, such animal is entitled for equal protection whether it is found in protected areas or outside.
- Apprehension of a protected wild animal becoming a danger to human life is sufficient ground for its capture or killing.

Which of the statements given above is/are correct?

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

**Ans. (a) :** As per section 39 of Wild Life Protection Act 1972 wild animals are government property. However Section 40A provides immunity in certain cases. Thus statement 1 is correct.

When an animal is declared as a protected animal under Wildlife (Protection) Act (WPA), 1972 then it will enjoy the same protection either if it is present in a protected area or outside of a protected area. Hence, statement 2 is correct.

Only if the wild animal becomes a danger to human life or is diseased or disabled beyond recovery it can be allowed to be captured or killed by the competent authority, the Chief Wildlife Warden of the State. This provision is applicable to wild animals listed in Schedule I of the Wildlife (Protection) Act, 1972, which includes leopards. Mere apprehension or fear that a wild animal could endanger human life is not a ground for capture or killing. Hence statement 3 is incorrect. UPSC has considered option (b) as correct.

90. Certain species of which one of the following organisms are well known as cultivators of fungi?

- (a) Ant (b) Cockroach (c) Crab (d) Spider

**Ans. (a) :** Species of Ant is well known as the cultivator of the fungi. Few other insects such as termites, beetles, and marsh periwinkles are also able to cultivate fungi.

Hence, option (a) is correct.

91. Consider the following pairs:

Site of Ashoka's major rock edicts	Location in the State of
1. Dhauli	— Odisha
2. Erragudi	— Andhra Pradesh
3. Jaugada	— Madhya Pradesh
4. Kalsi	— Karnataka

How many pairs given above are correctly matched?

- (a) Only one pair (b) Only two pairs  
(c) Only three pairs (d) All four pairs

**Ans. (b) :**

Site of Ashoka's major rock edicts	Location in the State of
1. Dhauli	— Odisha
2. Erragudi	— Andhra Pradesh
3. Jaugada	— Odisha
4. Kalsi	— Uttarakhand

92. Consider the following pairs:

King	Dynasty
1. Nannuka	— Chandela
2. Jayashakti	— Paramara
3. Nagabhata II	— Gurjara-Pratihara
4. Bhoja	— Rashtrakuta

How many pairs given above are correctly matched?

- (a) Only one pair (b) Only two pairs  
(c) Only three pairs (d) All four pairs

**Ans. (b) :** Nannuka was the founder of the Chandela dynasty of India. He ruled in the Jejakhukti region. Jayashakti was a 9th-century ruler from the Chandela dynasty of Central India.

Nagabhata II was an Indian Emperor from Gurjara-Pratihara dynasty. He ascended the throne of GurjaraPratihara dynasty after his father Vatsraja. Bhoja popularly known as Raja Bhoj Parmar (reigned c. 1010–1055 CE) was an Indian King from the Paramara dynasty.

93. Which one of the following statements about Sangam literature in ancient South India is correct?

- (a) Sangam poems are devoid of any reference to material culture.  
(b) The social classification of Varna was known to Sangam poets.  
(c) Sangam poems have no reference to warrior ethic.  
(d) Sangam literature refers to magical forces as irrational.

**Ans. (b) :** The Tamil society during the Sangam period was broadly divided into several groups. In the beginning of the Sangam Age, The Tamil society was not organized on the basis of the Vedic caste system, namely Brahmanas, Kshatriyas, Sudras. However, the earliest of the Sangam literature, Tolkappiyam refers to the four divisions, which were prevalent in the Sangam society namely, Anthanar, Arasar, Vaislyar and Vellalar. It may be said that this classification roughly corresponds to the Vedic Social division.

94. "Yogavasistha" was translated into Persian by Nizamuddin Panipati during the reign of :

- (a) Akbar (b) Humayun (c) Shahjahan (d) Aurangzeb

**Ans. (a) :** YogaVasistha was translated multiple times into Persian language throughout the Mughal Dynasty, as commanded by Akbar, Jahangir, and Dara Shikoh. Nizam al-Din Panipati completed one of these translations, known as the Jug-Basisht, in the late sixteenth century AD.

95. The world's second tallest statue in sitting pose of Ramanuja was inaugurated by the Prime Minister of India at Hyderabad recently. Which one of the following statements correctly represents the teachings of Ramanuja?

- (a) The best means of salvation was devotion.  
(b) Vedas are eternal, self-existent and wholly authoritative.  
(c) Logical arguments were essential means for the highest bliss.  
(d) Salvation was to be obtained through meditation

**Ans. (a) :** Ramanuja was deeply influenced by the Alvars. He firmly believed that intense devotion to Vishnu was the best means to attain salvation. He propounded the doctrine of Vishishtadvaita. The outdoor 216-ft Statue of Equality is the world's second tallest statue featuring a sitting posture. It is composed of 'panchaloha', a combination of five metals comprising gold, silver, copper, brass, and zinc. Born in 1017 in Sri Perumbudur, Tamil Nadu, Sri Ramanujacharya liberated millions from social, cultural, gender, educational and economic discrimination with the foundational conviction that every human is equal regardless of nationality, gender, race, caste, or creed.

**96. The Prime Minister recently inaugurated the new Circuit House near Somnath Temple at Veraval. Which of the following statements are correct regarding Somnath Temple?**

1. Somnath Temple is one of the Jyotirlinga shrines.
2. A description of Somnath Temple was given by Al-Biruni
3. Pran Pratishtha of Somnath Temple (Installation of the present day temple) was done by President S. Radhakrishnan.

**Select the correct answer using the code given below:**

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

**Ans. (a) :** Statement 3 is incorrect: Pran Pratishtha of Somnath Temple (installation of the present day temple) was done by Dr. Rajendra Prasad and not by S. Radhakrishnan. Statement 1 and 2 are correct. Hence the correct answer is option (a).

**97. Which one of the following statements best describes the role of B cells and T cells in the human body?**

- (a) They protect the body from environmental allergens.
- (b) They alleviate the body's pain and inflammation
- (c) They act as immunosuppressants in the body.
- (d) They protect the body from the diseases caused by pathogens.

**Ans. (d) :** The overall ability of the body to fight the disease causing organisms (pathogens), conferred by the immune system is called immunity. The primary and secondary immune responses are carried out with the help of two special types of lymphocytes present in our blood, i.e., B-lymphocytes (B-cells) and T-lymphocytes (T-cells). Thus, both B-cells and T-cells are responsible for acquired immunity. B-cells are responsible for antibody-mediated immunity response. T-cells are responsible for cell-mediated immunity response. B-cells produce antibodies to fight with the pathogens into our blood. The T-cells themselves do not secrete antibodies but help B cells produce them. Hence option (d) is the correct answer.

**98. Consider the following statements:**

1. Other than those made by humans, nanoparticles do not exist in nature.
2. Nanoparticles of some metallic oxides are used in the manufacture of some cosmetics.
3. Nanoparticles of some commercial products which enter the environment are unsafe for humans.

**Which of the statements given above is/are correct?**

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

**Ans. (d) :** Nanoparticles are incredibly tiny particles of a given substance. Nanoparticles are less than 100 nanometers thick. To give some perspective, a nanometer is 1000 times smaller than the thickness of one strand of hair.

Nanoparticles can be naturally created, for example, minuscule droplets of sea spray. However, most nanoparticles are created in the lab. For sunscreen, the nanoparticles are zinc oxide and titanium dioxide. These ingredients are broken down into ultrafine particles before being added to sunscreen. So, statement 1 is not correct and statement 2 is correct.

Inhaled particulate matter can be deposited throughout the human respiratory tract, and an important fraction of inhaled nanoparticles deposit in the lungs. Nanoparticles can potentially move from the lungs to other organs such as the brain, the liver, the spleen and possibly the foetus in pregnant women. So, statement 3 is correct.

Therefore, option (d) is the correct answer.

**99. Consider the following statements:**

**DNA Barcoding can be a tool to:**

1. assess the age of a plant or animal.
2. distinguish among species that look alike.
3. identify undesirable animal or plant materials in processed foods.

**Which of the statements given above is/are correct?**

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

**Ans. (d) :** DNA barcoding deals primarily with species identification and has limited utility for lower taxonomic levels (e.g. subspecies, animal breeds, plant varieties).

DNA barcoding is a novel system designed to provide rapid, accurate, and automatable species identifications by using short, standardized gene regions as internal species tags. Hence, statement 2 is correct.

There is an increasing demand for the improvement of quality controls, hence addressing scientific research towards the development of reliable molecular tools for food analysis. DNA barcoding is a widely used molecular-based system, which can identify biological specimens, and is used for the identification of both raw materials and processed food. Hence, statement 3 is correct.

**100. Consider the following:**

1. Carbon monoxide
2. Nitrogen oxide
3. Ozone
4. Sulphur dioxide

**Excess of which of the above in the environment is/are cause(s) of acid rain?**

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

**Ans. (b) :** Acid rain refers to the ways in which acid from the atmosphere is deposited on the earth's surface. Oxides of nitrogen and sulphur which are acidic in nature can be blown by wind along with solid particles in the atmosphere and finally settle down either on the ground as dry deposition or in water, fog and snow as wet deposition.

Burning of fossil fuels (which contain sulphur and nitrogenous matter) such as coal and oil in power stations and furnaces or petrol and diesel in motor engines produce sulphur dioxide and nitrogen oxides. SO<sub>2</sub> and NO<sub>2</sub> after oxidation and reaction with water are major contributors to acid rain, because polluted air usually contains particulate matter that catalyze the oxidation. Therefore, option (b) is the correct answer.

# UNION PUBLIC SERVICE COMMISSION

## Civil Services (Preliminary Exam) - 2023

### GENERAL STUDIES : PAPER-I

Time : 2 hours

(Exam date : 28.05.2023)

Maximum Number : 200

1. In which one of the following regions was Dhanyakataka, which flourished as a prominent Buddhist centre under the Mahasanghikas, located?

(a) Andhra (b) Gandhara (c) Kalinga (d) Magadha

**Ans. (a) :** Dhanyakataka also known as Dharaniketa is a town near Amaravati in the Guntur district of Andhra Pradesh was the capital city of the Satvahana Kingdom and it also flourished as a prominent Buddhist centre.

2. With reference to ancient India, consider the following statements :

1. The concept of Stupa is Buddhist in origin.
2. Stupa was generally a repository of relics.
3. Stupa was a votive and commemorative structure in Buddhist tradition.

How many of the statements given above are correct?

(a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** The term stupa comes from the Sanskrit Word stupa, which means heap or pile. Originally stupas were simple mounds of earth or stones that served as commemorative markers for important events or burial sites. The concept of stupa is not Buddhist in origin. Hence statement-I is incorrect. One of the primary functions of stupas is to serve as a repository of relics. Relics are objects associated with Buddha such as his physical remains personal belonging or items used by him. Hence statement-II is correct.

Stupas are also associated with votive and commemorative purposes. Stupas are often built as acts of devotion and as offerings to the Buddha or others enlightened beings.

Hence statement III is also correct.

3. With reference to ancient South India, Korkai, Poompuhar and Muchiri were well known as.

- (a) capital cities
- (b) ports
- (c) centres of iron-and-steel making
- (d) shrines of Jain Tirthankaras

**Ans. (b) :** Korkai, poompuhar (also known as Ka Veripattinam) and Muchiri are ancient port cities in the southern region of present day Tamil Nadu India.

4. Which one of the following explains the practice of 'Vattakirutal' as mentioned in Sangam poems?

- (a) Kings employing women bodyguards
- (b) Learned persons assembling in royal courts to discuss religious and philosophical matters
- (c) Young girls keeping watch over agricultural fields and driving away birds and animals
- (d) A king defeated in a battle committing ritual suicide by starving himself to death

**Ans. (d) :** Vatakkiruttas, also known as Vadakiruttal was a Tamil ritual of fasting till death, during, sangam age widespreadly. The Tamil kings, in order to save their honour and prestige were prepared to meet thieve death after defeated in a battle.

5. Consider the following dynasties :

1. Hoysala 2. Gahadavala 3. Kakatiya 4. Yadava  
How many of the above dynasties established their kingdoms in early eighth century AD?

(a) Only one (b) Only two (c) All three (d) None

**Ans. (d) :**

Dynasty	Establishment
Hoysala	Between 10th to 14th centuries.
Gahadavala	Between 11th to 13th centuries.
Kakatiya	Between 12th to 14th centuries.
Yadava	Between 12th to 14th centuries.

6. With reference to ancient Indian History, consider the following pairs :

Literary work	Author
1. Devichandragupta	: Bilhana
2. Hammira-Mahakavya	: Nayachandra Suri
3. Milinda-panho	: Nagarjune
4. Nitivakyamrita	: Somadeva Suri

How many of the above pairs are correctly matched?

(a) Only one (b) Only two (c) Only three (d) All four

**Ans. (c) :**

Literary work	Author
Devichandragupta	– Vishakha Deva
Hammira-Mahakavya	– Nayachandra Suri
Milinda-panho	– Nagarjune
Nitivakyamrita	– Somadeva Suri

7. "Souls are not only the property of animal and plant life, but also of rocks, running water and many other natural objects not looked on as living by other religious sects."

The above statement reflects one of the core beliefs of which one of the following religious sects of ancient India?

- (a) Buddhism
- (b) Jainism
- (c) Shaivism
- (d) Vaishnavism

**Ans. (b) :** Jain religion believe in reincarnation which means the cycle of birth, and rebirth is determined by one's Karma. They also believe that plants animals and even some non-living things like air and water have souls, just as human do have.

8. Who among the following rulers of Vijayanagara Empire constructed a large dam across Tungabhadra River and a canal-cum-aqueduct several kilometres long from the river to the capital city?

- (a) Devaraya I
- (b) Mallikarjuna
- (c) Vira Vijaya
- (d) Virupaksha

**Ans. (a) :** Devaraya-I, the ruler of Vijaynagar empire credited for constructed a large dam across Tungabbadra river and commissioned a 24 km long aqueduct from the Tungabbhadra river to the capital.

9. Who among the following rulers of medieval Gujarat surrendered Diu to Portuguese?

- (a) Ahmad Shah (b) Mahmud Begarha  
(c) Bahadur Shah (d) Muhammad Shah

**Ans. (c) :** Bahadur Shah of Gujarat surrendered Diu to Portuguese in 1534. Bahadur Shah during his conflict with the Mughal emperor Humayun, secured help from the Portuguese, and he signed the treaty of Bassein with the Portuguese by this, he ceded Diu to the Portuguese.

10. By which one of the following Acts was the Governor General of Bengal designated as the Governor General of India?

- (a) The Regulating Act  
(b) The Pitt's India Act  
(c) The Charter Act of 1793  
(d) The Charter Act of 1833

**Ans. (d) :** The Charter Act of 1833 renamed the position of the Governor-general of Bengal as the Governor-General of India. Lord William Bentinck became the first governor-general of India.

11. In essence, what does 'Due Process of Law' mean?

- (a) The principle of natural justice  
(b) The procedure established by law  
(c) Fair application of law  
(d) Equality before law

**Ans. (c) :** "Due process of law" refers to just, rational and fair treatment under the regular judicial proceedings, thus it means the fair application of law. It states that a person cannot be denied their life, liberty or property without adhering to required legal procedures and receiving the appropriate protections. The due process of law limits the power of the law and protects an individual's rights

12. Consider the following statements :

**Statement-I :** In India, prisons are managed by State Governments with their own rules and regulations for the day-to-day administration of prisons.

**Statement II :** In India, prisons are governed by the Prisons Act, 1894 which expressly kept the subject of prisons in the control of Provincial Governments.

Which one of the following is correct in respect of the above statements :

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

**Ans. (a) :** The Prison Act 1894 is one of the oldest part of legislation in India under Person Act, 1894 prisons are managed by State Governments with their own rules and regulation for the day-to-day administration of prisons. The Section-IV of prisons act 1894 clearly mentions. Prison mean any jail or place used permanently or temporarily under the general or special orders of a state governments for detention of prisoners. Hence both (A) and (R) is correct and (R) is the correct explanation of (A)

13. Which one of the following statements best reflects the Chief purpose of the 'Constitution' of a country?

- (a) It determines the objective for the making of necessary laws.  
(b) It enables the creation of political offices and a government.  
(c) It defines and limits the powers of government.  
(d) It secures social justice, social equality and social security.

**Ans. (c) :** Function of a constitution is to set some limits on the functions of the government and what a government can impose on its Citizens in terms of rights. These limits are fundamental in the sense that the government may never trespass them.

14. In India, which one of the following Constitutional Amendments was widely believed to be enacted to overcome the judicial interpretations of the Fundamental Rights?

- (a) 1st Amendment (b) 42nd Amendment  
(c) 44th Amendment (d) 86th Amendment

**Ans. (a) :** The first Amendment Act, 1951, added the Fourth clause to Article 15 that empowered the government to make any law for the upliftment of socially and educationally backward classes of citizens or for the scheduled castes and scheduled Tribes.

The need to insert this clause was felt after the decision of the Supreme Court in the Champakam Dorairajan case 1951. The Court gave literal interpretation to the constitutional provisions and held that reserving seats in public institutions for backward classes violates Article 15(1) and Article 29(2). Therefore, in order to nullify the effect of similar judicial pronouncements, Article 15 was amended.

15. Consider the following organizations/bodies in India :

1. The National Commission for Backward Classes
2. The National Human Rights Commission
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

How many of the above are constitutional bodies?

- (a) Only one (b) Only two (c) All three (d) All four

**Ans. (a) :** In the given options, the National Commission for backward classes (NCBC) is a constitutional body under Article 338(B). While the National Human rights commission and the National Consumer Disputes Redressal Commission are statutory body under protection of Human Rights Act, 1993, and Consumer Protection Act, 1986 respectively. The National Law Commission is neither Constitutional nor statutory body. Hence only one pair is correctly matched.

16. Consider the following statements :

1. If the election of the President of India is declared void by the Supreme Court of India, all acts done by him/her in the performance of duties of his/her office of President before the date of decision become invalid.
2. Election for the post of the President of India can be postponed on the ground that some Legislative Assemblies have been dissolved and elections are yet to take place.
3. When a Bill is presented to the President of India, the Constitution prescribes time limits within which he/she has to declare his/her assent.

How many of the above statements are correct?

- (a) Only one (b) Only two (c) All three (d) None



**Ans. (d) :** If the election of a person as a president of India is declared void by the Supreme Court acts done by him before the date of such declaration of Supreme Court are not invalidated and continue to remain in force. Hence statement-1 is not correct.

The Supreme Court in 1974 held that the dissolution of state legislature will not be a ground for preventing the holding of the election on the expiry of the term of the president. Hence statement-2 is also incorrect.

The Constitution of India does not prescribe any time limit within which the president has to take decision with respect to bill presented to him/her for assent. Hence statement-3 is also incorrect.

**17. With reference to Finance Bill and Money Bill in the Indian Parliament, consider the following statements :**

1. When the Lok Sabha transmits Finance Bill to the Rajya Sabha, it can amend or reject the Bill.
2. When the Lok Sabha transmits Money Bill to the Rajya Sabha, it cannot amend or reject the Bill, it can only make recommendations.
3. In the case of disagreement between the Lok Sabha and the Rajya Sabha, there is no joint sitting for Money Bill, but a joint sitting becomes necessary for Finance Bill.

**How many of the above statements are correct?**

- (a) Only one (b) Only two  
(c) All three (d) None

**Ans. (a) :** Finance bill is an example of money bill. It is an example of money bill. It is passed during the budget for enacting tax proposals. The Rajya Sabha cannot amend or reject the finance bill but only can recommend changes which the Lok Sabha can accept or not. Hence statement-1 is incorrect when money bill is passed by the Lok-Sabha. It is transmitted to the Rajya Sabha for its consideration. The Rajya Sabha has restricted powers with regard to money bill. It cannot reject or amend a money bill. It can only make recommendations. Hence statement-2 is correct. Because of finance bill is a money bill and there is no provision for holding joint sitting for a money bill. Hence statement-3 is also incorrect.

[Finance bill and Financial bill both are different.]

**18. Consider the following statements :  
Once the Central Government notifies an area as a 'Community Reserve'**

1. the Chief Wildlife Warden of the State becomes the governing authority of such forest
2. hunting is not allowed in such area
3. people of such area are allowed to collect non-timber forest produce
4. people of such area are allowed traditional agricultural practices

**How many of the above statements are correct?**

- (a) Only one (b) Only two  
(c) All three (d) All four

**Ans. (c) :** As per the Section 36-D of Wildlife (Protection) Amendment Act, 2002. The State government shall constitute a community reserve management committee which shall be the authority responsible for conserving, maintaining and managing the community reserve. The committee shall consist of the representatives nominated by the village Panchayat or where such panchayat does not exist by the members

of gram sabha and one representative of the state forests or wildlife Department under whose jurisdiction the community reserve is located. Hence Statement-1 is incorrect.

As per Section 36(c)(2) of the wildlife protection (Amendment) Act, 2002, restrictions and regulation applicable to the wild life sanctuaries are applicable to community reserve too. Hence statements 2, 3 and 4 are correct.

**19. With reference to 'Schedule Areas' in India, consider the following statements :**

1. Within a State, the notification of an area as Scheduled Area takes place through an Order of the President.
2. The largest administrative unit forming the Scheduled Area is the District and the lowest is the cluster of villages in the Block.
3. The Chief Ministers of the concerned States are required to submit annual reports to the Union Home Ministry on the administration of Scheduled Areas in the States.

**How many of the above statements are correct?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** As per Article-244 'scheduled areas' in India shall be declared by the President. The largest administrative unit forming the scheduled area is the District and the lowest is the cluster of villages in the Block. The Governor of the concerned states are required to submit annual reports to the President on the administration of scheduled areas in the states. Hence statements 1, 2 are correct while statement-3 is not correct.

**20. Consider the following statements :**

**Statement-I :** The Supreme Court of India has held in some judgements that the reservation policies made under Article 16(4) of the Constitution of India would be limited by Article 335 for maintenance of efficiency of administration.

**Statement II :** Article 335 of the Constitution of India defines the term 'efficiency of administration'.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** Supreme Court of India has held in some judgements that the reservation policies made under Article 16(4) of the Constitution of India would be limited by Article 335 for maintenance of efficiency of administration while the Article 335 of the Constitution of India does not define the term efficiency of administration. Hence statement-I is correct while statement-II is not correct.

**21. Consider the following statements :**

**Statement-I :** India, despite having uranium deposits, depends on coal for most of its electricity production.

**Statement II :** Uranium, enriched to the extent of at least 60%, is required for the production of electricity.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** India, despite having Uranium deposits, depends on coal for most of its electricity production. Natural Uranium contains only 0.7% of the fissionable U-235 and 99.3%, non fissionable U-238. This requires enrichment to the level of at least 3% in case of electricity production and at least 80% in case of bombs. Thus, the second statement is incorrect while statement-I is correct.

**22. Consider the following statements :**

**Statement-I :** Marsupials are not naturally found in India.

**Statement II :** Marsupials can thrive only in montane grasslands with no predators.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** Marsupials are not naturally found in India. Marsupials are any members of the mammalian infraclass Marsupialia. All extant marsupials are endemic to Australasia, Wallacea and the Americas. Most Australian Marsupials, live in dry scrub or desert habitat. Hence statement-I is correct while statement-II is incorrect.

**23. 'Invasive Species Specialist Group' (that develops Global Invasive Species Database) belongs to which one of the following organizations?**

- (a) The International Union for Conservation of Nature
- (b) The United Nations Environment Programme
- (c) The United Nations World Commission for Environment and Development
- (d) The World Wide Fund for Nature

**Ans. (a) :** The Global Invasive species Database was developed and is managed by the "Invasive Species Specialist Group" of the species Survival Commission of the International Union for conservation of Nature.

**24. Consider the following fauna :**

1. Lion-tailed Macaque
2. Malabar Civet
3. Sambar Deer

**How many of the above are generally nocturnal or most active after sunset?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (b) : Lion-tailed Macaque** is an old world monkey endemic to the Western Ghats of South India, it is a diurnal creature. Hence it is not a nocturnal animal.

**Malabar Civet** is a nocturnal animal, endemic to Western Ghats and listed as critically endangered in IUCN Red data book.

**Sambar Deer** is a large deer native to the Indian subcontinent and southeast Asia. These species are quite elusive and are most active at dusk and night hence it is considered as a nocturnal animal.

**25. Which of the following organisms perform waggle dance for others of their kin to indicate the direction and the distance to a source of their food?**

- (a) Butterflies (b) Dragonflies
- (c) Honeybees (d) Wasps

**Ans. (c) :** Waggle dance is a form of communication by which the bees tell their nest mates where to go to get the best source of food to bring back to the hive.

**26. Consider the following statements :**

1. Some mushrooms have medicinal properties.
2. Some mushrooms have psychoactive properties.
3. Some mushrooms have insecticidal properties.
4. Some mushrooms have bioluminescent properties.

**How many of the above statements are correct?**

- (a) Only one (b) Only two (c) All three (d) All four

**Ans. (d) :** Medicinal mushrooms such as shiitake, reishi have been found to have antitumor and immunostimulant properties.

Psychoactive properties mean a drug of other substance that affects how the brain works and causes changes in mood, awareness, thoughts, feelings or behavior. Psilocybin is a hallucinogenic chemical in certain mushrooms known as magic mushrooms.

Recently on increasing number of mushrooms have been found to contain insecticidal compounds.

*Panellus stiptices* is one of the brightest glowing bioluminescent mushrooms on earth.

Thus all the statements are correct.

**27. Consider the following statements regarding the Indian squirrels :**

1. They build nests by making burrows in the ground.
2. They store their food materials like nuts and seeds in the ground.
3. They are omnivorous.

**How many of the above statements are correct?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (c) :** Indian squirrels construct their nests in tree branches and hollow trunks.

Nuts are their main food source throughout year. They store their food by burying them underground so that they can retrieve them in winter. Squirrels are omnivores as along with fruits and nuts they also eat on eggs, small insects, caterpillars, small animals and even young snakes. Thus all the statements are correct.

**28. Consider the following statements :**

1. Some microorganisms can grow in environments with temperature above the boiling point of water.
2. Some microorganisms can grow in environments with temperature below the freezing point of water.
3. Some microorganisms can grow in highly acidic environment with a pH below 3.

**How many of the above statements are correct?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (c) :** A thermophile is an organism, a type of extremophile, that thrives at relatively high temperatures between 41 and 122°C. One thermophile, *Pyrodictus fumarii*, has been found at temperatures at 113°C which is hotter than boiling point of water. Psychrophiles are organisms capable of growth and reproduction in cold temperatures and are often xerophilic and halophilic as well. The reported minimum growth of microorganism varying from 10°C to -10°C. But for practical cases lower limit of growth for bacteria, yeast or moulds can be taken as -7°C. Acidophiles are microorganisms that show optimal growth in highly acidic environments. Extreme Halophiles dwell in environments with a pH value less than 3. Thus all the statements are correct.

**29. Which one of the following makes a tool with a stick to scrape insects from a hole in a tree or a log of wood?**

- (a) Fishing cat (b) Orangutan  
(c) Otter (d) Sloth bear

**Ans. (b) :** In a recent study of five captive Sumatran Orangutans it was found that they frequently stripped leaves and twigs from a branch provided and then inserted the tool into a hole to obtain foodstuffs. When they were unable to insert a tool into a hole, the usually modified the tool and changed their tool using technique, such as changing how they grasped the tool.

**30. Consider the following :**

1. Aerosols 2. Foam agents  
3. Fire retardants 4. Lubricants

**In the making of how many of the above are hydrofluorocarbons used?**

(a) Only one (b) Only two (c) All three (d) All four

**Ans. (d) :** HFC's are entirely man-made. They are primarily produced for use in refrigeration, air-conditioning, insulating foams and aerosol propellants, with minor uses as solvents and for fire protection. Lubricants also contain aerosols.

**31. Consider the following statements :**

1. Jhelum River passes through Wular Lake.  
2. Krishna River directly feeds Kolleru Lake.  
3. Meandering of Gandak River formed Kanwar Lake.

**How many of the statements given above are correct?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** The Jhelum river rises from a spring at Verinag situated at the foot of Pir Panjal in the south-eastern part of valley of Kashmir. It flows through Srinagar and the Wular lake before entering Pakistan through a deep narrow gorge.

The Kolleru lake is fed directly by seasonal Budameru and Tammilmeru Streams. It is connected to the Krishna and Gotavari systems by over 68 inflowing drains and channels but not directly Fed.

Kanwar lake in Bihar is residual oxbow take in Bihar formed due in meandering of Gandak river.

Thus statements 1 & 3 are correct and statement is incorrect.

**32. Consider the following pairs :**

	Port		Well known as
1.	Kamarajar Port	:	First major port in India registered as a company

2.	Mundra Port	:	Largest privately owned port in India
3.	Visakhapatnam Port	:	Largest container port in India

**How many of the above pairs are correctly matched?**

- (a) Only one pair (b) Only two pairs  
(c) All three pairs (d) None of the pairs

**Ans. (b) :** Kamarajar Port is located on the coromandel coast about 24 km. north of Chennai Port. It is the First Port in India which is public company. The Kamarajar Port is the only corporatized major port is registered as a company. Mundra port is the largest Privately owned port in India. It is owned by Adani group. Jawaharlal Nehru Port Trust Nhava Sheva is the largest container port in India. Thus pair 1 & Part 2 are correctly matched.

**33. Consider the following trees :**

1. Jackfruit (*Artocarpus heterophyllus*)  
2. Mahua (*Madhuca indica*)  
3. Teak (*Tectona grandia*)

**How many of the above are deciduous trees?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** Jackfruit is a tropical evergreen tree while Mahua and Teak are tropical deciduous free. Thus (b) is correct.

**34. Consider the following statements :**

1. India has more arable area than China.  
2. The proportion of irrigated area is more in India as compared to China.  
3. The average productivity per hectare in Indian agriculture is higher than that in China.

**How many of the above statements are correct?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** India's arable land area is 179.8 million hectares while China's arable land area is 165.2 million hectares.

India's proportion of irrigated area is 48% while China's proportion of irrigated area is 41%. Thus proportion of irrigated area in India is more as compared to China.

Agricultural productivity in China is almost 50 to 100% more than that of India. Thus Statements (1 & 2) are correct.

**35. Which one of the following is the best example of repeated falls in sea level, giving rise to present-day extensive marshland?**

- (a) Bhitarkanika Mangroves  
(b) Marakkanam Salt Pans  
(c) Naupada Swamp  
(d) Rann of Kutch

**Ans. (d) :** The Rann of Kutch was once shallow part of Arabian Sea, Until a geological shift closed off the connection with sea. The region became a seasonal marshy salt desert over the years. During Monsoons the region fills up with water and forms a wetland. In the summer the water dries to create a bed of white salty land. The Great Rann is a bowl shaped depression, its eastern edge merges into the drainage area of the Luni river.

**36. Ilmenite and rutile, abundantly available in certain coastal tracts of India, are rich sources of which one of the following?**

- (a) Aluminium (b) Copper (c) Iron (d) Titanium

**Ans. (d) :** Ilmenite and Rutile are both minerals that contain high concentration of titanium.  
In India certain coastal trails are known for significant ilmenite and rutile deposits. These are found in beach deposits and are extracted through beach sand mining operations.  
The extracted ilmenite and rutile are processed to obtain titanium dioxide which is then further refined to produce metallic titanium.

37. **About three-fourths of world's cobalt, a metal required for, the manufacture of batteries for electric motor vehicles, is produced by**  
(a) Argentina  
(b) Botswana  
(c) the Democratic Republic of the Congo  
(d) Kazakhstan

**Ans. (c) :** The Democratic Republic of Congo is the world's largest producer of cobalt accounting for about three-fourths of the global production. The country reported output of 1,30,000 MT in 2022. Cobalt is crucial for manufacture of some electronic products (Smartphones & Laptops) and batteries of Electric Vehicles.

38. **Which one of the following is a part of the Congo Basin?**  
(a) Cameroon (b) Nigeria (c) South Sudan (d) Uganda

**Ans. (a) :** The Congo Basin region in Central Africa includes multiple countries which are as follows :

- Cameroon
- Central African Republic
- Democratic Republic of Congo
- Republic of Congo
- Equatorial Guinea
- Gabon

Thus 'Cameroon' is the correct answer.

39. **Consider the following statements :**  
1. **Amarkantak Hills are at the confluence of Vindhya and Sahyadri Ranges.**  
2. **Biligirirangan Hills constitute the easternmost part of Satpura Range.**  
3. **Seshachalam Hills constitute the southernmost part of Western Ghats.**  
**How many of the statements given above the correct?**  
(a) Only one (b) Only two (c) All three (d) None

**Ans. (d) :** Amarkantak is at confluence of Vindhya and Satpura Range.  
Annamalai hills and Cardmom hills are the southernmost point of Western Ghats.  
Sheshachalam Hills are part of eastern Ghats.  
Thus none the statements are correct.

40. **With reference to India's projects on connectivity, consider the following statements:**  
1. **East-West Corridor under Golden Quadrilateral Project connects Dibrugarh and Surat.**  
2. **Trilateral Highway connects Moreh in Manipur and Chiang Mai in Thailand via Myanmar.**  
3. **Bangladesh-China-India-Myanmar Economic Corridor connects Varanasi in Uttar Pradesh with Kunming in China.**  
**How many of the above statements are correct?**  
(a) Only one (b) Only two (c) All three (d) None

**Ans. (d) :** The East-West corridor is a part of National Highways Development Project which aims to connect Silchar in Assam to Porbandar in Gujarat.

The Trilateral Highway is a connectivity project that aims to connect Moreh in Manipur, India with Maesot in Thailand via Myanmar.

The Bangladesh-China-India-Myanmar (BCIM) is a proposed economic corridor that aims to connect Kunming in China with Kolkata in India via Myanmar and Bangladesh.

Thus all the statements are incorrect.

41. **Consider the following statements :**

**Statement-I :** Interest income from the deposits in Infrastructure Investment Trusts (InvITs) distributed to their investors is exempted from tax, but the dividend is taxable.

**Statement II :** InvITs are recognized as borrowers under the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002'.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (d) :** InvITs are investment vehicle that pool Funds from investors to invest in infrastructure projects. Latest budget 2023-24 made the provision that all income distributed by InvITs, including interest income, dividend income and rental income will be taxable.

InvITs are classified as borrowers under the securitization and Reconstruction of Financial Assets and Enforcement of Securities Interest Act, 2002.

Thus statement (1) is incorrect and statement 2 is correct.

42. **Consider the following statements :**

**Statement-I :** In the post-pandemic recent past, many Central Banks worldwide had carried out interest rate hikes.

**Statement II :** Central Banks generally assume that they have the ability to counteract the rising consumer prices via monetary policy means.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (a) :** In the post-pandemic recent past, many central banks worldwide have indeed carried out interest rate hikes central banks use interest rate adjustments as one of their monetary policy tools to manage the economy.

Central banks believe that by adjusting interest rates, they can influence borrowing costs, spending patterns, and overall economic activity. When inflation rises, central banks may raise interest rates to make borrowing more expensive thereby discouraging excessive spending and slowing down economic growth. Thus Assertion and Reason both are true and reason explains the assertion.

43. Consider the following statements :

**Statement-I :** Carbon markets are likely to be one of the most widespread tools in the fight against climate change.

**Statement II :** Carbon markets transfer resources from the private sector to the State.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (a)** Carbon markets, are likely to be one of the most widespread tools in the fight against Climate Change. Carbon markets, also known as emission trading systems or Cap and trade systems are mechanisms that put a price on carbon emissions. Hence statement-I is correct.

Carbon markets are mechanism designed to reduce greenhouse gas emissions by putting a price on carbon. They create a market for buying and selling carbon credits which represent the right to emit a certain amount of greenhouse gases. In carbon markets Companies or entities that emit fewer greenhouse gases than their allotted limit can sell their excess credits to those who exceed their limit. Carbon markets involve financial transactions and can transfer resources from private sector to the States.

Hence Statement-II is also correct and explains Statement-I.

44. Which one of the following activities of the Reserve Bank of India is considered to be part of 'sterilization'?

- Conducting 'Open Market Operations'
- Oversight of settlement and payment systems
- Debt and cash management for the Central and State Governments
- Regulating the functions of Non-banking Financial Institutions

**Ans. (a) :** Sterilization refers to actions taken by a central bank to offset the impact of its foreign exchange operations on the domestic money supply.

The RBI carries out sterilisation operations such as open Market Operations to control the total amount of money supply in the economy. As part of OMO'S RBI can perform two actions—

- Buy G-secs to inject money during slowdown.
- Sell G-secs to suck out excess during inflation.

45. Consider the following markets :

- Government Bond Market
- Call Money Market
- Treasury Bill Market
- Stock Market

**How many of the above are included in capital markets?**

- Only one
- Only two
- All three
- All four

**Ans. (b) :** Capital Markets are Financial Markets where long term securities such as stocks and bonds are traded. They provided platform for raising capital for business and governments.

Government bonds are longterm debt securities issued by governments to finance their activities. Call money market is a short term market where funds are borrowed and lend for very short durations, usually overnight treasury bills are short term debt instruments issued by the governments to finance their short term cash flow requirements.

The stock market, is where shares or stocks of publicly listed companies are brought and sold. It is part of capital market. Thus statements 1 & 4 are correct while statements 2 & 3 are incorrect.

46. Which one of the following best describes the concept of 'Small Farmer Large Field'?

- Resettlement of a large number of people, uprooted from their countries due to war, by giving them a large cultivable land which they cultivate collectively and share the produce.
- Many marginal farmers in an area organize themselves into groups and synchronize and harmonize selected agricultural operations
- Many marginal farmers in an area together make a contract with a corporate body and surrender their land to the corporate body for a fixed term for which the corporate body makes a payment of agreed amount to the farmers
- A company extends loans, technical knowledge and material inputs to a number of small farmers in an area so that they produce the agricultural commodity required by the company for its manufacturing process and commercial production.

**Ans. (b) :** The concept of "Small Farmer Large Field" refers to the idea where many marginal farmers in a particular area come together and organize themselves into groups. In this approach, instead of individually working on their small plots of land, these farmers pool their resources, knowledge and efforts to cultivate larger fields collectively. By doing so they can achieve economics of scale improve efficiency and enhance productivity.

Thus state option (b) is the correctly answer.

47. Consider the following statements :

- The Government of India provides Minimum Support Price for niger (*Guizotia abyssinica*) seeds.
- Niger is cultivated as a Kharif crop.
- Some tribal people in India use niger seed oil for cooking.

**How many of the above statements are correct?**

- Only one
- Only two
- All three
- None

**Ans. (c) :** The Government of India provides Minimum Support Price for 22 crops. It also includes niger seeds. Niger, a minor oilseed crop, is primarily cultivated in rainfed areas as Kharif crop.

The tribal communities incorporate Niger seed oil into their cooking practices and utilize the remaining press cake remaining after oil extraction as livestock feed.

Thus all the 3 statements are correct.

48. Consider the investments in the following assets :

- Brand recognition
- Inventory
- Intellectual property
- Mailing list of clients



**How many of the above are considered intangible investments?**

(a) Only one (b) Only two (c) All three (d) All four

**Ans. (c) :** Brand equity is classified as an intangible asset since its worth does not derive from a physical entity and is primarily influenced by how consumers perceive the brand. Inventory refers to the goods or products that a company holds for sale. It represents the tangible assets, as inventory consists of physical items that can be seen, touched and measured.

Intellectual property (IP) included intangible assets. Such as patents, trademarks, copyrights, and trade secrets.

The mailing list of client is among the intangible assets of company encompassing a compilation of past customers.

Thus statements 1, 3 and 4 are correct.

**49. Consider the following :**

1. Demographic performance
2. Forest and ecology
3. Governance reforms
4. Stable government
5. Tax and fiscal efforts

**For the horizontal tax devolution, the Fifteenth Finance Commission used how many of the above as criteria other than population area and income distance?**

(a) Only one (b) Only two (c) Only three (d) All five

**Ans. (c) :** For horizontal devolution the 15th Finance Commission used the following Parameters—

Parameters	15th Finance Commission
Population (2011)	15%
Area	15%
Forests Ecology	10%
Income distance	45%
Tax & Fiscal Efforts	2.5%
Demographic performance	12.5%

Thus among the given options only 3 criteria were used.

**50. Consider the following infrastructure sectors :**

1. Affordable housing
2. Mass rapid transport
3. Health care
4. Renewable energy

**On how many of the above does UNOPS Sustainable Investments in Infrastructure and Innovation (S3i) initiative focus for its investments?**

(a) Only one (b) Only two (c) All three (d) All four

**Ans. (c) :** The sustainable investments in infrastructure and innovation initiative was established by the United Nations Office for Project Services to fill the SPG Financing gap in developing countries. It seeks to channelise public and private Financing into large scale infrastructure projects in the following sectors.

1. Renewable Energy
2. Affordable Housing
3. Health infrastructure

**51. With reference to Home Guards, consider the following statements :**

1. Home Guards are raised under the Home Guards Act and Rules of the Central Government.
2. The rule of the Home Guards is to serve as an auxiliary force to internal security.
3. To government infiltration on the international border/coastal areas, the Border Wing Home Guards Battalions have been raised in, some States.

**How many of the above statements are correct?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** Home Guards are raised under the Home Guards Act and Rules of states/Union Territories. Hence statement-I is incorrect. The Role of home guards is to serve as an auxiliary force to the police in maintenance of internal security situations, help the community in any kind of emergency such as an air raid, fire, cyclone earthquake etc. Hence statement-2 is correct some states (Rajasthan) have raised battalions with the name of border wing home guard to prevent infiltration on the international border.

**52. With reference to India, consider the following pairs :**

Action	The Act under which it is covered
1. Unauthorized wearing of police or military uniforms	: The Official Secrets Act, 1923
2. Knowingly misleading or otherwise interfering with a police officer or military officer when engaged in their duties	: The Indian Evidence Act, 1872
3. Celebratory gunfire which can endanger the personal safety of others	: The Arms (Amendment) Act, 2019

**How many of the above pairs are correctly matched?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** The official Secrets Act, 1923 prohibits person from using or wearing, without lawful authority, any naval, military, air force, police or other official uniform, or any uniform so nearly resembling the same as to be calculated to deceive, or falsely represents himself to be a person who is or has been entitled to use or wear any such uniform. Hence Pair 1 is correctly matched.

Knowingly misleading or otherwise interfering with a police officer or military officer when engaged in their duties is under The Official Secrets Act, 1923. Hence Pair 2 is incorrectly matched.

The Arms Act Amendment of 2019 adds new offences such as forcefully taking a firearm from police or armed forces and using firearms in a celebratory gunfire which endangers human life or personal safety of others. Hence Pair 3 is correctly matched.

**53. Consider the following pairs :**

Regions often mentioned in news	Reason for being in news
1. North Kivu and Ituri	: War between Armenia and Azerbaijan
2. Nagorno-Karabakh	: Insurgency in Mozambique
3. Kherson and Zaporizhzhia	: Dispute between Israel and Lebanon

**How many of the above pairs are correctly matched?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (d) :**

North Kivu and Ituri – Conflict in Democratic Republic of Congo

Nagorno-Karabakh – War between Armenia and Azerbaijan

Kherson and Zaporizhzhia – Allocated sites in Ukraine

Hence none of the above pairs are correctly matched.

**54. Consider the following statements :**

**Statement-I :** Israel has established diplomatic relations with some Arab States.

**Statement II :** The 'Arab Peace Initiative' mediated by Saudi Arabia was signed by Israel and Arab League.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** Israel has established diplomatic relations with some Arab countries over the years. The first Arab country to officially recognize and establish diplomatic relations with Israel was Egypt. Thus statement I is correct.

Arab Peace Initiative was not signed by Israel. The Arab Peace Initiative was proposed by Saudi Arabia in 2002 at the Arab League summit in Beirut. It was endorsed by the Arab League as a potential resolution to the Israeli-Palestinian conflict. Thus statement II is incorrect.

**55. Consider the following pairs with regard to sports awards :**

1.	Major Dhyan Chand Khel Ratna Award	:	For the most spectacular and outstanding performance by a sportsperson over period of last four years
2.	Arjuna Award	:	For the lifetime achievement by a sportsperson
3.	Dronacharya Award	:	To honour eminent coaches who have successfully trained sportspersons or teams
4.	Rashtriya Khel Protsahan Puraskar	:	To recognize the contribution made by sportspersons even after their retirement

**How many of the above pairs are correctly matched?**

- (a) Only one (b) Only two (c) All three (d) All four

**Ans. (b) :**

**Majors Dhyan Chand Khel Ratna Award**

For most spectacular and outstanding performance by a sports person over a period of last 4 years.

**Arjuna Award**

It is officially known as Arjuna Awards for outstanding performance, in sports and games and is the second highest sporting honour of India good performance in the field of sports over a period of 4 years.

**Dronacharya Award**

: To honour eminent coaches who have successfully trained sports persons or teams.

**Rashtriya Khel Protsahan Puruskar**

The award recognised the involvement of corporates, voluntary organisations and sports Control Boards, in the promotion and development of sports in the country over the previous three years.

Hence only pair 1 & 3 are correctly matched.

**56. Consider the following statements in respect of the 44th Chess Olympiad, 2022 :**

- It was the first time that Chess Olympiad was held in India.
- The official mascot was named 'Thambi'.
- The trophy for the winning team in the open section is the Vera Menchik Cup.
- The trophy for the winning team in the women's section is the Hamilton-Russell Cup.

**How many of the statements given above are correct?**

- (a) Only one (b) Only two (c) Only three (d) All four

**Ans. (b) :** 44th FIDE Chess Olympiad 2022 was the first time the Chess Olympiad is being hosted in India. The official Mascot was named 'Thambi' (younger brother) a chess knight dressed in the traditional Tamil Nadu male attire vetti with a white shirt. Hamilton Russell cup, is the trophy for the winning team in the open section while the Menchik cup is the trophy for the winning team in the women's section. Hence only pair 1 & 2 are correctly matched.

**57. Consider the following pairs :**

Area of conflict mentioned in news		Country where it is located	
1.	Donbas	:	Syria
2.	Kachin	:	Ethiopia
3.	Tigray	:	North Yemen

**How many of the above pairs are correctly matched?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (d) :**

Area of conflict	Country
Donbas	– Ukraine
Kochin	– Myanmar
Tigray	– Ethiopia

Hence none of the above given pairs are correctly matched.

**58. In the recent years Chad, Guinea, Mali and Sudan caught the international attention for which one of the following reasons common to all of them?**

- Discovery of rich deposits of rare earth elements
- Establishment of Chinese military bases
- Southward expansion of Sahara Desert
- Successful coups

**Ans. (d) :** In recent years Chad, Guinea, Mali and Sudan hence a experienced coup attempts or successful coups.

**59. Consider the following heavy industries :**

- Fertilizer plants
  - Oil refineries
  - Steel plants
- Green hydrogen is expected to play a significant role in decarbonizing how many of the above industries?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (c) :** Green hydrogen is expected to play a significant role in decarbonizing in all given heavy industries.

60. Consider the following statements about G-20 :
1. The G-20 group was originally established as a platform for the Finance Ministers and Central Bank Governors to discuss the international economic and financial issues.
  2. Digital public infrastructure is one of India's G-20 priorities.

Which of the statements given above is/are correct?

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

**Ans. (c) :** The G-20 group was founded in 1999 after the Asian financial crisis as a forum for the Finance Minister's and Central Bank governors to discuss global economic and financial issues. Digital public infrastructure is one of the India's G-20 priorities. Hence both the statements are correct.

61. With reference to the Indian History, Alexander Rea, A.H. Longhurst, Robert Sewell, James Burgess and Walter Elliot were associated with :

- (a) archaeological excavations
- (b) establishment of English Press in Colonial India
- (c) establishment of Churches in Princely States
- (d) construction of railways in Colonial India

**Ans. (a) :** Alexander Rea, All Longhurst, Robert Sewell, James Burgess and Walter Elliot all were associated with archaeological excavations.

**Alexander Rea** is known for unearthing a sacrophagus from the hillocks of Pallavarnam in Tamil Nadu.

**A.H. Longhurst** was in charge of the systematic digging of Nagarjunakonda.

**Robert Sewell & Water Elliot** was associated with their archacological work at Buddhist Stupa at Amarvati.

**James Burgess** was the Director General Archaeological Survey of India.

62. Consider the following pairs :

	Site		Well known for
A.	Besnagar	:	Shaivite cave shrine
B.	Bhaja	:	Buddhist cave shrine
C.	Sittanavasal	:	Jain cave shrine

How many of the above pairs are correctly matched?

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** **Besnagar (Vidisha)** site is well known for Vaishnavite sect not Shaivite sect. Hence pair 1 is incorrectly matched.

**Bhaja Caves** is a group of 22 rockcut causes build during 2nd century B.C. The caves belong to the Hinayana Buddhism sect in Maharashtra.

**Sithan Viavasal Caves** located in Pudukottai district of modern Tamil Nadu belong to Jainism. Hence pairs 2 & 3 are correctly matched.

63. Consider the following statements :

**Statement-I :** 7th August is declared as the National Handloom Day.

**Statement II :** It was in 1905 that the Swadeshi Movement was launched on the same day.

Which one of the following is correct in respect of the above statements :

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.

(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.

(c) Statement-I is correct but Statement-II is incorrect.

(d) Statement-I is incorrect but Statement-II is correct.

**Ans. (a) :** The first national handloom day was held on 7th August, 2015, from then on 7th August is observed as National Handloom day annually. August 7 was chosen as the National Handloom day to commemorate the Swadeshi movement, which was launched on August 7 in 1905 in Calcutta town Hall to protest against the Partition of Bengal by the British government. Hence both the statement are true and statement 2 is the correct explanation of statement 1.

64. Consider the following statements in respect of the National Flag of India according to the Flag Code of India, 2002 :

**Statement-I :** One of the standard sizes of the National Flag of India is 600 mm × 400 mm.

**Statement II :** The ratio of the length to the height (width) of the Flag shall be 3 : 2.

Which one of the following is correct in respect of the above statements :

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.

(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.

(c) Statement-I is correct but Statement-II is incorrect.

(d) Statement-I is incorrect but Statement-II is correct.

**Ans. (d) :** The use, display and hoisting of National Flag in the country is guided by an overarching set of instructions called the Flag code of India 2002. As per Flag Code of India 2002 the National Flag Code cannot be in the dimension of 600 mm × 400 mm. The code states that the National Flag can be of none standard dimensions as follows—

Flag Size No.	Dimension in mm
1	— 6300 × 4200
2	— 3600 × 2400
3	— 2700 × 1800
4	— 1800 × 1200
5	— 1350 × 900
6	— 900 × 600
7	— 450 × 300
8	— 225 × 150
9	— 150 × 100

Hence statement-1 is incorrect.

The National Flag should be rectangular in shape and the ratio of length to the height of the Flag shall be 3 : 2. Hence statement (2) is correct.

65. Consider the following statements in respect of the Constitution Day :

**Statement-I :** The Constitution Day is celebrated on 26th November every year to promote constitutional values among citizens.

**Statement II :** On 26th November, 1949, the Constituent Assembly of India set up a Drafting Committee under the Chairmanship of Dr. B.R. Ambedkar to prepare a Draft Constitution of India.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** The constitution day is celebrated in India on 26 November every year to commemorate the adoption of the Constitution of India and also to promote the constitutional values among the citizen of India.

**66. Consider the following statements :**

**Statement-I :** Switzerland is one of the leading exporters of gold in terms of value.

**Statement II :** Switzerland has the second largest gold reserves in the world.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** Switzerland is the leading exporter of gold in the world.

**In 2021,** Switzerland became 1st largest exporter of Gold in the world. While the Switzerland has 7th largest gold deposit in the world. Hence statement-1 is right while statement-2 is wrong.

**67. Consider the following statements :**

**Statement-I :** Recently, the United States of America (USA) and the European Union (EU) have launched the 'Trade and Technology Council'.

**Statement II :** The USA and the EU claim that through this they are trying to bring technological progress and physical productivity under their control.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** Trade and Technology Council was launched by the United States of America and European Union during the EU-US Summit on 15 June, 2021 in Brussels with the aim to promote pooling of digital resources such as AI models and computing power and make them available to partner countries to address challenges in area such as climate change and extreme weather, health care or smart agriculture. Hence statement-I is correct while statement-II is incorrect.

**68. Consider the following statements :**

**Statement-I :** India accounts for 32% of global export of goods.

**Statement II :** Many local companies and some foreign companies operating in India have taken advantage of India's 'Production-linked Incentive' scheme.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (a) :** As per latest data available (Economic Survey 2022-23) India accounts for 1.8% of Global export of goods and 4% of global exports of services. Thus statement-I is incorrect Production Linked Incentive (PLI) scheme is a form of performance linked incentive given to companies based on their incremental sales from products manufactured in domestic units. It's aimed at boosting the manufacturing sector and reduce imports of India.

PLI schemes can be availed by both domestic as well as foreign companies. Many domestic and foreign companies operating in India have taken advantage of PLI scheme. Hence statement II is correct.

**69. Consider the following statements :**

**The 'Stability and Growth Pact' of the European Union is a treaty that**

- 1. limits the levels of the budgetary deficit of the countries of the European Union
- 2. makes the countries of the European Union to share their infrastructure facilities
- 3. enables the countries of the European Union to share their technologies

**How many of the above statements are correct?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (a) :** The Stability and Growth Pact (SGP) is an agreement, among all the 27 member states of European Union. It's aim to level the budget deficits of European countries The corrective arm of the stability and Growth pact ensure that member states adopt appropriate policy responses to correct excessive deficits (and/or debts) by implementing the excessive deficit procedure (CDP). The SGP treaty does not require its members to share their infrastructure facilities nor their technologies with other countries. The purpose of SGP was to ensure that fiscal discipline would be maintained and enforced in the European Union. hence statement-1 is correct while statements 2 & 3 are incorrect.

**70. Consider the following statements :**

- 1. Recently, all the countries of the United Nations have adopted the first-ever compact for international migration, the 'Global Compact for Safe, Orderly and Regular Migration (GCM)'.
- 2. The objectives and commitments stated in the GCM are binding on the UN member countries.
- 3. The GCM addresses internal migration or internally displaced people also in its objectives and commitments.

**How many of the above statements are correct?**

(a) Only one (b) Only two (c) All three (d) None

**Ans. (a) :** The Global compact for safe, orderly and regular migration is an intergovernmental agreement prepared under the overall aegis of United Nations. It is first intergovernmental agreement covering international migration in a holistic and comprehensive manner. Till now only 163 countries have adopted the Global Compact for safe, orderly and regular migration, United States, Hungary, Israel, Czech Republic and Poland are some of the countries that voted against the compact. It is a non-legally binding agreement, that comprises 23 objectives for better managing migration at local, national, regional and global levels. Hence statements 1 & 2 are incorrect while statement 3 is correct.

**71. Consider the following countries :**

**1. Bulgaria 2. Czech Republic 3. Hungary  
4. Latvia 5. Lithuania 6. Rumania**

**How many of the above-mentioned countries share a land border with Ukraine?**

(a) Only one (b) Only three (c) All four (d) Only five

**Ans. (a) :** Ukraine is bordered by Belarus, Russia, Moldova, Romania, Hungary, Slovakia and Poland.

**72. With reference to the Earth's atmosphere, which one of the following statements is correct?**

- (a) The total amount of insolation received at the equator is roughly about 10 times of that received at the poles.
- (b) Infrared rays constitute roughly two-thirds of insolation.
- (c) Infrared waves are largely absorbed by water vapour that is concentrated in the lower atmosphere.
- (d) Infrared waves are a part of visible spectrum of electromagnetic waves of solar radiation.

**Ans. (c) :** Equator receives more direct sunlight compared to the poles, the actual difference in insolation is not as large as ten times. Hence option (a) is incorrect.

Insolation refers to the total solar radiation received at Earth's surface, which includes a broad spectrum of electromagnetic radiation. While infrared radiation is a significant component of solar radiation it does not accounts for two thirds of insolation. Insolation includes visible light, ultraviolet (UV) radiation and other wavelengths as well. Hence option (b) is also incorrect. Water vapour is a potent absorber of infrared radiation particularly in certain wavelength bands.

In the lower atmosphere where the concentration of water vapour is relatively higher, it absorbs a significant amount of infrared radiation emitted by the Earth's surface. This absorption contributes to the greenhouse effect and plays a crucial role in regulating the earth's temperature. Hence option (c) is correct.

Infrared waves and visible light waves are distinct parts of electromagnetic spectrum.

The visible spectrum ranges from approximately 400 to 700 Nano meters and includes the colours are perceive, such as red, orange yellow green blue. Hence option (d) is incorrect.

**73. Consider the following statements :**

**Statement-I :** The soil in tropical rain forests is rich in nutrients.

**Statement II :** The high temperature and moisture of tropical rain forests cause dead organic matter in the soil to decompose quickly.

**Which one of the following is correct in respect of the above statements :**

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.

(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.

(c) Statement-I is correct but Statement-II is incorrect.

(d) Statement-I is incorrect but Statement-II is correct.

**Ans. (d) :** Tropical rain forest soil is very poor in nutrient which are required by plants to grow. This is due to acidic nature of soil and incessant rains. Potassium, Calcium, Magnesium and Phosphorous are lost away due to leaching, thus regeneration is very slow. Hence statement-I is incorrect.

Tropical rainforests typically experience warm and consistent temperatures throughout the year. These elevated temperatures enhance the activity of soil micro-organism rate which is responsible for faster decompositions of organic matters. Hence statement-2 is correct.

**74. Consider the following statements :**

**Statement-I :** The temperature contrast between continents and oceans is greater during summer than in winter.

**Statement II :** The specific heat of water is more than that of land surface.

**Which one of the following is correct in respect of the above statements :**

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.

(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.

(c) Statement-I is correct but Statement-II is incorrect.

(d) Statement-I is incorrect but Statement-II is correct.

**Ans. (d) :** The temperature contrast between the continents and oceans is more during winter rather than summer. Hence statement-1 is incorrect.

The specific heat is the amount of heat energy required to raise the temperature of a substance by a certain amount. Water has a relatively high specific heat compare to land surfaces. Hence statement 2 is correct.

**75. Consider the following statements :**

**1. In a seismograph, P waves are recorded earlier than S waves.**

**2. In P waves, the individual, particles vibrate to and fro in the direction of wave propagation whereas in S waves, the particles vibrate up and down at right angles to the direction of wave propagation.**

**Which of the statements given above is/are correct?**

(a) 1 Only (b) 2 Only (c) Both 1 and 2 (d) Neither 1 nor 2

**Ans. (c) :** P-waves, also known as primary waves are the first waves to arrive at seismograph, P. waves are the fastest seismic waves and can move through solid, liquid and gas. P-waves are longitudinal waves, which means that the particle motion occur parallel to the direction of wave propagation which means the particles oscillates back and forth in the same direction that the wave is travelling. Hence both statements are correct.

76. With reference to coal-based thermal power plants in India, consider the following statements :

1. None of them uses seawater.
  2. None of them is set up in water stressed district.
  3. None of them is privately owned.
- How many of the above statements are correct?  
(a) Only one (b) Only two (c) All three (d) None

**Ans. (d) :** The Mundra Thermal Power Plant utilizes seawater drawn from Gulf Kutch. Thus statement (1) is incorrect.

According to recent study of World Resources Institute 40 percent India's thermal power plants are situated in regions experiencing significant water stress. Thus statement (2) is incorrect.

India has a total 269 thermal power plants of which 138 owned by public sector and remaining 131 by private. Thus statement (3) is incorrect.

77. 'Wolbachia method' is sometimes talked about with reference to which one of the following?

- (a) Controlling the viral diseases spread by mosquitoes
- (b) Converting crop residues into packing material
- (c) Producing biodegradable plastics
- (d) Producing biochar from thermo-chemical conversion of biomass

**Ans. (a) :** The 'Wolbachia method' is a technique used to control the spread of viral disease transmitted by mosquitoes, such as Dengue, Zika and Chikangunya. Wolbachia is a type of bacterium that can be introduced into mosquitoes to reduce their ability to transmit these diseases. When mosquitoes carrying Wolbachia mate with mosquitoes without Wolbachia the resulting eggs do not hatch or produce offspring, thus reducing the population of disease carrying mosquitoes.

78. Consider the following activities :

1. Spreading finely ground basalt pick on farmlands extensively.
2. Increasing the alkalinity of oceans by adding lime.
3. Capturing carbon dioxide released by various industries and pumping it into abandoned subterranean mines in the form of carbonated waters

How many of the above activities are often considered and discussed for carbon capture and sequestration?

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (c) :** Spreading finely ground basalt rock on Farmlands accelerates natural process of carbon dioxide capture from the atmosphere. The basalt reacts with carbon dioxide to form stable carbonates, effectively storing carbon.

Increasing alkalinity of the ocean by addition of lime enhances the capacity of oceans to absorb and store carbon dioxide from the atmosphere thereby aiding in carbon sequestration.

Capturing carbon dioxide released by industries and pumping it into abandoned subterranean mines is carbon capture and storage method. Abandoned subterranean sites, with the captured carbon dioxide pumped into these locations in the form of carbonated waters.

79. 'Aerial metagenomics' best refers to which one of the following situations?

- (a) Collecting DNA samples from air in a habitat at one go
- (b) Understanding the genetic makeup of avian species of a habitat
- (c) Using air-borne devices to collect blood samples from moving animals
- (d) Sending drones to inaccessible areas to collect plant and animal samples from land surfaces and water bodies

**Ans. (a) :** 'Aerial metagenomics' refers to the collection and analysis of DNA samples from the air or aerosol particles present in a specific habitat. It involves sampling the air in a particular environment to capture the genetic material (PDNA) in micro-organisms, including bacteria, viruses, Fungi and other microscopic organisms.

80. 'Microsatellite DNA' is used in the case of which one of the following?

- (a) Studying the evolutionary relationships among various species of fauna
- (b) Stimulating 'stem cells' to transform into diverse functional tissues
- (c) Promoting clonal propagation of horticultural plants
- (d) Assessing the efficacy of drugs by conducting series of drug trials in a population

**Ans. (a) :** Microsatellite DNA, also known as short tandem repeats, is a type of genetic marker that consist of repeating sequences of DNA. It is commonly used in genetic studies, including population genetics and phylogenetic analysis, to study relationship among different species of Fauna.

81. Consider the following statements in relation to Janani Suraksha Yojana :

1. It is a safe motherhood intervention of the State Health Departments.
2. Its objective is to reduce maternal and neonatal mortality among poor pregnant women.
3. It aims to promote institutional delivery among poor pregnant women.
4. Its objective includes providing public health facilities to sick infants up to one year of age.

How many of the statements given above are correct.

- (a) Only one (b) Only two (c) Only three (d) All four

**Ans. (c) :** Janani Suraksha Yojna is a safe motherhood intervention under the National Health Mission. It is not the intervention of State Health Departments.

The main objectives JSY are to reduce maternal and neonatal mortality by promoting institutional delivery among pregnant women especially with weak socio-economic status.

In 2014 the programme was extended to all antenatal & post-natal complications of all sick newborns and infants (upto one year of age) accessing public health institutions for treatment.

82. Consider the following statements in the context of interventions being undertaken under Anaemia Mukh Bharat Strategy :

1. It provides prophylactic calcium supplementation for pre-school children, adolescents and pregnant women.
2. It runs a campaign for delayed cord clamping at the time of childbirth.



3. It provides for periodic deworming to children and adolescents.
4. It addresses non-nutritional causes of anaemia in endemic pockets with special focus on malaria, hemoglobinopathies and fluorosis.

**How many of the statements given above are correct?**

- (a) Only one (b) Only two (c) Only three (d) All four

**Ans. (c) :** Anaemia Mukh Bharat strategy provides prophylactic Iron folic acid supplement (not prophylactic calcium) for pre-school children, adolescents and pregnant women. It also runs a campaign for delayed cord clamping at the time of child birth. It provides for periodic deworming to children and adolescents. It also addresses non nutritional causes of anemia endemic pockets with special focus on malaria hemoglobin pathies and fluorosis.

**83. Consider the following statements :**

1. Carbon fibres are used in the manufacture of components used in automobiles and aircrafts.
  2. Carbon fibres once used cannot be correct.
- Which of the statements given above is/are correct?**

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

**Ans. (a) :** Carbon Fibre is increasingly celebrated as a wonder material for the clean economy. Its unique combination of high strength and low weight has helped drive the wind power revolution and make planes more fuel efficient. Auto makers are also waking up to the materials potential to make lighter and more efficient vehicles.

Though difficult to recycle, carbon Fiber can be recycled.

Thus statement 1 is correct and statement 2 is incorrect.

**84. Consider the following actions :**

1. Detection of car crash/collision which results in the deployment of airbags almost instantaneously
2. Detection of accidental free fall of a laptop towards the ground which results in the immediate turning off of the hard drive
3. Detection of the tilt of the smart-phone which results in the rotation of display between portrait and landscape mode

**In how many of the above actions is the function of accelerometer required?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (c) :** Accelerometer are devices that measure the vibration or acceleration of motion of a structure.

Accelerometer is used in section of car collision/crash which results in the deployment of airbags almost instantaneously. If laptop were to suddenly drop while in use, the accelerometer would detect sudden free fall and immediately turn off the hard drive.

An accelerometer detect tilt of the Smartphone which results in rotation of display between portrait and landscape mode

Thus all three statements are correct.

**85. With reference to the role of biofilters in Recirculating Aquaculture System, consider the following statements :**

1. Biofilters provide waste treatment by removing uneaten fish food.
2. Biofilters convert ammonia present in fish waste to nitrate.

3. Biofilters increase phosphorus as nutrient for fish in water.

**How many of the statements given above are correct?**

- (a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** Biofilters are important components of Recirculating Aquaculture systems to remove nitrogenous wastes excreted by aquatic organisms. Here nitrifying bacteria are used as biofilters to oxidise ammonia and convert it into nitrites which are also toxic. Some bacteria also convert these nitrites into final products which are non-toxic nitrates.

Biofilters are designed to filter pollutants and not to add nutrients. Thus statements 1 & 2 are correct and 3 is incorrect.

**86. Consider the following pairs :**

Objects in space		Description	
1.	Cepheids	:	Grant clouds of dust and gas in space
2.	Nebulae	:	Stars which brighten and dim periodically
3.	Pulsars	:	Neutron stars that are formed when massive stars run out of fuel and collapse

**How many of the above pairs are correctly matched?**

- (a) Only one (b) Only two  
(c) All three (d) None

**Ans. (a) :** Cepheids are stars which brighten and dim periodically. Thus Pair-1 is incorrect.

A nebula is giant cloud of dust and gas in space. Thus pair 2 is incorrect.

Pulsars are neutron stars. Thus pair 3 is correct.

**87. Which one of the following countries has its own Satellite Navigation System?**

- (a) Australia (b) Canada  
(c) Israel (d) Japan

**Ans. (d) :** Quasi-Zenith satellite (8255) system is a regional satellite navigation system owned by Government of Japan.

**88. Consider the following statements :**

1. Ballistic missiles are jet-propelled at subsonic speeds throughout their flights, while cruise missiles are rocket-powered only in the initial phase of flight.
2. Agni-V is a medium-range supersonic cruise missile, while BrahMos is a solid-fuelled intercontinental ballistic missile.

**Which of the statements given above is/are correct?**

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

**Ans. (d) :** Cruise Missiles are jet propelled at subsonic speeds throughout their flights, while ballistic missiles are rocket-powered only in the initial phase of flight after which they follow an arching trajectory to the target.

Agni-V is a ballistic missile while the BRAHMOS is a medium range ramjet Supersonic cruise missile.

Thus both the statements are incorrect.

**89. Consider the following statements regarding mercury pollution :**

1. Gold mining activity is a source of mercury, pollution in the world.
2. Coal-based thermal power plants cause mercury pollution.

3. There is no known safe level of exposure to mercury.

How many of the above statements are correct?

(a) Only one (b) Only two (c) All three (d) None

**Ans. (c) :** Mercury is used in mining of Gold thus a source of pollution. Statement 1 is correct.

Coal based Thermal power plants are major source of mercury. Thus statement 2 is correct.

Mercury is a highly toxic element, there is no safe level of exposure. Thus statement 3 is also correct.

90. With reference to green hydrogen, consider the following statements :

1. It can be used directly as a fuel for internal combustion.
2. It can be blended with natural gas and used as fuel for heat or power generation.
3. It can be used in the hydrogen fuel cell to run vehicles.

How many of the above statements are correct?

(a) Only one (b) Only two (c) All three (d) None

**Ans. (c) :** Both hydrogen internal combustion engines and hydrogen fuel cell can power vehicles using hydrogen. Hydrogen engines burn hydrogen in an internal combustion engine. Thus statement I is correct.

Hydrogen can be blended with natural gas and can be used as fuel with lower emission. Thus statement II is correct.

Fuel cell electric vehicles are powered by hydrogen. They are more efficient than internal combustion engine. Thus statement III is correct.

91. Consider the following statements with reference to India :

1. According to the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, the 'medium enterprises' are those with investments in plant and machinery between ₹ 15 crore and ₹ 25 crore.
2. All bank loans to the Micro, Small and Medium Enterprises qualify under the priority sector.

Which of the statements given above is/are correct?

(a) 1 only (b) 2 only  
(c) Both 1 and 2 (d) Neither 1 nor 2

**Ans. (d) :** As per the MSMED Act 2006, the Medium Enterprises are those for which the investment in plant and machinery is not more than Rs. 50 crore and turnovers not more than Rs. 250 crore. Thus statement I is incorrect.

According to RBI's All bank loans to MSMEs that meet the criteria outlined in the Master Direction on Priority Sector Lending (PSL) targets and classification are only eligible to classify as PSL. Thus statement II is incorrect.

92. With reference to Central Bank digital currencies, consider the following statements :

1. It is possible to make payments in a digital currency without using US dollar or SWIFT systems.
2. A digital currency can be distributed with a condition programmed into it such as a time-frame for spending it.

Which of the statements given above is/are correct?

(a) 1 only (b) 2 only  
(c) Both 1 and 2 (d) Neither 1 nor 2

**Ans. (c) :** It is possible to make payments in digital currencies without using US dollar or SWIFT system. Hence Statement I is correct. The digital Yuan is programmable to the extent that the currency can be designed to expire, forcing users to spend it all by a specific date. It means that the digital currencies can be programmed to be spent within a predetermined time range. Hence Statement II is correct.

93. In the context of finance, the term 'beta' refers to

- (a) the process of simultaneous buying and selling of an asset from different platforms
- (b) an investment strategy of a portfolio manager to balance risk versus reward
- (c) a type of systemic risk that arises where perfect hedging is not possible
- (d) a numeric value that measures that fluctuations of a stock to changes in the overall stock market.

**Ans. (d) :** Beta is a concept by which a stock's expected movement in relation to overall market movements is measured. A stock with a beta greater than 1 is considered to be more volatile than the broader market while the stock with Beta less than 1 is considered to be less volatile.

94. Consider the following statements :

1. The Self-Help Group (SHG) programme was originally initiated by the State Bank of India by providing microcredit to the financially deprived.
2. In an SHG, all members of a group take responsibility for a loan that an individual member takes.
3. The Regional Rural Banks and Scheduled Commercial Banks support SHGs.

How many of the above statements are correct?

(a) Only one (b) Only two (c) All three (d) None

**Ans. (b) :** NABARD began promoting SHG's in 1991-1992 and it served as the launch pad for SHG movement. Hence Statement I is incorrect.

The banks provide the loan to SHG as a whole and it is the collective responsibility of the SHG to repay that loan. Hence all members of a group take responsibility for a loan that an individual member takes. Hence Statement II is correct.

Both SCB's and RRB's support the SHG. Hence Statement III is correct.

Thus option (b) is correct.

95. Consider the following statements :

**Statement-I :** India's public sector health care system largely focuses on curative care with limited preventive, promotive and rehabilitative care.

**Statement II :** Under India's decentralized approach to health care delivery, the States are primarily responsible for organizing health services.

Which one of the following is correct in respect of the above statements :

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

**Ans. (b) :** As per the National Health Policy 2017, India's Public Sector health care system focuses on improving health status through coordinated police action in all sectors. It also focuses on expanding preventive, promotive, curative, palliative and rehabilitative service through public health sector which focuses on quality of these services.

The states are primarily in charge of organising health services under India's decentralised system for providing healthcare. 'Health and Sanitation' is in states list under schedule 7 of the constitution.

Thus Statement I and Statement II both are correct however statement II does not explain statement I.

**96. Consider the following statements :**

**Statement-I :** According to the United Nations World Water Development Report, 2022, India extracts more than a quarter of the world's groundwater withdrawal each year.

**Statement II :** India needs to extract more than a quarter of the world's groundwater each year to satisfy the drinking water and sanitation needs of almost 18% of world's population living in its territory.

**Which one of the following is correct in respect of the above statements :**

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

**Ans. (c) :** According to United Nations World Water Development Report 2022, India is world's largest groundwater user. This accounts for more than a quarter of the total ground water extracted internationally.

India uses 89% of extracted ground water for irrigation. Thus major share of extracted groundwater is used in irrigation and not for drinking and sanitation purpose.

Thus Statement I is correct and Statement II is incorrect.

**97. Consider the following statements :**

- According to the Constitution of India, the Central Government has a duty to protect States from internal disturbances.
- The Constitution of India exempts the States from providing legal counsel to a person being held for preventive detention.
- According to the Prevention of Terrorism Act, 2002, confession of the accused before the police cannot be used as evidence.

**How many of the above statements are correct?**

- Only one
- Only two
- All three
- None

**Ans. (b) :** Article 355 of the constitution provides for the responsibility of Union to protect states from external aggression and internal disturbance.

Article 22 of constitution of India exempts the states from providing legal counsel to a person being held for preventive detention.

As per Section 32(1) of POTA, 2002, Confession of the accused before a police officer not lower in rank than a Superintendent of police can be used as evidence.

Thus statements 1 and 2 are correct and statement 3 is incorrect.

**98. Which one of the following countries has been suffering from decades of civil strife and food shortages and was in news in the recent past for its very severe famine?**

- Angola
- Costa Rica
- Ecuador
- Somalia

**Ans. (d) :** In Somalia 6.5 million people are currently facing Severe Food insecurity amid the driest condition in 40 years after is consecutive failed rainy seasons.

Also there was a civil strife of three decades in Somalia.

**99. Consider the following statements :**

- In India, the Biodiversity Management Committees are key to the realization of the objectives of the Nagoya Protocol.
- The Biodiversity Management Committees have important functions in determining access and benefit sharing, including the power to levy collection fees on the access of biological resources within its jurisdiction.

**Which of the statements given above is/are correct?**

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**Ans. (c) :** Nagoya protocol aims to equitable share the benefits resulting from the use of genetic resources. According to Biological Diversity Act 2002, every local body in the state shall establish a Biodiversity Management Committee within its area of jurisdiction for the purpose of promoting biological diversity conservation, sustainable use, and documentation. In India, the BHC's functions as the agency for the implementations of the objectives of Nagoya Protocol.

The Biodiversity Act gives BHC's the independent authority to charge those who collect biological resources within their territorial jurisdiction by way of collection of fees.

**100. Consider the following statements in respect of election to the President of India :**

- The members nominated to either House of the Parliament or the Legislative Assemblies of States are also eligible to be included in the Electoral College.
- Higher the number of elective Assembly seats, higher is the value of vote of each MLA of that State.
- The value of vote of each MLA of Madhya Pradesh is greater than that of Kerala.
- The value of vote of each MLA of Puducherry is higher than that of Arunachal Pradesh because the ratio of total population to total number of elective seats in Puducherry is greater as compared to Arunachal Pradesh.

**How many of the above statements are correct?**

- Only one
- Only two
- Only three
- All four

**Ans. (a) :** The electoral college for election of President includes elected members of Parliament and state legislative assemblies. Thus statement I is incorrect. The value of vote of each MLA depends on the ratio of the state is population and the number of MLAs in its legislative assembly and not just on number of elected seats. Thus statement II is incorrect.

The value of vote of each MLA of Madhya Pradesh is less than that of vote value of each MLA of Kerala. Thus statement III is incorrect.

The vote value of each MLA of Puducherry is higher than that of Arunachal Pradesh. Thus statement IV is correct.

# UNION PUBLIC SERVICE COMMISSION

## Civil Services (Preliminary Exam) - 2024

### GENERAL STUDIES : PAPER-I

Time : 2 hours

(Exam date : 23.06.2024)

Maximum Number : 200

1. Consider the following statements:

**Statement-I:** There is instability and worsening security situation in the Sahel region.

**Statement-II:** There have been military takeovers/coups d'etat in several countries of the Sahel region in the recent past.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

**Ans.(a):** Sahel region extended west to east in Africa which differentiate Sahara desert from south grasslands. In this region the expansion of Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad, Sudan and Eritrea on the top of many conflicts, rising price and dwindling humanitarian change are creating additional serious stains. The area has also seen a high prevalence of coups (military takeovers) d'etat, currently ruling in Mali, over the last three years, the African Sahel region has witnessed a wave of coups d'etat in seven countries. In this reference we can say both I and II Statements are correct. Hence option A is correct.

2. Consider the following statements:

**Statement-I:** India does not import apples from the United States of America.

**Statement-II:** In India, the law prohibits the import of Genetically Modified food without then approval of the competent authority.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

**Ans.(d):** India imports apples from the USA. Indian law prohibits the import of genetically modified food without the approval of the competent authority.

• Import, of food products is regulated under the Food Safety and Standards Act (FSSAI), 2006. Indian Customs can clear food products including Genetically Modified (GM) food products only after obtaining approval NOC by FSSAI. The Food Safety and Standards Act of 2006 prohibits import, manufacture, use or sale of GM food without FSSAI's approval.

3. With reference to the Speaker of the Lok Sabha, consider the following statements:

While any resolution for the removal of the Speaker of the Lok Sabha is under consideration.

- 1. He/She shall not preside.
- 2. He/She shall not have the right to speak.
- 3. He/She shall not be entitled to vote on the resolution in the first instance.

Which of the statements given above is/are correct?

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

**Ans.(a):** When any resolution for the removal of speaker of the Lok Sabha is under consideration, he/she can not preside at the sitting of Lok Sabha. However, he may be present in the house.

• When any resolution for the removal of speaker of the Lok Sabha is under consideration, he/she can speak and take part in the proceedings of the House.

• When any resolution for removal of speaker of the Lok Sabha is under consideration he is entitled to vote in the first instance and not in the case of an equality of votes.

Therefore Statement 2 and 3 is incorrect and statement 1 is the correct answer.

4. With reference to the Indian Parliament, consider the following statements:

1. A bill pending in the Lok Sabha lapses on its dissolution.

2. A bill passed by the Lok Sabha and pending in the Rajya Sabha lapses on the dissolution of the Lok Sabha.

3. A bill regard to which the President of India notified his/her intention to summon the Houses to a joint sitting lapses on the dissolution of the Lok Sabha.

Which of the statements given above is/are correct?

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

**Ans.(b):** When the Lok Sabha is dissolved a bill pending in the Lok Sabha lapses (whether originating in the Lok Sabha or transmitted to it by Rajya Sabha.)

• When the Lok Sabha is dissolved, a bill passed by the Lok Sabha but pending in the Rajya Sabha lapses.

• When the Lok Sabha is dissolved, a bill does not lapse if the President has notified the holding of a Joint sitting before the dissolution of Lok Sabha.

Hence Statement 1 and 2 is correct and Statement 3 is incorrect.

5. With reference to the Parliament of India, consider the following statements:

1. Prorogation of a House by the President of India does not require the advice of the Council of Ministers.

2. Prorogation of a House is generally done after the House is adjourned sine die but there is no bar to the President of India prorogating the House which is in session.

3. Dissolution of the Lok Sabha is done by the President of India who, save in exceptional circumstances, does so on the advice of the Council of Ministers.

Which of the statements given above is/are correct?

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

**Ans.(c):** Under Article 85 (2) of the Constitution, the President may from time to time prorogue Houses or either House of Parliament. Termination of a session of the House by an order from the President under the above constitutional provision is called 'Prorogation'. The president exercises this power of Prorogation of the houses only on the recommendation of the prime minister or the cabinet i.e. the Council of Ministers.

- Prorogation normally follows the adjournment of the sitting of the House sine die. The time lag between the adjournment of the house sine die and its prorogation is generally two to four days. However, the President can also prorogue the house while in session.
- The President of India can dissolve the Lok Sabha before the expiry of its term on the advice of the Union Council of ministers. Hence, statement 2 & 3 are correct.

6. Consider the following statements:

**Statement-I:** The European Parliament approved The Net-Zero Industry Act recently.  
**Statement-II:** The European Union intends to achieve carbon neutrality by 2040 and therefore aims to develop all of its own clean technology by that time.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- Statement-I is correct, but Statement-II is incorrect
- Statement-I is incorrect, but Statement-II is correct

**Ans.(c):** The European Parliament has recently approved the Net-Zero Industry Act, to enhance net-zero technology production within the European Union.

- The European Union aims to be climate neutral by 2050 an economy with net-zero greenhouse gas emissions. It is part of the European Green deal and is a legally binding target.

- The Act sets a target for the European to produce 40% of its annual needs for the net-zero emitting technologies by 2030, base on national energy and climate plans that each state will have to develop. It also aims to achieve 15% of the global market value for such technologies. The act aims to ensure that the bloc produces 40% of its solar panels, wind turbines, heat pumps and other clean tech equipment by 2030.

7. Consider the following statements:

**Statement-I:** Recently, Venezuela has achieved a rapid recovery from its economic crisis and succeeded in preventing its people from fleeing/emigrating to other countries.

**Statement-II:** Venezuela has the world's largest oil reserves.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- Statement-I is correct, but Statement-II is incorrect
- Statement-I is incorrect, but Statement-II is correct

**Ans.(d):** The ongoing socioeconomic and political crisis in Venezuela is marked by hyperinflation, escalating starvation, disease, crime and mortality rates. This has resulted in massive emigration from the country. The situation is believed to be by far the worst economic crisis in Venezuela's history. According to the national Living Conditions survey by 2021- 94.5% of the population was living in poverty based on income out of this 76.6% lived in extreme poverty.

- Venezuela is currently the country with the largest proven oil reserves in the world, with an estimated 300 billion barrels of oil.

8. With reference to the Digital India Land Records Modernization Programme, consider the following statements:

- To implement the scheme, the Central Government provides 100% funding.

2. Under the Scheme, Cadastral Maps are digitalized.

3. An initiative has been undertaken to transliterate the Records of Rights from local language to any of the languages recognized by the Constitution of India.

Which of the statements given above are correct?

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

**Ans.(d):** Digital India Land Records Modernization Programme was revamped and converted as a central sector scheme with effect from 1<sup>st</sup> April, 2016 with 100% funding by the centre.

- The main components of the Programme are:

- Setting Up of Modern Record Room.
- Survey/re- survey
- Data entry/re-data entry
- Digitization of cadastral maps/FMBs/Tippans
- DIL RMP Cell
- PMU
- Evaluation Studies, IEC and Training
- Core GIS/Software Applications.

- One of the innovative initiatives under Digital India Land Records Modernization Programme is transliteration of land records in all languages of schedule VIII in all state/UTs. In order to address the problem of linguistic barriers in land governance, the Government with the technical support of Centre for Development of Advanced Computing (C-DAC) Pune, has undertaken an initiative to transliterate the Records of Rights available in local language to any of the 22 schedule VIII language of the Constitution.

9. With reference to the 'Pradhan Mantri Surakshit Matritva Abhiyan', consider the following statements:

1. This scheme guarantees a minimum package of antenatal care services to women in their second and third trimesters of pregnancy and six months post-delivery health care service in any government health facility.

2. Under this scheme, private sector health care provides of certain specialities can volunteer to provide services at nearby government health facilities.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**Ans.(b):** The 'Pradhan Mantri Surakshit Matritva Abhiyan' has been launched by the ministry of Health & Family welfare, Government of India. The program aims to provide assured, comprehensive and quality antenatal care, free of cost, universally to all pregnant women.

- Under the campaign, a minimum package of antenatal care services is to be provided to the beneficiaries on the 9<sup>th</sup> day of every month in the 2<sup>nd</sup> and 3<sup>rd</sup> trimester of pregnancy. The services can be availed at Primary Health centers, community Health centers, Rural Hospitals, sub-District Hospital - District Hospital Medical college. However, the Scheme does not guarantee six months post-delivery care.

- The programme also invites active participation from private practitioners on a voluntary. Obstetricians physicians from private sector and retired Obsterician Gynecologist (OB/GYN) specialists are encouraged to provide voluntary services at designated public health facilities on the 9<sup>th</sup> of every month.

10. With reference to the Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM) Yojana, consider the following statements:

1. The entry age group for enrolment in the scheme is 21 to 40 years.
2. Age specific contribution shall be made by the beneficiary.
3. Each subscriber under the scheme shall receive a minimum pension of ₹ 3,000 per month after attaining the age of 60 years.
4. Family pension is applicable to the spouse and unmarried daughters.

Which of the statements given above is/are correct?

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

**Ans.(b):** In order to provide old age protection to unorganised sector workers, the Government of India had launched Pradhan Mantri Shram Yogi Maan dhan (PM-SYM) in 2019. The Life Insurance corporation of India is the fund manager of the scheme. This is a voluntary and co-contributory pension scheme.

- The workers in the age group of 18-40 years whose monthly income is Rs. 15000/- or less can join the scheme.
- Under the scheme, 50% of monthly contribution varies between Rs. 55/- to Rs. 200/- depending upon the entry age is payable by the beneficiary and equal matching contribution is paid by the central Government.

- The scheme aims to provide a monthly pension of Rs-3000/- after attaining the age of 60 years to unorganized workers.

- If the beneficiary dies, the spouse of the beneficiary shall be entitled to receive 50% of the pension as family pension. Family pension is only applicable to spouse.

11. Consider the following statements regarding 'Nari Shakti Vandan Adhiniyam'.

1. Provisions will come into effect from the 18<sup>th</sup> Lok Sabha.
2. This will be in force for 15 years after becoming an Act.
3. There are provisions for the reservation of seats for Scheduled Castes Women within the quota reserved for the Scheduled Castes.

Which of the statements given above is/are correct?

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

**Ans.(c):** In September 2023, parliament passing the women's Reservation Bill called the Nari Shakti Vandan Adhiniyam. The bill called the Nari Shakti seeks to reserve one third of total number of seats for women in Lok Sabha, State Legislative Assemblies and Delhi Assembly. The allocation of reserved seats shall be determined by such authority as prescribed by Parliament.

- According to the provisions of the bill, the reservation is set to be enforced following the publication of a new census and the completion of the delimitation exercise. Furthermore, it's important to note that for the bill to be fully ratified, it necessitates approval from a minimum of 50% of the states.

- Reservation seats for women shall cease to exist 15 years after the commencement of this Amendment Act.

- The Bill provides that one- third of the total number of seats reserved for scheduled castes and scheduled Tribes shall be reserved for women of those groups in the Lok Sabha and the legislative assemblies.

12. Which of the following statements about 'Exercise Mitra Shakti-2023' are correct?

1. This was a joint military exercise between India and Bangladesh.
2. It commenced in Aundh (Pune).
3. Joint response during counter-terrorism operations was a goal of this operation.
4. Indian Air Force was a part of this exercise.

Select the answer using the code given below:

- (a) 1, 2 and 3 (b) 1, 2 and 4

(c) 1, 3 and 4

(d) 2, 3 and 4

**Ans.(d):** Exercise MITRA SHAKTI - 2023 is a joint military exercise between India and Sri Lanka.

- The 9<sup>th</sup> edition of Joint Military exercise "Exercise MITRA SHAKTI-2023" commenced in Aundh (Pune).

- The scope of the exercise includes synergizing joint responses during counter terrorist operations. Both sides practiced missions, heliborne operations etc. In addition, Army Martial Arts Routine (AMAR), combat reflex shooting and yoga will also form part of the exercise curriculum.

- 15 personnel from Indian Air Force and 5 personnel from Sri Lanka Air Force participated in the exercise.

13. A Writ of Prohibition is an order issued by the Supreme Court or High Courts to:

- (a) A government officer prohibiting him from taking a particular action.
- (b) The Parliament/Legislative Assembly to pass a law on Prohibition.
- (c) The lower court prohibiting continuation of proceedings in a case.
- (d) The Government prohibiting it from following an unconstitutional policy.

**Ans.(c):** Prohibition means 'to forbid'. It is issued by a higher court to lower court or tribunal to prevent the latter from exceeding its jurisdiction or usurping a jurisdiction that it does not possess. The writ of prohibition can be issued only against judicial and quasi-Judicial authorities.

14. Consider the following statements:

1. It is the Governor of the State who recognizes and declares any community of that State as a Scheduled Tribe.
2. A community declared as a Scheduled Tribe in a State need not be so in another State.

Which of the statements given above is/are correct?

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

**Ans.(b):** According to Article 342 of the constitution of India, the President (not the governor of the state) may, with respect to any state or union territory, after consultation with the Governor of the state specify the communities that are deemed to be scheduled tribes in relation to that state or Union Territory.

- Supreme Court of India has clarified through various Judgements that a community declared as scheduled Tribe in one state need not be so in another state.

15. With reference to Union Budget, consider the following statements:

1. The Union Finance Minister on behalf of the Prime Minister lays the Annual Financial Statement before both the Houses of Parliament.
2. At the Union level, no demand for a grant can be made except on the recommendation of the President of India.

Which of the statements given above is/are correct?

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

**Ans.(b):** Article 112 of the Constitution says that the President of India (not the Prime Minister of India) shall in respect of every financial year cause to be laid before both the Houses of Parliament "an annual financial statement". So, the finance minister lays the budget in the Parliament on behalf of the President.

- Article 113 says that no demand for a grant shall be made except on the recommendation of the President.

16. Who of the following is the author of the books "The India Way" and "Why Bharat Matters"?

- (a) Bhupendra Yadav
- (b) Nalin Mehta
- (c) Shashi Tharoor
- (d) Subrahmanyam Jaishankar



**Ans.(d):** "The India Way" and "Why Bharat Matters" are authored by Subrahmanyam Jaishankar.

**17. Consider the following pairs:**

	Country	Reason for being in the news
1.	Argentina	Worst economic crisis
2.	Sudan	War between the country's regular army and paramilitary forces
3.	Turkey	Rescinded its membership of NATO

**How many of the pairs given above are correctly matched?**

- (a) Only one pair (b) Only two pairs  
(c) All three pairs (d) None of the pairs

**Ans.(b):**

- Argentina has been experiencing one of its worst economic crises in recent history, marked by several key issues like inflation, recession, currency devaluation, debt etc. Hence pair-1 is correct.
- In Sudan fighting has erupted between the regular army and a paramilitary force called the Rapid Support Forces (RSF). It is a direct result of a vicious power struggle within the country's military leadership. Hence pair-2 is correct.
- Turkey is currently a member of NATO and has not rescinded its membership. Hence pair-3 is correct.

**18. Consider the following statements:**

**Statement-I :** Sumed pipeline is a strategic route for Persian Gulf oil and natural gas shipments to Europe.

**Statement-II :** Sumed pipeline connects the Red Sea with the Mediterranean Sea.

**Which one of the following is correct in the Mediterranean Sea.**

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I.  
(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I  
(c) Statement-I is correct, but Statement-II is incorrect.  
(d) Statement-I is incorrect, but Statement-II is correct

**Ans.(a):** 'The Sumed Pipeline' is strategic route for Persian Gulf oil and natural gas shipments to Europe and North America.

- The Sumed pipeline is located in Egypt and connect the Red sea with the Mediterranean sea. Which works as a strategic route for persian gulf air and natural gas shipment to Europe and North America. Hence both statements are correct and statement-II explain statement-I.

**19. Consider the following statements:**

**1. The Red Sea receives very little precipitation in any form.**

**2. No water enters the Red Sea from rivers.**

**Which of the statements given above is/are correct?**

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

**Ans.(c):** The Red Sea receives very little precipitation in any form. The majority of the Red sea coastline, both east and west, receives less than 250 mm of rainfall annually and is therefore classified as desert.

- Red sea exchanges its water only with the Mediterranean sea and the Indian ocean. Unlike most seas, no rivers flow into it.

**20. According to the Environmental Protection Agency (EPA), which one of the following is the largest source of sulphur dioxide emissions?**

- (a) Locomotives using fossil fuels  
(b) Ships using fossil fuels  
(c) Extraction of metals from ores  
(d) Power plants using fossil fuels

**Ans.(d):** Environmental Protection Agency (EPA)'s national ambient air quality standards for SO<sub>2</sub> are designed to protect against exposure to the entire group of sulfur oxides (SO<sub>x</sub>). The largest sources of SO<sub>2</sub> emissions are from fossil fuel combustion at power plants and other industrial facilities.

**21. How many Delimitation Commission have been constituted by the Government of India till December, 2023?**

- (a) One (b) Two  
(c) Three (d) Four

**Ans.(d):** Delimitation means the process of fixing the number of seats and boundaries of territorial constituencies in each state for the Lok Sabha and Legislative Assemblies. The union government creates the Delimitation Commission once the Delimitation Act into effect. Under the Delimitation Acts of 1952, 1962, 1972, and 2002, Delimitation Commissions were established four time in - 1952, 1962, 1972 and 2002. The commission was not created after the 1981 and 1991 censuses.

**22. The Constitution (71<sup>st</sup> Amendment) Act, 1992 amends the Eighth Schedule to the Constitution to include which of the following languages?**

1. Konkani 2. Manipuri  
3. Nepali 4. Maithili

**Select the correct answer using the code given below:**

- (a) 1, 2 and 3 (b) 1, 2 and 4  
(c) 1, 3 and 4 (d) 2, 3 and 4

**Ans.(a):** Konkani, Manipuri and Nepali were included by the 71<sup>st</sup> Amendment Act of 1992 in the eighth schedule of the constitution.

**23. Consider the following pairs:**

	Party	Its Leader
1.	Bharatiya Jana Sangh	Dr. Shyama Prasad Mukherjee
2.	Socialist Party	C. Rajagopalachari
3.	Congress for Democracy	Jagjivan Ram
4.	Swatantra Party	Acharya Narendra Dev

**How many of the above are correctly matched?**

- (a) Only one (b) Only two  
(c) Only three (d) All four

**Ans.(b):** Dr. Shyama Prasad Mukherjee founded Bharatiya Jana Sangh in 1951 at Delhi and he became its first president.

- C Rajagopalachari parted ways with the congress in 1957 after being disillusioned by the path it was taking. He founded the Swatantra Party in 1959, which favoured classical liberal principles and free enterprise.
- Babu Jagjivan Ram resigned from the cabinet and congress party in 1977 and formed his own party, 'Congress for Democracy'.
- Acharya Narendra Dev was instrumental in the establishment of the 'Congress Socialist Party' in 1934 as a radical faction working within the Indian National Congress.

**24. Which of the following statements are correct about the Constitution of India?**

1. Powers of the Municipalities are given in Part IX A of the Constitution.  
2. Emergency provisions are given in Part XVIII of the Constitution.  
3. Provisions related to the amendment of the Constitution are given in Part XX of the Constitution.

**Select the answer using the code given below:**

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

**Ans.(d): Part IX A- The Municipalities**  
Urban self Government entities are defined under the constitution Act of 1992 in terms of their organization membership, authority and duties.

- **Part XVIII- Emergency Provisions.**  
The Emergency Provision in India is covered in part XVIII of constitution.
- **Part XX Amendment to the constitution.**  
Article 368, particularly addresses amendments, while other provisions of the constitution provide amendments through the ordinary parliamentary system.

**25. Which one of the following statements is correct as per the Constitution of India?**

- Inter-State trade and commerce is a State subject under the State List.
- Inter-State migration is a State subject under the State List.
- Inter-State quarantine is a Union subject under the Union List.
- Corporation tax is a State subject under the State List.

**Ans.(c):**

- Union list point 42-Inter-state trade and commerce, Union list point 81-Inter-state migration, inter-state quarantine.
- Union list point 85-corporation tax.
- According to points 42, 81 and 85 of union list of seventh schedule, all above subjects are related to the union list.

**26. Under which of the following Articles of the Constitution of India, has the Supreme Court of India placed the Right to Privacy?**

- Article 15
- Article 16
- Article 19
- Article 21

**Ans.(d):** On 24 August, 2017 the Supreme Court of India gave the Right to Privacy Verdict. In case of Justice K.S Puttaswamy and Another Vs. Union of India and other case the Supreme court held that the right to privacy is a fundamental right protected under Article 21 of Indian Constitution.

**27. What are the duties of the Chief of Defence Staff (CDS) as Head of the Department of Military Affairs?**

- Permanent Chairman of Chiefs of Staff Committee.**
- Exercise military command over the three Service Chiefs.**
- Principal Military Advisor to Defence Minister on all tri-service matters**

**Select the correct answer using the code given below:**

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

**Ans.(d):** The duties and function of CDS include the following.

- To head the Department of Military Affairs in Ministry of Defence and function as its secretary.
- To act as the principle military advisor of Hon'ble Defence Minister on all Tri-Service matters.
- To function as the Permanent Chairman of chiefs of staff committee.
- To administrate the Tri-Service organization/ Agencies/Commands.
- To be a member of Defense Acquisition Council.
- To function as the Military Advisor of the Nuclear Command Authority.
- To bring about Jointness in operation, logistic transport, training, support Services, communication, repairs and maintenance etc.
- To bring about reforms in the function of three services with the aim to augment combat capabilities of the Armed forces by reducing wasteful expenditure.

**28. Operations undertaken by the Army towards upliftment of the local population in remote areas to include addressing of their basic needs is called:**

- Operation Sankalp
- Operation Maitri
- Operation Sadbhavana
- Operation Madad

**Ans.(c):**

- As part of 'Operation SADBHAVANA', Indian Army is undertaking multiple activities such as running of Army Goodwill schools, Infrastructure Development projects and education tours etc. For the children living in remote areas of Union Territory (UT) of Laddakh. To improve the standard of education and to provide them with quality education.

**29. The longest border between any two countries in the world is between:**

- Canada and the United States of America
- Chile and Argentina
- China and India
- Kazakhstan and Russian Federation

**Ans.(a):**

Border	Length
(a) Canada and USA	- 8,891 km
(b) Chile and Argentina	- 5,308 km
(c) China and India	- 3,488 km
(d) Kazakhstan and Russian Federation	- 7,644 km

**30. Which of the following statements about the Ethics Committee in the Lok Sabha are correct?**

- Initially it was an ad-hoc Committee.**
- Only a Member of the Lok Sabha can make a complaint relating to unethical conduct of a member of the Lok Sabha.**
- This Committee cannot take up any matter which is sub-judice.**

**Select the answer using the code given below:**

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

**Ans.(c):** The late speaker Ganti Mohana Chandra Balayogi constituted an adhoc Ethics committee in 2000, which became a permanent part of the House in 2015.

- Any person can complain against a Member through another Lok Sabha MP, along with the evidence of the alleged misconduct, and an affidavit stating that the complaint is not "false, frivolous or vexatious". If the member himself complains, the affidavit is not needed.
- The committee does not entertain complaints based only on media reporter on matters that are subjudice. The Committee makes a prima facie inquiry before deciding to examine a complaint. It makes its recommendations after evaluating the complaint.

**31. Who was the Provisional President of the Constitution Assembly before Dr. Rajendra Prasad took over?**

- C. Rajagopalachari
- Dr. B.R. Ambedkar
- T.T. Krishnamachari
- Dr. Sachchidananda Sinha

**Ans.(d):** Dr. Sachidananda Sinha, the oldest member was elected as the provisional president of the Constitution Assembly before Dr. Rajendra Prasad took over.

**32. With reference to the Government of India Act, 1935, consider the following statements:**

- It provided for the establishment of an All India Federation based on the union of the British Indian Provinces and Princely States.**
- Defence and Foreign Affairs were kept under the control of the federal legislature.**

**Which of the statements given above is/are correct?**

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**Ans.(a):**

- The act proposed the creation of a 'Federation of India' that would include both British Indian territories and princely state. However, the federation never materialized due to a lack of support from the required number of princely states. Hence statement-I is correct.
- The act introduced the concept of dyarchy at the centre. Defense and Foreign Affairs were kept under the control of Governor General. Hence statement-II is incorrect.

**33. Which one of the following is a work attributed to playwright Bhasa?**

- (a) Kavyalankara (b) Nityashastra  
(c) Madhyama-vyayoga (d) Mahabhashya

**Ans.(c):**

- Madhyama-vyayoga (The middle one) is a Sanskrit play attributed to Bhasa, a famous Sanskrit poet.
- He also wrote the 'Duta Ghatotkacha', 'Datavakya', 'Balacharita and Charudatta'.

**34. Sanghabhuti, an Indian Buddhist monk, who travelled to China at the end of the fourth century AD, was the author of a commentary on:**

- (a) Prajnaparamita Sutra (b) Visuddhimagga  
(c) Sarvastivada Vinaya (d) Lalitavistara

**Ans.(c):**

- Kashmir was the most prosperous Buddhist study centre in India and was also the centre of most formidable Buddhist school in North India- the 'Sarvastivada' school. The successive Kushana spurred the prosperity of Buddhism in Kashmir to support Buddhism.
- Sanghabhuti was one of the first Kashmiri scholars to reach China in AD 381. He translated a large number of Buddhist scriptures into Chinese. The most important work among the them contains detailed annotation about the 'Vinaya Pitaka' of the Sarvastivada school.

**35. Consider the following properties included in the World Heritage List released by UNESCO:**

1. Shantiniketan
2. Rani-ki-Vav
3. Sacred Ensembles of the Hoysalas
4. Mahabodhi Temple Complex at Bodhgaya

**How many of the above properties were included in 2023?**

- (a) Only one (b) Only two  
(c) Only three (d) All four

**Ans.(b):** World Heritage List UNESCO

Shantiniketan - 2023

Rani-ki-Vav- 2014

Sacred Ensembles of the Hoysalas - 2023

Mahabodhi Temple Complex at Bodhgaya - 2002

Hence the option (b) is correct answer.

**36. As per Article 368 of the Constitution of India, the Parliament may amend any provision of the Constitution by way of:**

1. Addition 2. Variation 3. Repeal

**Select the correct answer using the code given below:**

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

**Ans.(d):** Article 368 grants the exclusive power to amend the constitution of India to the parliament. It specifies that the parliament may amend by way of addition, variation or repeal any provision of the constitution in accordance with the procedure laid down in the article.

**37. Consider the following countries:**

1. Italy
2. Japan
3. Nigeria
4. South Korea
5. South Africa

**Which of the above countries are frequently mentioned in the media for their low birth rates, or ageing population or declining population?**

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

**Ans.(a):** Italy is in stage 4 of the Demographic Transition Model. This stage is characterized by low birth rate and low death rates leading to stable or decline population.

- Japan is an example of a stage 5 country. Where birth rates have fallen below death rates.
- South Korea has one of the fastest ageing population and the lowest birth rate in the world. The country is on route to becoming a so called super aged society by 2025.
- Nigeria is currently at the second stage of demographic transition and expected to remain at this stage in the next five decades.

**38. Which of the following statements are correct in respect of a Money Bill in the Parliament?**

1. Article 109 mentions special procedure in respect of Money Bills.
2. A Money Bill shall not be introduced in the Council of States.
3. The Rajya Sabha can either approve the Bill or suggest changes but cannot reject it.
4. Amendments to a Money Bill suggested by the Rajya Sabha have to be accepted by the Lok Sabha.

**Select the answer using the code given below:**

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

**Ans.(c):** Article 109 of the constitution mentions a special procedure in respect of Money Bill.

- Money Bill must be introducing in Lok Sabha and cannot be introduced in Rajya Sabha (Council of States).
- The Rajya Sabha can only make recommendation on a Money Bill but does not have the power to amend or reject it.
- Amendments to a Money Bill suggested by Rajya Sabha, which Lok Sabha may reject if it chooses to. Hence, statement 4 is not correct.

**39. Which of the following is/are correctly matched in terms of equivalent rank in the three services of Indian Defence forces?**

	Army	Airforce	Navy
1.	Brigadier	Air Commodore	Commander
2.	Major General	Air Vice Marshal	Vice Admiral
3.	Major	Squadron Leader	Lieutenant Commander
4.	Lieutenant Colonel	Group Captain	Captain

**Select the correct answer using the code given below:**

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

**Ans.(d):** The correct match is as follows—

	Indian Army	Indian Air force	Indian Navy
•	Field Marshal	Marshal of Air force	Admiral of the Fleet
•	General	Air Chief Marshal	Admiral
•	Lt. General	Air Marshal	Vice Admiral
•	Major General	Air Vice Marshal	Rear Admiral (Hence pair 2 is incorrect matched)
•	Brigadier	Air Commodore	Commander (Hence pair 1 is incorrect matched)

•	Colonel	Group Caption	Caption
•	Lt. Colonel	Wing Commander	Commander
•	Major	Squadron Leader	Lt. Commander (Hence pair 3 is correct matched)
•	Captain	Flight Lieutenant	Lieutenant
•	Lieutenant Colonel	Flying Officer	Sub-Lieutenant (Hence pair 4 is incorrect matched)

40. The North Eastern Council (NEC) was established by the North Eastern Council Act, 1971. Subsequent to the amendment of NEC Act in 2002, the Council comprises which of the following members?

1. Governor of the Constituent State.
2. Chief Minister of the Constitution State.
3. Three Members to be nominated by the President of India.
4. The Home Minister of India.

Select the correct answer using the code given below:

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

**Ans.(a):** According to the North Eastern Council (Amendment) Act-2002.

- NEC members include the Governors and chief Ministers of 8 states, including Sikkim.
- And 3 member nominated by the President.
- The President shall nominate the chairman of the council.

41. Consider the following statements:

**Statement-I :** If the United States of America (USA) were to default on its debt, holders of US Treasury Bonds will not be able to exercise their claims to receive payment.

**Statement-II :** The USA Government debt is not backed by any hard assets, but only by the faith of the Government.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I  
(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I  
(c) Statement-I is correct, but Statement-II is incorrect  
(d) Statement-I is incorrect, but Statement-II is correct

**Ans.(d):**

- If the USA were to default on its debt, holders of US Treasury bonds would still have the legal right to exercise their claims to receive payment.
- The U.S. Govt. debt including Treasury bonds, bill and notes is not backed by any specific hard assets. Instead it is backed by the 'Full faith, and credit' of the U.S. Government.  
Hence, statement I is not correct and statement II is correct.

42. Consider the following statements:

**Statement-I :** Syndicated lendings spreads the risk of borrower default across spreads the risk of borrower default across multiple lenders.

**Statement-II :** The syndicated loan can be a fixed amount/lump sum of funds, but cannot be a credit line.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I  
(c) Statement-I is correct, but Statement-II is incorrect  
(d) Statement-I is incorrect, but Statement-II is correct

**Ans.(c):** Syndicated lending involves a group of lenders collectively providing funds to a borrower. This approach helps in spreading the risk associated with borrower default across multiple lenders rather than having a single lender bear the entire risk. Hence statement-I is correct.

A syndicated loan can indeed be structured as either a fixed amount (a lump sum) or as a credit line (revolving credit facility). In a revolving credit facility the borrower can access funds upto a specified limit repay the borrowed amount and then borrow again up to the limit during the term of the facility. This flexibility is one of the key features of syndicated loans. Hence statement-II is correct.

43. Consider the following statements in respect of the digital rupee:

1. It is a sovereign currency issued by the Reserve Bank of India (RBI) in alignment with its monetary policy.
2. It appears as a liability on the RBI's balance sheet.
3. It is insured against inflation by its very design.
4. It is freely convertible against commercial bank money and cash.

Which of the statements given above are correct?

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

**Ans.(d):** The Central Bank Digital currency (CBDC) or Digital Rupee (or ₹) is a digital variant of physical currency issued by the Reserve Bank of India.

- The CBDS (or Digital Rupee) is a sovereign currency issued by RBI in accordance with their monetary policy.
- It is freely convertible against commercial bank money and cash.
- When bank customers convert their deposits into digital rupee, the RBI will have to take these liabilities from the books of banks and onto its own balance sheet.

44. With reference to ancient India, Gautama Buddha was generally known by which of the following epithets?

1. Nayaputta
2. Shakyamuni
3. Tathagata

Select the correct answer using the code given below:

- (a) 1 only (b) 2 and 3 only  
(c) 1, 2 and 3  
(d) None of the above are epithets of Gautama Budha

**Ans.(b):** Shakyamuni- This epithet means "Sage of shakyas" and is commonly used to refer to Gautama Buddha, highlighting his origin from 'Shakya Clan'.

- Tathagat- This term used by Gautama Buddha to refer to himself or other Buddhas, means one who has this gone" or "one who has thus come".
- Nayaputta- This epithet used for Mahavira, the 24<sup>th</sup> Tirthankara of Jainism.

45. Consider the following information:

	Archaeological Site	State	Description
1.	Chandraketugarh	Odisha	Trading Port town
2.	Inamgaon	Maharashtra	Chalcolithic
3.	Mangadu	Kerala	Megalithic
4.	Salihundam	Andhra Pradesh	Rock-cut cave shrines

In which of the above rows is the given information correctly matched?

- (a) 1 and 2 (b) 2 and 3  
(c) 3 and 4 (d) 1 and 2

**Ans.(b):** The correct match is as follows—

Archaeological Site	State	Description
Chandraketugarh	West Bengal	Trading Port Town
Inamgaon	Maharashtra	Chalcolithic site
Mangadu	Kerala	Megalithic site
Salihundam	Andhra Pradesh	Buddhist stupas and monastic complexes

46. Who of the following rulers of medieval India gave permission to the Portuguese to build a fort at Bhatkal?

- (a) Krishnadevaraya (b) Narasimha Saluva  
(c) Muhammad Shah III (d) Yusuf Adil Shah

**Ans.(a):**

- Krishnadevaraya signed a treaty with the Portuguese in 1510, it permitted Albuquerque to construct fort at Bhatkal.
- Domingo Paes and Barbosa, Portuguese travelers visited in Krishnadevaraya's court in 1520.
- He also helped the Portuguese to conquer Goa from Bijapur in 1510.
- Bhatkal fort located at Uttara Kannada district in Karnataka.

47. With reference to revenue collection by Cornwallis, consider the following statements:

1. Under the Ryotwari Settlement of revenue collection, the peasants were exempted from revenue payment in case of bad harvests or natural calamities.
2. Under the Permanent Settlement in Bengal, if the Zamindar failed to pay his revenues to the state, on or before the fixed date, he would be removed from his Zamindari.

Which of the statements given above is/are correct?

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

**Ans.(b):**

- **Ryotwari Settlement-** This system was instituted by sir Thomas Munro in 1820.
- The rent in the Ryotwari System was paid directly by peasants to the government.
- In this system the tax rates were 50% in dryland and 60% in wetland.
- Peasants were not exempted from paying revenue even in crop failure or natural calamities.
- **Permanent Settlement-** Under this settlement if Zamindar failed to pay the fixed revenue to the state by specified date, his land would be confiscated and auctioned off by the British authorities.

48. Consider the following statements:

1. There are no parables in Upanishads.
2. Upanishads were composed earlier than the Puranas.

Which of the statements given above is/are correct?

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

**Ans.(b):** Upanishads are the texts contain conversations between teachers and students.

- Some Upanishads include tales (parables). Examples—Chhandogya Upanishad tells story of wise beggar and Katopnishad tells story of antology of the two birds.
- Upanishads were composed over 1000-600 BC, and Puranas were composed over 300-1000 AD.

49. Consider the following statements:

1. India is a member of the International Grains Council.
2. A country needs to be a member of the International Grains Council for exporting or importing rice and wheat.

Which of the statements given above is/are correct?

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

**Ans.(c):**

- The International Grains Council (IGC) was established in 1949 as the International Wheat Council and was renamed in 1995 under grains trade convention.
- Members are designated as importers or exporters based on their average trade in grains, rice, and oilseeds.
- India has been included in the category of exporting member in July (2003).
- India is a member of the International Grains council (IGC).
- As of April, 2020 its membership comprises 11 Producing members and 18 importing members.

50. Which one of the following was the latest inclusion in the Intangible Cultural Heritage List of UNESCO?

- (a) Chhau Dance (b) Durga Puja  
(c) Garba Dance (d) Kumbh Mela

**Ans.(c):**

Culture Name	Type	State/Region	Added IN UNESCO
Chhau dance	Performing art	West Bengal, Jharkhand, Odisha	2010
Durga Puja	Festival	Kolkata	2021
Garba	Festival	Gujarat	2023
Kumbh Mela	Festival	Prayagraj, Haridwar, Nashik and Ujjain	2017

Note- Latest inclusion in the Intangible cultural Heritage List of UNESCO is Garba dance.

51. The total fertility rate in an economy is defined as:

- (a) The number of children born per 1000 people in the population in a year.  
(b) The number of children born to a couple in their lifetime in a given population.  
(c) The birth rate minus death rate.  
(d) The average number of live births a woman would have by the end of her child-bearing age.

**Ans.(d):** The Total fertility Rate (TFR) is the average number of live births a woman would have by the end of her child-bearing age (15-45 years).

- In India, the TFR has experienced as significant decline, from 6. or more in 1950s to 2.0 in 2021.
- TFR of about 2.1 children per woman is called Replacement-level fertility.
- TFR lower than 2.1 children per woman indicates that a generation is not producing enough children to replace itself, which leading to an outright reduction in population.

52. Consider the following statements:

1. In India, Non-Banking Financial Companies dealers access the Liquidity Adjustment Facility window of the Reserve Bank of India.
2. In India, Foreign Institutional Investors can hold the Government Securities (G-Secs).
3. In India, Stock Exchanges can offer separate trading platforms for debts.

Which of the statements given above is/are correct?

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

**Ans.(c):** Liquidity Adjustment Facility (LAF) is a facility extended by RBI to the scheduled commercial banks (excluding RRBs) and Primary dealers (PDs) to avail of liquidity in case of requirement or park excess funds with RBI.

- Only some specified NBFCs are part of PDs and major NBFCs are not part of PDs remain outside the preview of accessing LAF window of RBI.
- Foreign institutional investors (FIIs) who obtain specific approval from SEBI have been permitted to invest 100% of their portfolios in debt securities.
- National stock exchange (NSE) will be the first exchange to offer a separate trading platform for debts.
- Which an aim to develop corporate debt market in the country, SEBI allowed creation of a separate debt segment on stock exchanges.

53. In India, which of the following can trade in Corporate Bonds and Government Securities?

1. Insurance Companies  
2. Pension Funds  
3. Retail Investors

Select the answer using the code given below:

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

**Ans.(d):** Government securities (G-sec) is a tradable instrument issued by the central government or the state government.

- Corporate bonds and government securities are two types of investments that companies and governments use to raise money.
- Major players in the G-sec and corporate bond market include commercial bank and Primary dealers (PDs) besides institutional investors like insurance companies.
- Pension funds and Retail investors are main participants in G-Sec and corporate bonds.

54. Consider the following:

1. Exchange-Traded Funds (ETF)  
2. Motor vehicles  
3. Currency swap

Which of the above is/are considered financial instrument?

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

**Ans.(d):** Financial instruments are intangible assets, which are expected to provide future benefits in the form of a claim to future cash. It is a tradable asset.

- **Exchange-Trade Funds (ETFs)** are financial instruments that track the performance of a basket of assets (stock, bonds) and allowing investors to buy or sell them.
- **Currency swap** is a financial derivative contract in which two parties exchange the amount of loan in one currency to another currency, based on current exchange rate.
- Motor vehicles are not considered financial instruments. They are tangible assets used for transportation and are not traded as financial securities or derivatives on financial markets.

55. With reference to the sectors of there Indian economy, consider the following pairs:

	Economic activity	Sector
1.	Storage of agricultural produce	Secondary
2.	Dairy farm	Primary
3.	Mineral exploration	Tertiary
4.	Weaving cloth	Secondary

How many of the above are correctly matched?

- (a) Only one (b) Only two  
(c) Only three (d) All four

**Ans.(b):** The economic activity and related sector is as–

Economic activity	Sector
Storage of agricultural produce	Primary sector
Dairy farm	Primary sector
Mineral exploration	Primary sector
Weaving cloth	Secondary sector

56. Consider the following materials:

1. Agricultural residues  
2. Corn grain  
3. Wastewater treatment sludge  
4. Wood mill waste

Which of the above can be used as feedstock for producing Sustainable Aviation Fuel?

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

**Ans.(c):** Sustainable Aviation Fuel (SAF) is a type of liquid fuel currently used in commercial aviation (airplanes) to reduce green house gas (CO<sub>2</sub>) emissions by up to 80%.

- It is made from various source, including waste oil, fats, green and municipal waste and non-food crops.
- Corn grain, oil seeds, Algae, Agricultural residues wood mill waste, wet waste (manure and wastewater treatment sludge) are used to make aviation fuel (SAF).

57. With reference to physical capital in Indian economy, consider the following pairs:

	Items	Category
1.	Farmer's plough	Working capital
2.	Computer	Fixed capital
3.	Yarn used by the weaver	Fixed capital
4.	Petrol	Working capital

How many of the above are correctly matched?

- (a) Only one (b) Only two  
(c) Only three (d) All four

**Ans.(b):** Physical capital in Indian Economy-

Items	Category
Farmer's plough	Working Capital
Computer	Fixed Capital
Yarn used by the weaver	Working capital
Petrol	Working capital

58. Which one of the following words/phrases is most appropriately used to deonte “an interoperable network of 3D virtual worlds that can be accessed simultaneously by millions of users, who can exert property rights over virtual items”?

- (a) Big data analytics (b) Cryptography  
(c) Metaverse (d) Virtual matrix

**Ans.(c):** The term 'Metaverse' refers to an interconnected network of 3D virtual worlds in which users represented by avatars interact.

- The metaverse often conflated (combined) with the virtual reality (VR) and augmented reality (AR) technology used to experience a shared 3D world.
- Users can create and own virtual items within the metaverse.

59. With reference to the rule/rules imposed by the Reserve Bank of India while treating foreign banks, consider the following statements:

1. There is no minimum capital requirement for wholly owned banking subsidiaries in India.  
2. For wholly owned banking subsidiaries in India, at least 50% of the board members should be Indian nationals.

Which of the statements given above is/are correct?

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



**Ans.(b):** RBI allows foreign banks to operate in India either through branch presence or they can set up a wholly owned subsidiary (WOS) with near national treatment.

- The initial minimum paid-up voting equity capital for a WOS shall be 5 billion.
- The composition of the board of directors of WOS should meet requirements- not less than 50 percent of the directors should be Indian nationals, as defined under section 10A of the banking Regulation Act, 1949.

**60. With reference to Corporate Social Responsibility (CSR) rules in India, consider the following statements:**

**1. CSR rules specify that expenditures that benefit the company directly or its employees will not be considered as CSR activities.**

**2. CSR rules do not specify minimum spending on CSR activities.**

**Which of the statements given above is/are correct?**

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

**Ans.(a): Under the companies (CSR Policy) Rules, 2024,** any activity benefitting employees, of the company shall not be considered as eligible CSR activity.

- As per rule, any activity designed exclusively for the benefit of employees shall be considered an "activity benefitting employees" and will not qualify as permissible CSR expenditure.

- As per rule section 135 of the companies Act 2013, mandates, that certain companies must allocate at least 2% of their average net profits from preceding three financial years towards CSR activity.

**61. With reference to radioisotope thermoelectric generators (RTGs), consider the following statements:**

**1. RTGs are miniature fission reactors.**

**2. RTGs are used for powering the onboard systems of spacecrafts.**

**3. RTGs can use Plutonium-238, which is a by-product of weapons development.**

**Which of the statements given above are correct?**

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

**Ans.(b):** Radioisotope thermoelectric generators (RTGs) are advanced power source developed for the demand of deep space mission that are extraordinarily reliable, due to their longevity and durability in harsh environments.

- RTGs are not miniature fission reactors, they rely on the natural radioactive decay of plutonium-238 to generate using thermocouples.

- RTGs generate electrical power for powering the onboard systems of spacecrafts, especially in situations where solar power is insufficient.

- Plutonium-238, which is used in RTGs, can be a by-product of nuclear reactors and weapons developments.

**62. Consider the following statements:**

**Statement-I : Giant stars live much longer than dwarf stars.**

**Statement-II: Compared to dwarf stars, giant stars have a greater rate of nuclear reactions.**

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-II  
(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I  
(c) Statement-I is correct, but Statement-II is incorrect  
(d) Statement-I is incorrect, but Statement-II is correct

**Ans.(d):** Giant stars have greater rate of the nuclear reactions that light up stars. Massive stars also use up the hydrogen fuel in their core faster, leading to a shorter overall lifespan.

- Having greater masses than sun, these massive stars have hotter and denser cores than dwarf stars, Therefore Giant stars have a greater rate of the nuclear reactions.

- Hence statement-I is incorrect & statement-II is correct.

**63. Which one of the following is synthesised in human body that dilates blood vessels and increases blood flow?**

- (a) Nitric oxide (b) Nitrous oxide  
(c) Nitrogen dioxide (d) Nitrogen pentoxide

**Ans.(a) :**

- Nitric oxide (Nitrogen Oxide or Nitrogen Monoxide : NO) is a colorless gas.

- Nitric oxide (NO) is produced in the human body from inorganic nitrates in green leafy vegetables, fruits, grains and processed meats. It is stored in the body as nitrate. It is very important for the health of blood vessels.

- It is a vasodilator, which means it relaxes the inner muscles of your blood vessels, causing the vessels to widen. In this way, nitric oxide increases blood flow and lowers blood pressure.

- Nitrous oxide is also called laughing gas. It is also used for clinical anesthesia. The main effect of nitrogen dioxide is on the respiratory system.

**64. Consider the following activities:**

**1. Identification of narcotics on passengers at airports on in aircraft/**

**2. Monitoring of precipitation**

**3. Tracking the migration of animals**

**In how many of the above activities can be radars be used?**

- (a) Only one (b) Only two  
(c) All three (d) None

**Ans.(c) :** • Heinrich Hertz is considered to be the inventor of RADAR.

- The full form of 'RADAR' is 'Radio Detection and Ranging'.

- It uses radio waves. It determines the range, angle and velocity of objects.

- Radar is used in various fields. Such as identifying narcotics hidden by passengers in airports or planes, by meteorologists in forecasting the weather and monitoring rainfall, in keeping an eye on the migration of animals, in navigation of aircraft, in space and military fields, etc.

**65. Consider the following aircraft:**

**1. Rafale 2. MiG-29 3. Tejas MK-1**

**How many of the above are considered fifth generation fighter aircraft?**

- (a) Only one (b) Only two  
(c) All three (d) None

**Ans.(d):**

- Rafale and Tejas MK-1 are 4.5<sup>th</sup> generation fighter aircraft, while MiG-29 is a fourth generation fighter aircraft. Tejas is India's indigenous fighter aircraft.

- The cabinet committee on security has recently approved the prototype development and testing phase of India's indigenous fifth generation stealth fighter jet, 'Advanced Medium Combat Aircraft' (AMCA), to build India's first 5<sup>th</sup> generation aircraft.

- Some of the major 5<sup>th</sup> generation aircraft in the world are as follows—

1. Sukhoi SU-57—Russia
2. Lockheed Martin F-35 Lightning II—America
3. Lockheed Martin F-22 Raptor—America
4. Chengdu (AVIC) J-20 (Black Eagle)—China etc.

66. In which of the following are hydrogels used?

1. Controlled drug delivery in patients
2. Mobile air-conditioning systems
3. Preparation of industrial lubricants

Select the answer using the code given below:

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

Ans.(d):

- A hydrogel is a water-based material with a soft consistency and moisturizing properties.
- Hydrogels are used in the biomedical industry for therapeutic delivery. It is also used in tissue engineering. In ophthalmology, intraocular lenses, Contact lenses and corneal prostheses, bone cement for orthopedics, Hydrogels are also used in wound dressings.
- **Hygiene products**—Hydrogels are used in diapers and sanitary pads as they can absorb high amounts of liquid.
- **Construction**—Hydrogels are used to retain moisture in concrete, improving its setting process.
- These properties and uses of hydrogels indicate its important role in various fields.

67. Which one of the following is the exhaust pipe emission from Fuel Cell Electric Vehicles, powered by hydrogen?

- (a) Hydrogen peroxide (b) Hydronium  
(c) Oxygen (d) Water vapour

Ans.(d):

- The emissions from hydrogen-powered fuel cell electric vehicles (FCEVs) are mostly water ( $H_2O$ ). The chemical reaction between hydrogen and oxygen in a fuel cell produces electricity, and the only by products of this process are steam and hot air. Therefore, these vehicles do not emit harmful gases, making them much more environmentally friendly than conventional petrol or diesel powered vehicles.

68. Recently, the term “pumped-storage hydropower” is actually and appropriately discussed in the context of which one of the following?

- (a) Irrigation of terraced crop fields  
(b) Lift irrigation of cereal crops  
(c) Long duration energy storage  
(d) Rainwater harvesting system

Ans.(c):

- Pumped storage hydropower (PSH) is a type of hydroelectric energy storage.
- PSH acts like a giant battery, because it can store electricity and then release it when it is needed.
- PSH is a configuration of two water reservoirs at different elevations that can generate electricity as water moves down (discharge) from one to the other, passing through a turbine.

69. “Membrane Bioreactors” are often discussed in the context of:

- (a) Assisted reproductive technologies  
(b) Drug delivery nanotechnologies  
(c) Vaccine production technologies  
(d) Waste water treatment technologies

Ans.(d):

- Membrane bioreactors are discussed as waste water purification technologies.
- Membrane Bioreactors (MBR) are a modern water and waste water purification technology that integrates biological treatment and membrane filtration.
- It consists of the following main elements—**Biological reactor**—Where micro organisms decompose waste.  
**Membrane unit**—Which performs solid-liquid separation, producing high-quality clean water.

- It can be used for domestic waste water treatment, industrial waste water treatment and production of reusable water.
- **Working Mechanism**—MBR systems first undergo conventional biological purification, in which micro organisms decompose organic material, next, a membrane filtration unit separates clean water by filtering out solid particles. The membrane is usually micro filtration or ultra filtration.

70. With reference to the Indian economy, “Collateral Borrowing and Lending Obligations” are the instruments of:

- (a) Bond market (b) Forex market  
(c) Money market (d) Stock market

Ans.(c):

- Collateralized borrowing and lending obligation (CBLO) is a money market instrument that represents an obligation between the borrower and the lender regarding the terms and conditions of the loan.
- It is mainly used for short-term money management.
- CBLO is operated by clearing corporation of India limited (CCIL) and Reserve Bank of India (RBI).
- This instrument is available to banks, primary dealers, mutual funds, insurance companies and other financial institutions who use it for liquidity management and meeting cash requirement.
- The purpose of CBLO is to facilitate short-term borrowing and lending facility to banks and other financial institutions without any risk. Under this, both the borrowing and lending parties use eligible securities as collateral through The Clearing Corporation of India Limited (CCIL).

71. The organisms “Cicada, Frog hopper and Pond skater” are:

- (a) Birds (b) Fish  
(c) Insects (d) Reptiles

Ans.(c):

- **Cicada**—A cicada is a **type of insect** that is part of the cicadoidea family. These insects are known for their distinctive sound, which they produce mainly during mating time.
- Cicadas are important to the ecosystem because they improve soil quality and help cycle nutrients among vegetation.
- **Frog hopper**—is a **small insect** also known as 'spittlebug'. It is known for its jumping ability, it is able to jump many times the distance of its body length. Frog hopper belongs to cercopoidea family
- This insect depends on the juice of plants and sometimes it is also harmful for the farmers.
- **Pond skaters**—are commonly found in ponds, rivers and quiet reservoirs. They are also known as water striders. They are a **type of insect** belonging to the Gerridae family. They are known for their ability to walk on the surface of water. This feat is achieved due to their long, hydrophobic legs that distribute their weight and allow them to take advantage of the surface tension of the water.

72. Consider the following statements:

**Statement-I:** Many chewing gums found in the market are considered a source of environmental pollution.

**Statement-II:** Many chewing gums contain plastic as gum base.

**Which one of the following is correct in respect of the above statements?**

- Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- Statement-I is correct, but Statement-II is incorrect
- Statement-I is incorrect, but Statement-II is correct

**Ans.(a):**

- Chewing gum is a soft, sticky substance that can be chewed but not swallowed. It is primarily composed of gum base, sweeteners, flavorings and softeners.
- Fillers like talc and calcium carbonate help increase the size and bulk of the gum, polymers such as polyvinyl acetate (PVA) give the gum its elasticity and emulsifiers are used to add flavors and colors to the gum and reduce stickiness, softeners such as vegetable oils are added to the gum base to keep it chewable and soft.
- Regular chewing gum contains a substance called polyvinyl acetate (PVA) which is used to make tires and glue. The gum we eat is plastic based. Research Gate reported that chewing gum produces more than 105 tons of plastic waste every year. Thus, the discarded non-biodegradable remnants of gum create plastic pollution.

**73. Consider the following pairs:**

	Country	Animal found in its natural habitat
1.	Brazil	Indri
2.	Indonesia	Elk
3.	Madagascar	Bonobo

**How many of the pairs given above are correctly matched?**

- Only one
- Only two
- All three
- None

**Ans.(d):**

- Indri**—Indri, also known as babakoto. Indri is a type of lemur found in the eastern rainforests of Madagascar. Indri is famous for its loud, terrifying call which can be heard from far away. Indri is considered an endangered species, its numbers are decreasing due to habitat destruction, hunting and continuous reduction in forest area.
- Elk** —The Elk (*Cervus Canadensis*) is one of the largest deer family (cervidae) in the world, and one of the largest land mammals in North America and East Asia.
- Bonobo**—The Bonobo is an endangered ape found in the forests of Central Africa. The Bonobo has also been historically known as the 'pygmy chimpanzee'.
- The Bonobo is found in an area of 500000 square km within the Congo Basin of the Democratic Republic of the Congo (DRC) in Central Africa.

**74. Consider the following statements regarding World Toilet Organization:**

- It is one of the agencies of the United Nations.
- World Toilet Summit, World Toilet Day and World Toilet College are the initiatives of this organization, to inspire action to tackle the global sanitation crisis.
- The main focus of its function is to grant funds to the least developed countries and developing countries to achieve the end of open defecation.

**Which of the statements given above is/are correct?**

- 2 only
- 3 only
- 1 and 2
- 2 and 3

**Ans.(a):**

- The World Toilet Organization (WTO) was founded by Jack Sim on 19 November, 2001 in Singapore with the Goal of improving toilet and sanitation conditions around the world. It is a non-profit organization (NGO). Hence, the WTO (World Toilet Organization) is not a United Nations Agency.
- With the establishment of the WTO on 19 November, 2001, it was announced to celebrate this day as 'World Toilet Day', which received official recognition of 'United Nations Day' in the year 2013.
- The WTO works to improve sanitation facilities globally through various initiatives, campaigns and partnerships, especially in areas where lack of sanitation causes serious health problems.
- Programs like 'World Toilet Summit' and 'Urgent Run' are organized by the WTO. Through the Urgent Run Program, immediate action is called for to deal with the sanitation crisis.
- The World Toilet College was launched in 2005 by the WTO as a social enterprise aimed at promoting innovative research in toilet design, sanitation and hygiene technologies, and ensuring hygiene standards.
- Other initiatives of the organization are the Rainbow School Toilet initiative in 2015 and the 'floating community Toilet' Project in 'Tonle Sap Lake', Cambodia in 2018.
- Its main function is not to provide funds to LDCs and developing countries.
- The WTO was granted consultative status with the United Nations Economic and Social Council in 2013.

**75. Consider the following statements:**

- Lions do not have a particular breeding season.
- Unlike most other big cats, cheetahs do not roar.
- Unlike male lions, male leopards do not proclaim their territory by scent marking.

**Which of the statements given above are correct?**

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

**Ans.(a):**

- Lions do not have a specific breeding season. Usually, it can occur throughout the year.
- Cheetah do not roar, cheetahs are not capable of roaring like other big cats. Cheetahs belong to the "Purring Cats" subfamily and as such do not roar. On the other hand, animals like lions and tigers are capable of roaring.
- Male leopards actually declare their territory by scent marking. They mark their territory in various ways, among which scent marks are prominent. They spray urine, scratch trees with their claws and sometimes even use feces to scent mark. These scent marks inform other leopards about the boundaries of their territory and discourage any encroachment.
- In contrast, lions also mark their presence and territory by scent marking but lions usually live in herds and defend their territory. Collectively, while leopards live alone and defend their territory individually.
- The International Big Cat Alliance (IBCA) is a mega global alliance launched by India during the 50th anniversary of Project Tiger in April, 2023. The alliance aims to conserve the world's seven major big cats, which include the Tiger, Lion, Snow Leopard, Leopard, Jaguar, Puma and Cheetah.

**76. Which one of the following is the correct description of "100 Million Farmers"?**

- (a) It is a platform for accelerating the transition towards food and water systems that are net-zero (carbon), nature-positive and that aims to increase farmer resilience.
- (b) It is an international alliance and a network of individuals and farming organisations interested in supporting and strengthening the development of the organic animal husbandary.
- (c) It is a digital platform fully integrated with service providers and built on blockchain that lets buyers, sellers and third parties trade fertilizers quickly and securely.
- (d) It is a platform with the mission of encouraging the farmers to form Farmer Product Organisations or Agribusiness Consortia, thus facilitating the access to global open markets to sell their products.

**Ans.(a):**

- '100 Million Farmers' is a platform that helps private and public leaders accelerate collective action to establish food and farmers as central pillars on the global climate and nature agenda and to scale up climate and nature-friendly agricultural practices.
- **Objective of 100 Million Farmers :** Build farmer resilience for food security, in support of the transition to net-Zero and nature positive food and water system by 2030.

**77. Consider the following:**

1. Battery storage
2. Biomass generators
3. Fuel cells
4. Rooftop solar photovoltaic units

**How many of the above are considered "Distributed Energy Resources"?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

**Ans.(d):**

- Distributed Energy Resources (DER) refer to energy resources that are located near consumers rather than centralized power plant.
- These resources provide flexibility in electricity generation, storage, and consumption and are of various types—
  - a— Rooftop solar photovoltaic units
  - b—Wind power generation units
  - c—Battery storage
  - d—Biomass generators, which run on waste gas or industrial and agricultural by products
  - e—Fuel cells.
  - f—Open and closed cycle gas turbines. etc.
- Advantages of Distributed Energy Resources—
  - Improved energy efficiency
  - Flexibility and reliability
  - Incorporation of renewable energy
  - Local economic benefits.
- Distributed energy resources are playing an important role in the modern energy system and can help meet future energy demands and solve environmental problems.

**78. Which one of the following shows a unique relationship with an insect that has coevolved with it and that is the only insect that can pollinate this tree?**

- (a) Fig
- (b) Mahua
- (c) Sandalwood
- (d) Silk cotton

**Ans.(a):**

- Fig pollination is a unique and complex process based on the interdependence between the fig tree and the closely related fig wasps. Fig are pollinated by wasps that belong to the order Hymenoptera, family Agonidae.

- The fig fruit is actually called a syconium, an inverted flower. Its interior is suitable for pollination by the fig wasp. The female fig wasp enters the syconium of the fig and lays eggs in it. During entry, the wasp also spreads the pollen it has brought with it, which pollinates the fig flowers. The female wasp lays her eggs in tiny flowers inside the fig. The wasp eggs hatch in to larvae, which use the flowers as food.
- Thus, this symbiotic relationship between figs and fig wasps ensures that both organisms depend on each other to survive and grow.

**79. Consider the following:**

1. Butterflies
2. Fish
3. Frogs

**How many of the above have poisonous species among them?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Ans.(c):** There are some toxic species of Butterflies, fish and frogs. The main ones being the following—

**Butterfly :**

**Monarch—Butterfly (Danaus plexippus)—**This butterfly collects a toxin called cardenolide from milkweed plants in its life cycle, which makes it toxic.

**Fish :**

**Pufferfish (Tetraodontidae family)—**This fish contains a toxin called tetraodotoxin in its various organs, which is extremely lethal.

**Stonefish (Synanceia)—**This fish has a toxin in its spine, which can be very painful and potentially fatal.

**Frog :**

**Poison Dart Frogs (Dendrobatidae Family) :** These frogs secrete a toxin called batrachotoxin from their skin, which is very lethal to predators.

These toxic species use the toxin to protect themselves from predators and extreme caution should be taken while handling them.

**80. Consider the following:**

1. Cashew
2. Papaya
3. Red sanders

**How many of the above trees are actually native to India?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Ans.(a):**

- The native tree of India is Rakta Chandan (Pterocarpus Santalinus). Cashew (Anacardium occidentale) and papaya (Carica Papaya) are not native trees of India.
- Cashew is native to north-eastern Brazil it was brought to India by the Portuguese in the late 16th Century.
- The native place of papaya is South Mexico and Costa Rica. India is the world leader in the production of Papaya.
- The native place of red sandalwood is Andhra Pradesh.

**81. Consider the following airports:**

1. Donyi Polo Airport
2. Kushinagar International Airport
3. Vijayawada International Airport

**In the recent past, which of the above have been constructed as Greenfield projects?**

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

**Ans.(a):** Since 2019, 6 Greenfield airports namely, Kalaburagi, Orvakal (Kurnool), Shindhadurg, Itanagar, Kushinagar and Mopa have been operationalised, out of which, Kushinagar and Mopa airports are International airports.

- Donyi Polo Airport, Itanagar is the first greenfield airport has been developed in Arunachal Pradesh and was inaugurated by Prime Minister of India in 2022.

- Kushinagar International Airport, is a greenfield airport, was inaugurated by Prime Minister of India in October, 2021.
- Vijaywada International Airport is not a greenfield project.

82. With reference to “water vapour”, which of the following statements is/are correct?

1. It is a gas, the amount of which decreases with altitude.

2. Its percentage is maximum at the poles.

Select the answer using the code given below:

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

**Ans.(a):** Water vapour is a variable gas in the atmosphere which decreases with altitude.

- Water vapour decreases from the equator towards the poles. In the warm and wet tropics, it may account for 4% of the air by volume, while in the dry and cold areas of desert and polar regions, it may be less than 1% of the air.

83. Consider the following description:

1. Annual and daily range of temperature is low.

2. Precipitation occurs throughout the year.

3. Precipitation varies between 50cm-250 cm.

What is this type of climate?

- (a) Equatorial climate  
(b) China type climate  
(c) Humid subtropical climate  
(d) Marine West coast climate

**Ans.(d):** Marine west coast climate is located poleward from the Mediterranean climate on the west coast of the continents. The main areas are : North-Western Europe, west coast of North America, North of California, Southern Chile, Southern Australia and New Zealand. Due to marine influence, the temperature is moderate and in winter, it is warmer than for its latitude. The mean temperature in summer months ranges from 15° – 20° C and in winter 4°–10°C. The annual and daily ranges of temperature are small. Precipitation occurs throughout the year. Precipitation varies greatly from 50–250 cm.

84. With reference to “Coriolis force”, which of the following statements is/are correct?

1. It increases with increase in wind velocity.

2. It is maximum at the poles and is absent at the equator.

Select the answer using the code given below:

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

**Ans.(c):**

- The rotation of the earth about its axis affects the direction of the wind. This force is called the Coriolis Force. It deflects the wind to the right direction in the northern hemisphere and to the left in the southern hemisphere. The deflection is more when the wind velocity is high.
- The Coriolis Force is directly proportional to the angle of latitude. It is the maximum at the poles and is absent at the equator.

85. On June 21 every year, which of the following latitude(s) experience(s) a sunlight of more than 12 hours?

1. Equator 2. Tropic of Cancer  
3. Tropic of Capricorn 4. Arctic Circle

Select the answer using the code given below:

- (a) 1 only (b) 2 only  
(c) 3 only 4 (d) 2 and 4

**Ans.(d):** On 21<sup>st</sup> June, the Northern Hemisphere is tilted towards the sun. The rays of the sun fall directly on the Tropic of Cancer. As the result, these areas receive more heat. Sunlight of more than 12 hours is received at tropic of cancer. The North pole is inclined towards the

sun and the places beyond the Arctic circle experience continuous daylight for about six months. Since a large portion of the Northern Hemisphere is getting light from the sun, it is summer in the regions north of the equator. The longest day and the shortest night at these places occur on 21<sup>st</sup> June.

86. One of the following regions has the world's largest tropical peatland, which holds about three years worth of global carbon emissions from fossil fuels; and the possible destruction of which can exert detrimental effect on the global climate. Which one of the following denotes that region?

- (a) Amazon Basin (b) Congo Basin  
(c) Kikori Basin (d) Rio de la Plata Basin

**Ans.(b):** The Congo Basin is name to the World's largest tropical peatlands. The peat swamp forest of the Congo Basin stores around 29 billion tons of carbon—approximately equivalent to three years' Worth of global greenhouse gas emissions—while the Basin as a whole absorbs nearly 1.5 billion tons of CO<sub>2</sub> a year. The Basin stretches across six countries—Cameroon, Central African Republic, Democratic Republic of the Congo, Congo, Equatorial Guinea and Gabon. The Congo Basin is one of the world's last regions that absorbs more carbon than it emits. Its possible destruction can have detrimental effect on the global climate.

87. With reference to perfluoroalkyl and polyfluoroalkyl substances (PFAS) that are used in making many consumer products, consider the following statements:

1. PFAS are found to be widespread in drinking water, food and food packaging materials.

2. PFAS are not easily degraded in the environment.

3. Persistent exposures to PFAS can lead to bioaccumulation in animal bodies.

Which of the statements given above are correct?

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

**Ans.(d):** Perfluoroalkyl and Polyfluoroalkyl substances (PFAS) are synthetic chemicals that are found in paper packaging food, drinking water, food, fabrics and non-stick cookwares.

- PFAS are not break down easily in the environment, and since they have strong bond of carbon-fluorine so they do not degrade easily.
- Exposure to certain PFAS may be associated with increased risk of thyroid cancer. PFAS are known to accumulate in body tissue such as in the liver.

88. Consider the following plants:

1. Carabid beetles 2. Centipedes  
3. Flies 4. Termites  
5. Wasps

Parasitoid species are found in how many of the above kind of organisms?

- (a) Only two (b) Only three/  
(c) Only four (d) All five

**Ans.(b):** Parasitoids are organisms that develop on or within other organism (the host), eventually killing it. Parasitoids have characteristics of both predators and parasites.

- Most parasitoids are wasps and bees (hymenoptera) or flies (Diptera) although a few species of beetles (Carabid beetles), twisted wing insects, moths have been identified as parasitoids.

89. Consider the following plants:

1. Groundnut 2. Horse-gram 3. Soybean

How many of the above belong to the pea family?

- (a) Only one (b) Only two  
(c) All three (d) None

**Ans.(c):**

- The Fabaceae or Leguminosae, known as the legume, pea or bean family.
- Groundnut, Horse-gram and Soybean are belongs to Fabaceae (or Leguminosae),
- Groundnut is the only nut that grows under the ground.
- These peas are excellent in nutritional and remedial properties.

**90. Consider the following statements:**

**Statement-I: The Indian Flying Fox is placed under the “vermin” category in the Wild Life (Protection) Act, 1972.**

**Statement-II : The Indian Flying Fox feeds on the blood of other animals.**

**Which one of the following is correct in respect of the above statement?**

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

**Ans.(c):**

- The vector and fruit-eating flying fox (pteropus giganteus) is considered as vermin category, has placed in the Wild Life Act, 1972 in high degree protection.
- Indian flying foxes were also called the great Indian fruit bats, as it eats fruits and feeding on the juice.
- Indian flying foxes help in seed-dispersion and pollination, making them an integral part of the ecosystem.

**91. Consider the following statements:**

**Statement-I: The atmosphere is heated more by incoming solar radiation than by terrestrial radiation.**

**Statement-II: Carbon dioxide and other greenhouse gases in the atmosphere and good absorbers of long wave radiation.**

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

**Ans. (d) :**

- Heat energy that earth radiates is known as terrestrial radiation.
- Incoming Solar radiation through short waves known as Insolation.
- In Insolation, roughly 35 units are reflected back to the space before reaching the earth's surface.
- 27 units are reflected back from the top of clouds and 2 units from the ice covered area of earth.
- Reflected amount of radiation is known as albedo of the earth.
- 51 units are absorbed by earth's surface.
- 14 units are absorbed by atmosphere.
- The Earth radiate back 51 units in the form of terrestrial radiation.
- The long wave radiation is absorbers of long wave radiation.

**92. Consider the following statements:**

**Statement-I: Thickness of the troposphere at the equator is much greater as compared to poles.**

**Statement-II: At the equator, heat is transported to great heights by strong conventional currents.**

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

**Ans. (a) :**

- Due to variation in temperature and density of the air at different latitudes, the thickness of the troposphere is more at equator and thinnest at the poles.
- At the equator, the intense solar heating causes strong convectional currents. These currents transport heat to great heights, contributing to the greater thickness of the troposphere in this region.

**93. Consider the following:**

1. Pyroclastic debris
2. Ash and dust
3. Nitrogen compounds
4. Sulphur compounds

**How many of the above are products of volcanic eruptions?**

- (a) Only one
- (b) Only one
- (c) Only three
- (d) All four

**Ans. (d) :**

- Volcano is a rupture in the crust of a planetary mass object, such as earth that allows hot lava, volcanic ash, and gases to escape from a magma chamber below the surface.
- The material that reaches the ground includes lava flows, Pyroclastic debris, volcanic bomb, ash and dust and gases such as nitrogen compounds, Sulphur compounds and minor amount of chlorine, hydrogen and argon.

**94. Which of the following is/are correct inference/inferences from isothermal maps in the month of January?**

1. The isotherms deviate to the north over the ocean and to the south over the continent.
2. The presence of cold ocean currents, Gulf Stream and North Atlantic Drift make the North Atlantic Ocean colder and the isotherms bend towards the north.

**Select the answer using the code given below:**

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

**Ans. (a) :**

- Isotherms are Imaginary lines that connects points having same temperature at a given time or on average over given period.
- These lines are used in meteorology and climatology to represent temperature-distributions across geographical areas.
- In January the isotherms deviates to the north over the ocean and to the south over the continent.
- In presence of warm ocean currents, Gulf Stream and North Atlantic drift, makes the Northern Atlantic ocean warmer and the isotherms bend towards the north.



95. Which of the following countries are well known as the two largest cocoa producers in the world?
- Algeria and Morocco
  - Botswana and Namibia
  - Cote d'Ivoire and Ghana
  - Madagascar and Mozambique

Ans. (c) :

- Cote d'Ivoire and Ghana are the two largest cocoa growing countries, accounting for nearly 60% of global cocoa production.
- In 2022, will 22,00,000 million tonnes production of cocoa Cote d'Ivoire becomes largest producer followed by Ghana, Indonesia, Nigeria and Equador.
- Indonesia is the largest producer of cocoa in Asia.

96. With reference to the Himalayan rivers joining the Ganga downstream of Prayagraj from West to East, which one of the following sequences is correct?
- Ghaghara–Gomati–Gandak–Kosi
  - Gomati–Ghaghara–Gandak–Kosi
  - Ghaghara–Gomati–Kosi–Gandak
  - Gomati–Ghaghara–Kosi–Gandak

Ans. (b) :

- Gomati** - The river flows through an incised valley south wares through the districts of Sitapur, Lucknow, Barabanki, Sultanpur and Jaunpur before meeting the Ganga river at Kaithi, Ghazipur.
- Ghaghara** - It flows through Tibet, Nepal and India where it join river Ganga near Chhapra, Bihar.
- Gandak** - The Gandak flows southeast 800 km across the Gangetic plain of Bihar state through West Champaran, Gopalganj, East-Champaran, Saran, Vaishali districts. It Joins the Ganga near Patna just down stream of Hazipur at Sonpur.
- Kosi** - The Koshi crosses into northern Bihar and joinning the Ganga near Kursela in Katihar district.

97. Consider the following statements:  
Statement-I : Rainfall is one of the reasons for weathering of rocks.

Statement-II: Rain water contains carbon dioxide in solution.

Statement-III: Rain water contains atmospheric oxygen.

Which one of the following is correct in respect of the above statements?

- Both Statement-II and Statement-III are correct and both of them explain Statement-I
- Both Statement-II and Statement-III are correct, but only one of them explains Statement-I
- Only one of the Statements-II and III is correct and that explains Statement-I
- Neither Statement-II nor Statement-III is correct

Ans. (a) :

- Rainfall and temperature can affect the rate in which rock weather. Greater rainfall increases the rate of chemical weathering.
- Carbon dioxide from the air is dissolved in rain water, making it slightly acidic. A section can occur when the rain water comes into contact with minerals in the rock, causing weathering. (hence statement - II is correct)
- Oxygen is one of the most important element collected from falling rainwater. Dissolved oxygen is present in all rainwater and surface supplies due to contact with atmosphere. (hence statement-III is correct)

From the above, we can say that both statement-II and statement-III are correct and explain statement-I.

98. Consider the following countries:

- Finland
- Germany
- Norway
- Russia

How many of the above countries have a border with the North Sea?

- Only one
- Only two
- Only three
- All four

Ans. (b) :

- The North Sea is a sea that is part of the Atlantic Ocean in northern Europe.
- The North Sea is between Norway and Denmark in the east, Scotland and England in the West, Germany, Netherlands, Belgium and France in the South.
- Hence, Germany and Norway have a border with the North Sea. From the given options.

99. Consider the following information:

	Waterfall	Region	River
1.	Dhuandhar	Malwa	Narmada
2.	Hundru	Chota Nagpur	Subarnarekha
3.	Garsoppa	Western Ghats	Netravati

In how many of the above rows is the given information correctly matched?

- Only one
- Only two
- All three
- None

Ans. (a) :

- Dhuandhar** - Dhuandhar falls is a waterfall in Jabalpur district in M.P. It is created by river Narmada. Jabalpur is not located in the Malwa region. It is located in the Mahakoshal region. (hence pair 1 is not correctly matched)
- Hundru** - The Hundru fall Ranchi, Jharkhand is created on the course of Subarnarekha River. Whese it falls from a height of 320 feet creating the highest. It is located in the region of Chhota Nagpur Plateau. (hence pair 2 is correctly matched)
- Garsoppa falls** - Also known as Jog falls, is located in the Shimoga district of Karnataka. It is created by Sharavathi river rising in Western Ghats. (hence pair 3 is not correctly matched)

100. Consider the following information:

	Region	Name of the mountain range	Type of mountain
1.	Central Asia	Vosges	Fold mountain
2.	Europe	Alps	Block mountain
3.	North America	Appalachians	Fold mountain
4.	South America	Andes	Fold mountain

In how many of the above rows is the given information correctly matched?

- Only one
- Only two
- Only three
- All four

Ans. (b) :

- Block mountains are created when large areas are broken and displaced vertically. The uplifted blocks are termed as horsts and the lowered blocks are called graben. The vosges mountain is situated in Europe (not in central Asia) is an example of block mountain systems.
- The Alps is one of the youngest fold mountains with rugged relief and high conical peaks located in Europe.
- The Appalachians in North America is one of the very old fold mountains in the world.
- Andes is one of the youngest fold mountains located in South America.