

Time Allowed: 2 Hours

Maximum Marks: 100

*Instructions*

1. This Test Booklet contains 120 items (questions). Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
2. You have to mark all your responses **ONLY** on the separate Answer Sheet provided. See directions in the Answer Sheet.
3. All items carry equal marks.
4. Penalty for wrong answers:  
**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.**
  - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one-third of the marks assigned to that question will be deducted as penalty.
  - (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above to that question.
  - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

1. Which one among the following is not a micronutrient for plants?  
(a) Iron (b) Manganese  
(c) Magnesium (d) Chlorine
2. Xylem in the plants are responsible for the transport of:  
(a) Water  
(b) Water and dissolved minerals  
(c) Gases  
(d) Food
3. Which one among the following hormones inhibits the growth activity in plants?  
(a) Auxins (b) Cytokinins  
(c) Abscisic acid (d) Gibberellins
4. Which of the following categories of biomolecules does Starch belong to?  
(a) Protein (b) Carbohydrate  
(c) Lipid (d) Nucleic acid
5. Which one among the following is **not** a feature of Xerophytes?  
(a) Smaller leaves  
(b) Large number of stomata  
(c) Waxy cuticle  
(d) Stomata in pits
6. Halophytes are the plants that grow on which one, among the following categories of soil?  
(a) Acidic soil (b) Saline soil  
(c) Black soil (d) Sandy soil
7. Which one among the following is **not** a part of vascular bundle in plants?  
(a) Phloem (b) Xylem  
(c) Cambium (d) Endodermis
8. In which one among the following mediums would the speed of sound be maximum?  
(a) Distilled water (b) Sea water  
(c) Drinking water (d) Methanol
9. Which organelle in animal cells can digest foreign materials?  
(a) Endoplasmic reticulum  
(b) Lysosome  
(c) Golgi body  
(d) Mitochondria
10. Photosynthesis that converts light energy into chemical energy by the plants, involves the use of green pigments of leaves called chlorophyll. The only structure in a leaf that hosts chlorophyll is:  
(a) Nucleus (b) Ribosome  
(c) Chloroplast (d) Chromosome
11. In which of the following colloids is the dispersing medium a liquid?  
(a) Mist (b) Foam  
(c) Jelly (d) Shaving cream
12. The two isotopes of elemental chlorine are:  
(a)  $^{35}_{17}\text{C}$  and  $^{36}_{17}\text{C}$  (b)  $^{34}_{17}\text{C}$  and  $^{36}_{18}\text{C}$   
(c)  $^{35}_{17}\text{C}$  and  $^{37}_{18}\text{C}$  (d)  $^{35}_{17}\text{C}$  and  $^{37}_{17}\text{C}$
13. Which one among the following metals is **not** stored under oil?

- (a) Sodium (b) Rubidium  
(c) Potassium (d) Lithium
14. Potassium nitrate is **not** used:  
(a) as a fertiliser  
(b) in medicine  
(c) in making gunpowder  
(d) as a preservative of meat products
15. The surface of the concrete structure of a new construction is covered with straw/gunny bags by wetting. This is done to:  
(a) prevent fast evaporation, until hydration has proceeded well.  
(b) protect the concrete structure from contamination by dust particles.  
(c) prevent development of any fungus on the surface.  
(d) give smoother and cleaner surface over cement structure.
16. Which one among the following statements for the gases mentioned below is **not** correct?  
(a) Hydrogen has 3 isotopes.  
(b) Helium is a commonly used gas in electric bulbs.  
(c) Oxygen is used to burn fuel in rocket engines in spacecraft.  
(d) Nitrogen can be used in gaseous form to replace air in food packaging.
17. Match List-I with List-II and select the correct answer using the code given below the Lists:
- | List-I<br>(Trade Name) | List-II<br>(Chemical Name)               |
|------------------------|--|
| A. Bleaching powder    | 1. Sodium bicarbonate                    |
| B. Baking soda         | 2. Sodium carbonate, 10 water            |
| C. Washing soda        | 3. Calcium oxychloride                   |
| D. Plaster of Paris    | 4. Calcium sulphate, $\frac{1}{2}$ water |
- Code:
- |     | A | B | C | D |
|-----|---|---|---|---|
| (a) | 3 | 1 | 2 | 4 |
| (b) | 3 | 2 | 1 | 4 |
| (c) | 4 | 2 | 1 | 3 |
| (d) | 4 | 1 | 2 | 3 |
18. Which one among the following statements is **not** true for glass?  
(a) Sodium silicate is known as water glass.  
(b) Glass is also called super cooled liquid.  
(c) Crystallinity develops on cooling of the molten mass of the glass.  
(d) Coloured glasses can be made by adding different colouring materials.
19. Which one among the following is responsible for determining the chemical properties of an element?  
(a) Protons (b) Electrons  
(c) Neutrons (d) Nucleus
20. Which one among the following is used in bleaching of paper?  
(a) Chloride  
(b) Chlorobenzene  
(c) Ammonium chloride  
(d) Hydrochloric acid
21. X-rays can be used to:  
1. inspect welded joints between two metal parts of a machine.  
2. study the structure of crystals.  
Select the answer using the code given below:  
(a) 1 only (b) 2 only  
(c) Both 1 and 2 (d) Neither 1 nor 2
22. Which one of the following heat transfers is an example of convection?  
(a) Heating of food in a microwave oven.  
(b) Boiling water in a pot on a gas stove.  
(c) Feeling the warmth in sun.  
(d) Heating a brass rod at one end and observing the temperature rise at the other end.
23. The phenomenon of rainbow formation by water droplets involves:  
(a) single refraction of sunlight.  
(b) one internal reflection of sunlight.  
(c) two internal reflections of sunlight.  
(d) both refraction and internal reflection of sunlight.
24. Ozone hole is a region over:  
(a) the Antarctic caused mainly by CFC gases.  
(b) the Antarctic caused mainly by carbon dioxide gas.  
(c) the Arctic caused mainly by CFC gases.  
(d) the Arctic caused mainly by carbon dioxide gas.
25. Which of the following are the major missions of Indian Space Research Organisation in 2023?  
1. Chandrayaan-3  
2. Solar Mission Aditya-L1  
3. Liquid fuel powered rockets  
4. Solar powered rockets  
Select the answer using the code given below:  
(a) 1 and 2 only (b) 1, 2 and 3  
(c) 3 and 4 only (d) 1, 2, 3 and 4
26. Which one of the following is the most appropriate reason for aircraft being equipped with conducting tyres?  
(a) They can transfer the charge accumulated on their surfaces during lightning.

- (b) They can transfer the charge accumulated on their surfaces being rubbed by air particles.
- (c) They can transfer the charge accumulated on their surfaces due to inflight operation of several gadgets.
- (d) For preventing sparks while they land on the ground.
27. Which of the following statements for persons suffering from presbyopia is/are correct?
- They cannot distinguish colours.
  - It usually develops with ageing.
  - They wear either bi-focal lenses consisting of both concave and convex or progressive lenses.
- Select the answer using the code given below:
- (a) 1 only                      (b) 2 only  
(c) 1 and 3                      (d) 2 and 3
28. A sound wave having frequency of 300 Hz is travelling in an unknown medium. Its wavelength is not known. It travels a distance equal to 150 times its wavelength in time  $t$ . The value of  $t$  is:
- (a) 0.5 s                      (b) 1 s  
(c) 1.5 s                      (d) 2 s
29. *Mission Shakti* (DRDO) of India is related to which one among the following?
- (a) Launch of multiple satellites using a single rocket.
- (b) Launch of heavy satellites.
- (c) Use of high power rockets in launching of satellites.
- (d) Use of rocket to destroy an orbiting satellite.
30. In Sun–Earth system, the Sun, the Earth and the Lagrange point L4 form:
- (a) an isosceles triangle  
(b) an equilateral triangle  
(c) a straight line  
(d) a scalene triangle
31. Match List-I with List-II and select the correct answer using the code given below the Lists:
- | List-I<br>(Trade Name)                                       | List-II<br>(Chemical Name) |
|--|----------------------------|
| A. National Academy of Customs, Indirect Taxes and Narcotics | 1. Mussoorie               |
| B. LBS National Academy of Administration                    | 2. Shimla                  |
| C. National Academy of Audit and Accounts                    | 3. Mumbai                  |
| D. All India Institute of Local Self Government              | 4. Palasamudram            |
- Code:**
- |     | A | B | C | D |
|-----|---|---|---|---|
| (a) | 3 | 2 | 1 | 4 |
| (b) | 3 | 1 | 2 | 4 |
| (c) | 4 | 1 | 2 | 3 |
| (d) | 4 | 2 | 1 | 3 |
32. Consider the following statements:
- The Flag Code of India superseded the 'Flag Code-India'.
  - The state emblem of India is an adaptation of the Lion Capital of Ashoka at Sarnath.
- 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
33. Which one of the following is not among the thematic areas of National Mission on Sustainable Habitat?
- (a) Energy and Green Building  
(b) Mobility and Air Quality  
(c) Waste Management  
(d) Rural Planning, Green cover and Biodiversity
34. Which of the following are the components of the Indian Legal System?
- Basic values and principles enshrined in the Constitution.
  - Rights and obligations conferred by ordinary statutes.
  - Organisational set-up to enforce rights and within the constitutional norms obligations.
  - Legal and judicial persons.
- Select the answer using the code given below:
- (a) 1, 2, 3 and 4              (b) 1, 2 and 4 only  
(c) 1, 2 and 3 only              (d) 3 and 4 only
35. Which one among the following statements about the objectives of Vibrant Village Programme is correct?
- (a) It is a Centrally sponsored scheme.  
(b) This programme was launched in 2021.  
(c) Arunachal Pradesh, Sikkim and Manipur are the states selected under this scheme.  
(d) Villages of Uttar Pradesh along the Nepal border are selected as flagship villages under this scheme.
36. Which one of the following UN organisations has not been awarded the Nobel Prize?
- (a) WFP                      (b) ILO  
(c) UNESCO                      (d) UNHCR
37. Which of the following areas has been exempted from the purview of the Citizenship (Amendment) Act, 2019?
- (a) Ladakh  
(b) Jammu and Kashmir

- (c) The Sixth Schedule Areas  
(d) The Fifth Schedule Areas
38. Who among the following stated that 'A just society is that society in which ascending sense of reverence and descending sense of contempt is dissolved into the creation of a compassionate society'?
- (a) Vinoba Bhave  
(b) Bhimrao Ramji Ambedkar  
(c) Rammanohar Lohia  
(d) Jayaprakash Narayan
39. Which of the following statements is/are correct?
1. Criminal law is exclusively a subject under the State List of the Constitution of India.
  2. Code of Civil Procedure falls under the Concurrent List of the Constitution of India.
- Select the answer using the code given below:
- (a) 1 only                      (b) 2 only  
(c) Both 1 and 2              (d) Neither 1 nor 2
40. Arrange the following agreements between India and Pakistan in chronological order:
1. Tashkent Declaration.
  2. Indus Water Treaty.
  3. Agreement on the Prohibition of Attack Against Each Other's Nuclear Installations and Facilities.
  4. Agreement on Reducing the Risk from Accidents Relating to Nuclear Weapons.
- Select the answer using the code given below:
- (a) 1, 2, 3, 4                      (b) 2, 3, 1, 4  
(c) 2, 1, 3, 4                      (d) 1, 4, 2, 3
41. Which of the following statements with regard to the Shanghai Cooperation Organisation (SCO) is/are correct?
1. The official languages of the SCO are Russian and Chinese.
  2. The SCO enjoys observer status in the UN General Assembly.
  3. The SCO consists of 13 member states.
- Select the answer using the code given below:
- (a) 1 only                      (b) 1 and 3  
(c) 1 and 2                      (d) 2 and 3
42. Financial Action Task Force is:
- (a) A wing under the Central Economic Intelligence Bureau.  
(b) A division of Enforcement Directorate.  
(c) A global money laundering and terrorist financing watchdog.  
(d) A UN Anti-Corruption Agency.
43. In which of the following matters placed before the UN General Assembly, a resolution by two-thirds majority of the members present and voting is required?
1. Admission of new members to the UN.
  2. Election of the non-permanent members of the Security Council.
  3. Election of members of the Economic and Social Council.
- 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
44. 'Bharat Parv' was organized by the Government of India during which of the following programmes?
1. Republic Day 2024
  2. National Film Festival 2024
  3. Cannes Film Festival 2024
- 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
45. Which one of the following organisations challenged the constitutionality of Section 377 of the Indian Penal Code in the Supreme Court of India?
- (a) Naz Foundation (India) Trust  
(b) Bachpan Bachao Andolan  
(c) Sambhav Foundation India  
(d) Action Aid India
46. As per Article 371G of the Constitution of India, special provisions have been made with respect to the state of Mizoram. Accordingly, no Act of Parliament shall apply on certain matters unless the Legislative Assembly of Mizoram so decides by a resolution. Which one of the following matters is **not** covered under this Article?
- (a) Religious or social practices of the Mizos.  
(b) Mizo customary law and procedure.  
(c) Administration of civil and criminal justice involving decisions according to Mizo customary law.  
(d) Ownership and transfer of natural resources.
47. Which of the following statements, as per the Information Technology Act, 2000, is/are correct?
1. This Act provides that electronic signature is legally valid in the same manner as the handwritten signature.
  2. Both the Central Government and State Governments have been given the power to make rules with respect to electronic signature.
- Select the answer using the code given below:
- (a) 1 only                      (b) 2 only  
(c) Both 1 and 2                      (d) Neither 1 nor 2
48. Which of the following statements about National Recruitment Agency is correct?

- (a) It is a body to conduct Common Eligibility Test (CET) to shortlist the candidates for vacancies under 'Group B' and 'Group C' of the Government.
- (b) Employment in private sector is facilitated in all the districts, particularly 117 aspirational districts.
- (c) It was setup in 2014.
- (d) It has been accorded Constitutional status in 2021.
49. The Research Design and Standards Organisation is the R&D wing of which one of the following organisations?
- (a) Bhabha Atomic Research Centre  
(b) Indian Space Research Organisation  
(c) Indian Railways  
(d) Defence Research and Development Organisation
50. Match List-I with List-II and select the correct answer using the code given below the Lists:
- | List-I<br>(Speaker of Lok Sabha) | List-II<br>(Chemical Name)    |
|----------------------------------|-------------------------------|
| A. Manohar Gajanan Joshi         | 1. 14 <sup>th</sup> Lok Sabha |
| B. Somnath Chatterjee            | 2. 13 <sup>th</sup> Lok Sabha |
| C. Meira Kumar                   | 3. 16 <sup>th</sup> Lok Sabha |
| D. Sumitra Mahajan               | 4. 15 <sup>th</sup> Lok Sabha |
- Code:
- |     | A | B | C | D |
|-----|---|---|---|---|
| (a) | 2 | 1 | 4 | 3 |
| (b) | 2 | 4 | 1 | 3 |
| (c) | 3 | 4 | 1 | 2 |
| (d) | 3 | 1 | 4 | 2 |
51. Consider the following statements about the Vedanta philosophy:
- Shankara was the founder of Advaita Vedanta.
  - The philosophy of Dvaita was elaborated by Madhva.
- 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
52. The distribution of *charkhas* on a wide scale among the people was decided by:
- (a) Congress Working Committee in 1919.  
(b) All India Congress Committee in 1921.  
(c) Mahatma Gandhi at the start of Dandi March.  
(d) All India Congress Committee in 1947.
53. The terms used for cereals in the Rig Veda are
- (a) Godhuma and Vrihi  
(b) Yava and Dhanya  
(c) Tila and Khala  
(d) Priyangu and Shyamaka
54. Consider the following statements about the condition of widows in the 18<sup>th</sup> century India:
- Raja Sawai Jai Singh of Amber promoted widow remarriage.
  - Maratha General Parshuram Bhau promoted widow remarriage.
  - Raja Ram Mohan Roy opposed Sati.
- Which of the statements given above are correct?
- (a) 1 and 2 only              (b) 1 and 3 only  
(c) 2 and 3 only              (d) 1, 2 and 3
55. Consider the following statements about the administrative measures of Shivaji:
- The scheme of *Ashta Pradhan* (eight ministers) was completed and announced at the time of Shivaji's coronation with regulations and duties properly defined.
  - Shivaji introduced Marathi in place of Persian and coined Sanskrit technical terms for administrative purposes.
- 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
56. With reference to the Mesolithic art in India, consider the following statements:
- Alexander Burns discovered the first rock paintings in India at Sohagighat in Uttar Pradesh.
  - Bhimbetka rock paintings were discovered when archaeologist V.S. Wakankar noticed the rocks out of a train window while travelling from Bhopal to Itarsi and got off at the rock were nearest railway station to explore the site.
  - The paintings and engravings do not exist in the same shelter in the rock art of Orissa.
- Which of the statements given above is/are correct?
- (a) 1 only                      (b) 2 only  
(c) 2 and 3                      (d) 1 and 2
57. In the decoration of Stupas, what does the term '*Kinjalkini*' refer to?
- (a) Creepers showing ornaments and textiles  
(b) Scarves and saris  
(c) Mango shaped pendants  
(d) A garland of thousand lotus flowers
58. Which of the following is/are the correct components of the "Lion Capital" at Sarnath?
- The shaft (stambha-yashti) or the tall tapering column.
  - An elliptical top part — the abacus, devoid of any carvings.

3. Overflowing inverted petals below the abacus.  
Select the answer using the code given below:  
(a) 1 only (b) 1 and 3 only  
(c) 2 and 3 only (d) 1, 2 and 3
59. Consider the following events leading to the Indian Independence:  
1. Lucknow Pact  
2. Return of Subhash Chandra Bose to India  
3. Cripps Mission  
4. Naval Mutiny in Bombay  
Select the chronological sequence of these events (earliest to latest) from the code given below:  
(a) 4, 3, 2, 1 (b) 3, 4, 2, 1  
(c) 1, 2, 3, 4 (d) 2, 1, 3, 4
60. Who among the following were famous for their metal-casting skills and used to cast excellent matchlocks during the medieval period?  
(a) Marathas (b) Rajputs  
(c) Ahoms (d) Gonds
61. Consider the following statements about the Ancient Hindu metal images in India:  
1. The Chola period is well known for the aesthetic and technical finesse of its metal sculptures.  
2. The iconography and style of Chola metal images were similar to those of their stone counterparts.  
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
62. Which one of the following terms was used for the States in the Draft Constitution presented by Dr. B.R. Ambedkar on 4<sup>th</sup> November, 1948?  
(a) Union of States  
(b) Federation of States  
(c) Autonomous States  
(d) Subsidiary States
63. The *antariya* was a garment worn by people during the Mauryan period. It was:  
(a) an unstitched length of cloth draped around the body.  
(b) a sewn garment consisting of a sleeved tunic.  
(c) a head covering used exclusively by women.  
(d) made of strips sewn together tied at the waist with a cord.
64. Consider the following statements with reference to the Utpala dynasty of Kashmir:  
1. Avantivarman, the founder, devoted his energies to the economic upliftment of his subjects.
2. Avantivarman's period in Kashmir is known for the engineering operations under his minister Suyya, resulting in the enormous increase of grains and fall in 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
65. Consider the following pairs of High Offices and concerned Departments in the Mauryan Administration:  
1. *Samahartri* : Chief Collector of Revenue  
2. *Dauvarika* : Chief of Army  
3. *Akshapatala* : Records-cum-Audit Officer  
4. *Samnidhatri* : Treasurer  
Which of the pairs given above are correctly matched?  
(a) 1 and 2 only (b) 1, 3 and 4 only  
(c) 3 and 4 only (d) 1, 2, 3 and 4
66. Which kingdom was described by Governor-General Lord Dalhousie as "*A cherry that will drop into our mouth one day*"?  
(a) Delhi (b) Awadh  
(c) Jhansi (d) Gwalior
67. Consider the following statements with reference to Census in India:  
1. The first All India Census was attempted in 1872.  
2. From 1881, decennial censuses became a regular feature.  
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
68. Which of the following statements is/are correct?  
1. During the Second Round Table Conference held in London in 1931, the British Government refused to accept the basic nationalist demand for freedom.  
2. India was granted dominion status in 1932.  
3. Viceroy Lord Willingdon adopted a policy of reconciliation with Congress.  
4. The Civil Disobedience Movement was started with the breaking of salt laws.  
Select the answer using the code given below:  
(a) 2 and 3 only (b) 4 only  
(c) 1 and 4 only (d) 1, 2 and 4
69. Which of the following statements about Cabinet Mission are correct?  
1. It was sent to India in 1946 to negotiate the transfer of power with the Indian leaders.

2. It proposed a two-tiered federal plan while conceding the largest measure of regional autonomy.
3. There was to be a federation of provinces and states, alongside a federal centre.
4. The individual provinces were allowed to form regional unions to which they could surrender some of their powers by mutual agreement.
- Select the answer using the code given below:  
 (a) 1 and 3 only      (b) 1, 2 and 4 only  
 (c) 2, 3 and 4 only      (d) 1, 2, 3 and 4
70. Consider the following pairs:
1. *Gajapati* – Name of a powerful Dynasty in Orissa
  2. *Ashvapati* – Deccan Sultans
  3. *Narapati* – *Rayas* of Vijayanagara
- Which of the above pairs is/are correctly matched?  
 (a) 1 only      (b) 2 only  
 (c) 1, 2 and 3      (d) None of the above
71. Which of the following pairs of Himalayan Glaciers and their location is/are correctly matched?
1. Siachen – Nubra Valley Region
  2. Chungphar – Kumaon – Garhwal Region
  3. Zemu – Central Nepal Region
  4. Gasherbrum – Pir Panjal Range
- Select the answer using the code given below:  
 (a) 1 only      (b) 1 and 2  
 (c) 2 and 3      (d) 3 and 4
72. Consider the following statements regarding the rivers of India:
1. The Barak River, the head stream of the Meghna, rises in the hills of Meghalaya.
  2. The Ghaggar River does not drain out to the sea and gets lost in the Rajasthan desert.
  3. Puthimari and Manas are important tributaries of the Brahmaputra.
- Which of the statements given above is/are correct?  
 (a) 1 only      (b) 2 only  
 (c) 1 and 2      (d) 2 and 3
73. Consider the following statements regarding transportation functions associated with important ports:
1. Singapore functions both as a port of call and an entrepot.
  2. Karwar in India is an example of a naval port.
  3. Dover in England is an example of an outport.
- Which of the statements given above is/are correct?
- (a) 1 only      (b) 3 only  
 (c) 1 and 3      (d) 1 and 2
74. Cumulonimbus clouds develop from which among the following clouds?  
 (a) Cumulus congestus clouds  
 (b) Cumulus and Nimbostratus clouds  
 (c) Cumulus and Altostratus clouds  
 (d) Cirrocumulus clouds
75. Which of the following Ramsar Wetland sites is **not** situated in any of the Union Territories of India?  
 (a) Hokera Wetland  
 (b) Point Calimere Wildlife and Bird Sanctuary  
 (c) Tsomoriri Lake  
 (d) Wular Lake
76. Eratosthenes, a Greek philosopher measured the Earth's circumference based on the angle of Sun rays at two different points. Which cities were they?  
 (a) Alexandria and Syene  
 (b) Syene and Troy  
 (c) Alexandria and Troy  
 (d) Alexandria and Thebes
77. Which kind of mass wasting processes are commonly associated with creep?  
 (a) Fast speed with soil  
 (b) Slow speed with rock  
 (c) Slow speed with ice  
 (d) Slow speed with soil
78. Consider the following statements:
1. Hadley cells are key to understanding the wind patterns of Earth.
  2. Hadley cells are formed because the Equator is heated more strongly by the Sun than other places, creating thermal circulations.
- With regard to the statements given above, which of the following is correct?  
 (a) Both the statements are correct and statement 2 is the correct explanation of statement 1.  
 (b) Both the statements are correct, but statement 2 is **not** the correct explanation of statement 1.  
 (c) Statement 1 is correct, but statement 2 is false.  
 (d) Statement 1 is false, but statement 2 is correct.
79. Consider the following statements:
1. Ocean currents are dominated by huge surface gyres that are driven by the global surface wind pattern.
  2. Equatorial currents move cold water westward and then poleward along the east coasts of continents.

- With regard to the statements given above, which of the following is correct?
- (a) Both the statements are correct and statement 2 is the correct explanation of statement 1.
- (b) Both the statements are correct, but statement 2 is **not** the correct explanation of statement 1.
- (c) Statement 1 is correct, but statement 2 is false.
- (d) Statement 1 is false, but statement 2 is correct.
80. As per India State of Forest Report 2021, which one of the following states is **not** among the top three with reference to maximum area under forest?
- (a) Arunachal Pradesh
- (b) Chhattisgarh
- (c) Madhya Pradesh
- (d) Maharashtra
81. How is strong pressure gradient represented on a weather map?
- (a) Closely spaced isobars
- (b) Widely spaced isobars
- (c) Closely spaced isobars at the periphery
- (d) A set of two widely spaced isobars followed by two closely spaced isobars
82. Which one of the following is **not** an example of chemical weathering?
- (a) Acid action
- (b) Hydrolysis
- (c) Salt Crystal Growth
- (d) Oxidation
83. Which of the following statements regarding Arc Volcanoes is/are correct?
1. Arc volcanoes are found near divergent plate boundaries.
  2. Some of the world's classical examples of cone-shaped stratovolcanoes, such as Mount Fuji in Japan, Mayon in the Philippines are Arc volcanoes.
  3. Some of the highest volcanoes on Earth are of the Arc type, notably Nevado Ojos del Salado in the Chilean Andes.
- Select the answer using the code given below:
- (a) 2 only                      (b) 2 and 3 only
- (c) 1 and 3 only                (d) 1, 2 and 3
84. Which one of the following statements regarding S-waves is **not** correct?
- (a) S-waves are slower than P-waves.
- (b) During an earthquake S-waves are less destructive to structures like buildings and highway overpasses.
- (c) S-waves can travel only through solids and cannot travel through the Earth's outer core.
- (d) Seismologists have concluded that the Earth's outer core must be liquid or fluid.
85. Which of the following states is/are part of the Ganga Basin?
1. Chhattisgarh
  2. Himachal Pradesh
  3. Rajasthan
- 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
86. Which peninsular river has a tributary named 'Kabini'?
- (a) Godavari                    (b) Krishna
- (c) Mahanadi                   (d) Kaveri
87. Consider the following statements:
1. Bajra is predominantly grown in states like Rajasthan, Uttar Pradesh and Gujarat, while Ragi is mainly cultivated in Karnataka and Tamil Nadu.
  2. Bajra grows well in sandy and shallow black soils, whereas red and shallow black soil is suited for Ragi.
- With regard to the statements given above, which of the following is correct?
- (a) Both the statements are correct and statement 2 is the correct explanation of statement 1.
- (b) Both the statements are correct, but statement 2 is not the correct explanation of statement 1.
- (c) Statement 1 is correct, but statement 2 is false.
- (d) Statement 1 is false, but statement 2 is correct.
88. Which of the following peaks are situated in India?
1. Dhaulagiri
  2. Namcha Barwa
  3. Kamet
  4. Makalu
- Select the answer using the code given below:
- (a) 1, 2 and 3                    (b) 1 and 3 only
- (c) 2 and 3 only                (d) 2 and 4 only
89. Which of the following statements regarding River Rhine is/are correct?
1. Rhine River is an important pathway for industrial activity in northern Germany.
  2. Port of Rotterdam is located at the mouth of the Rhine River.
- Select the answer using the code given below:
- (a) 1 only                      (b) 2 only
- (c) Both 1 and 2                (d) Neither 1 nor 2
90. With reference to the continent of 'Antarctica' which of the following statements are correct?



1. It is larger than Europe in terms of area.
  2. It has the highest average elevation as compared to all other continents.
  3. Mt. Ross is the highest peak of this continent.
  4. Waters of the Southern Ocean (West Wind Drift) move in an anticlockwise direction around it.
- Select the answer using the code given below:
- (a) 1 and 2 only      (b) 1 and 3 only  
(c) 1, 2 and 3      (d) 2, 3 and 4
91. Consider the following statements:
1. A rupee Vostro account is an account that an Indian bank holds for a foreign bank in the domestic currency (rupee) to enable domestic banks to provide international banking services.
  2. Insurance density, i.e., average insurance premium per capita does not fully capture the financing gap in the event of a premature death because most of the insurance products sold in India are savings-linked with a small component of protection.
- 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
92. Consider the following statements:
1. An additional spending by the Government of ₹X is likely to have less impact on income than an additional transfer of ₹X to households.
  2. An additional spending by the Government of ₹X is likely to have less impact on income if it is not accompanied by an expansion in money supply.
- 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
93. Long-Term Low Emissions Development Strategy envisions:
1. a transition from fossil fuels in a just, smooth, and sustainable manner.
  2. increased use of bio-fuels.
  3. climate resistant urban development.
  4. financing of sustainable development through Green Bonds.
- Select the answer using the code given below:
- (a) 1 and 2 only      (b) 1, 2 and 3  
(c) 2 and 4 only      (d) 1, 3 and 4
94. Which one among the following was the focus of the Twelfth Five-Year Plan?
- (a) Sustainable and Inclusive Growth
- (b) Social Justice and Equality  
(c) Food, Work and Productivity  
(d) Attainment of Self-reliance
95. Which of the following is **not** included in the Capital Account of the Balance of Payments of a country?
- (a) Foreign Direct Investment  
(b) Commercial Borrowing  
(c) Invisibles  
(d) External Assistance
96. The Atmanirbhar Bharat Scheme announced by the Government helps in:
1. enhancing India's manufacturing capabilities and exports across the industries.
  2. incentivising foreign investments for domestic production.
- Select the answer using the code given below:
- (a) 1 only      (b) 2 only  
(c) Both 1 and 2      (d) Neither 1 nor 2
97. Which one of the following statements for a firm's equilibrium in Perfect Competition is **not** correct?
- (a) The market price must be greater or equal to average variable cost in the short run.  
(b) The market price must be equal to marginal cost.  
(c) The market price must be equal to average cost in the long run.  
(d) The marginal cost decreases at the equilibrium output.
98. Which one of the following taxes is **not** included in the Central Pool to be shared with the States according to the recommendations of Finance Commission of India?
- (a) Personal Income Tax  
(b) Corporate Profit Tax  
(c) Surcharge and Cess  
(d) Excise Duties
99. Which one of the following dimensions is **not** included in Human Development Index?
- (a) Life Expectancy at birth  
(b) Mean years of schooling  
(c) Expected years of schooling  
(d) Mortality rate
100. Suppose there are only two normal goods in the economy, X and Y. If price of good X increases, which would be the correct statement from below?
- (a) Demand for good X decreases and demand for Y is indeterminate.  
(b) Demand for good X decreases and demand for Y decreases.

- (c) Demand for good X increases and demand for Y is indeterminate.
- (d) Demand for good X increases and demand for Y decreases.
101. If the price index increased from 100 in 2021 to 110 in 2022 to 132 in 2023, then the rate of inflation is:
- (a) 10%  
(b) 32%  
(c) 20%  
(d) Cannot be determined
102. The Rangarajan Committee methodology for determining the poverty line incorporated which of the following?
1. A food component.
  2. A normative level of expenditure for essential non-food items.
  3. A behaviourally determined expenditure for other non-food items.
- 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 and 3 only
103. Which one of the following is **not** a fund managed by NIIFL (National Investment and Infrastructure Fund Limited)?
- (a) Master Fund  
(b) Fund of Funds  
(c) Strategic Opportunities Fund  
(d) Global Investment Fund
104. Pandit Deendayal Upadhyay National Welfare Fund was established with the view to help which one of the following groups?
- (a) Medical Practitioners  
(b) Farmers  
(c) Sportspersons  
(d) War Widows
105. Which one among the following items comprises the major portion of revenue expenditure of the Union Government of India?
- (a) Salaries  
(b) Interest Payments  
(c) Road Transport and Highways  
(d) Defence Services
106. India's women's badminton team recently won the Badminton Asia Team Championship, 2024. Who among the following players was **not** a part of the team?
- (a) P.V. Sindhu      (b) Treasa Jolly  
(c) Anmol Kharb      (d) Saina Nehwal
107. Which of the following statements related to Indian medicine system is **not** correct?
- (a) The Siddha system is a holistic system of medicine.  
(b) Sowa-Rigpa has been in practice in the Himalayan regions of India.
- (c) Unani system of medicine has been dissociated from the Ministry of Ayush.  
(d) Sushruta Samhita is a major source of Ayurveda.
108. Which one of the following statements is correct about NISHTHA, a Government of India initiative?
- (a) It is a training module recently introduced in LBSNAA for civil servants.  
(b) It is a teacher-training programme.  
(c) It is a training programme for the new recruits in Delhi Police to inculcate integrity of service among them.  
(d) It is a workshop for newly elected Members of Parliament organised routinely by the Lok Sabha Secretariat.
109. Arrange the BRICS countries in ascending order of their rank in the Human Development Report 2023–24, released by the UNDP:
1. China
  2. India
  3. Russia
  4. Brazil
  5. South Africa
- Select the answer using the code given below:
- (a) 2, 5, 4, 1, 3      (b) 2, 4, 5, 3, 1  
(c) 5, 4, 2, 3, 1      (d) 4, 5, 2, 1, 3
110. India has signed a Trade and Economic Partnership Agreement (TEPA) with EFTA, which is a regional group consisting of four countries. Which one of the following countries is **not** a member of this group?
- (a) Switzerland      (b) Norway  
(c) Iceland      (d) England
111. Which one of the following countries shares the territorial boundary with both Russia and Ukraine?
- (a) Estonia      (b) Latvia  
(c) Belarus      (d) Poland
112. In June 2024, India signed a Memorandum of Understanding (MoU) with USA for supporting Indian Railways to achieve Mission Net Zero Carbon Emission by the year:
- (a) 2030      (b) 2040  
(c) 2050      (d) 2070
113. Which one of the following statements is correct about the PM-JANMAN scheme?
- (a) It is a scheme of the Government of India to impart electoral literacy to voters.  
(b) It is a scheme of the Government of India for deepening of democracy in the functioning of Panchayati Raj institutions.  
(c) It is a scheme of the Government of India for benefitting every member of the tribal community from Government schemes.  
(d) It is a scheme of the Government of India for benefitting migrants workers in the unorganised sector.

114. Which of the following statements is **not** correct?
- SAGAR-SETU is a mobile app, which aims to improve the Ease of Doing Business.
  - Harit Sagar aims at achieving Zero Carbon Emission Goal.
  - Sagar Manthan is a mission launched by Ministry of Ports, Waterways, Government of India, to Shipping and increase fish production.
  - Costa Serena is the first international cruise liner in India.
115. ISRO, in its studies, has revealed that there is a 178% increase in the size of the Ghepang Ghat Glacial Lake. In which of the following States/UTs is this lake located?
- Jammu & Kashmir
  - Ladakh
  - Himachal Pradesh
  - Uttarakhand
116. Which of the following State/s is/are common to Bru-Reang Agreement, NLFT (SD) Agreement and Tripartite Agreement with TIPRA?
- Tripura
  - Assam and Tripura
  - Tripura and Mizoram
  - Manipur and Mizoram
117. Which of the following movies won the 96th Academy Award 2024 in the Best Picture category?
- Anatomy of a Fall
  - Oppenheimer
  - Barbie
  - Killers of the Flower Moon
118. India's first dedicated OPD for the Transgenders was opened at which one among the following hospitals?
- AIIMS, New Delhi
  - PGIMER, Chandigarh
  - KGMU, Lucknow
  - RML Hospital, New Delhi
119. Which one of the following statements about 'INS Tarmugli' is **not** correct?
- It is a fast attack craft commissioned by the Indian Navy.
  - It was commissioned at Naval Dockyard, Visakhapatnam.
  - It was given by the Government of India to Sri Lankan Naval Force in 2006 and returned to the Indian Navy in May 2023.
  - It is supposed to be used for coastal surveillance.
120. Which one of the following resolutions in the final agreement reached at COP28 is associated with the target of achieving 'Net Zero by 2050'?
- Fossil fuel phase-out
  - Methane emission cuts
  - Global goal on adaptation
  - Climate resilience

Answer Key			
Q.No.	Answer	Topic's Name	Chapter's Name
1	c	Plant Nutrition	Plant Micronutrients
2	b	Plant Morphology	Vascular System
3	c	Plant Growth	Plant Hormones
4	b	Biomolecules	Biomolecules
5	b	Plant Adaptations	Xerophytes
6	b	Plant Adaptations	Halophytes
7	d	Plant Morphology	Vascular System
8	d	Sound	Sound Effects
9	b	Cell and Cell Organelles	Cell Organelles
10	c	Photosynthesis	Photosynthesis
11	d	Types of Solutions	States of Matter
12	d	Isotope	Structure of Atom
13	d	Properties of Metal	Metal and Non Metal
14	b	Uses of Salt	Acid Base and Salt
15	a	Chemical Phenomenon	Chemistry
16	b	Uses of Gases	Metal and Non Metal

Answer Key			
Q.No.	Answer	Topic's Name	Chapter's Name
17	a	Chemical Formula of Salt	Acid Base and Salt
18	c	Type of Glass	Acid Base and Salt
19	b	Chemical Properties	Structure of Atom
20	a	Application for Salt	Acid Base and Salt
21	c	Types of Radiation	Physics
22	b	Heat Transfer	Physics
23	d	Reflection and Refraction	Physics
24	c	Ozone Hole Depletion	Physics
25	a	Science and Technology	Current Affairs
26	d	Conductors and Insulators	Physics
27	d	Human Eye	Eye Defects
28	a	Sound Frequency	Physics
29	d	Defence	Current Affairs
30	b	Solar System	Geography
31	c	National Organisations	Static GK
32	c	National integration and Welfare State	History and Freedom Movement Syllabus
33	d	Government Schemes	Current Affairs
34	a	Indian Constitution	Polity
35	a	Government Schemes	Current Affairs
36	c	United Nations	Static GK
37	c	Government Schemes	Current Affairs
38	b	Freedom Movement in India	History and Freedom Movement
39	b	Indian Constitution	History and Freedom Movement
40	c	Indian and the World	History and Freedom Movement
41	c	International Organisations	Static GK
42	c	International Organisations	Static GK
43	d	United Nations	Static GK
44	c	Events	Current Affairs
45	a	Important Supreme Court Rulings	Static GK
46	d	Indian Constitution	Polity
47	a	Indian Constitution	Polity
48	a	National Organisations	Static GK
49	c	National Organisations	Static GK
50	a	People in News	Current Affairs
51	c	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
52	b	Freedom Movement in india	History and Freedom Movement
53	b	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement

<b>Answer Key</b>			
<b>Q.No.</b>	<b>Answer</b>	<b>Topic's Name</b>	<b>Chapter's Name</b>
54	d	Freedom Movement in India	History and Freedom Movement
55	c	Freedom Movement in India	History and Freedom Movement
56	b	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
57	d	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
58	b	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
59	c	Freedom Movement in India	History and Freedom Movement
60	c	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
61	c	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
62	a	Constitution	Polity
63	d	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
64	c	A Broad Survey of Indian History, With Emphasis on Culture and Civilisation	History and Freedom Movement
65	b	Freedom Movement in India	History and Freedom Movement
66	b	Freedom Movement in India	History and Freedom Movement
67	c	A Broad Survey of Indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
68	c	Freedom Movement in India	History and Freedom Movement
69	b	Freedom Movement in India	History and Freedom Movement
70	c	A Broad Survey of indian History, with Emphasis on Culture and Civilisation	History and Freedom Movement
71	a	Major Natural Regions of the World	Geography
72	d	Regional Geography of India	Geography
73	d	Important Sea Ports	Geography
74	a	Condensation and Precipitation	Geography
75	b	Regional Geography of India	Geography
76	a	Earth, its Shape and Size	Geography
77	d	Weathering	Geography
78	a	Planetary Winds	Geography
79	c	Ocean Currents and Tides	Geography
80	d	Environmental	Current Affairs
81	a	Temperature and Atmospheric Pressure	Geography
82	c	Weathering	Geography
83	b	Earthquakes and Volcanoes	Geography
84	b	Earthquakes and Volcanoes	Geography
85	d	Regional Geography of India	Geography

<b>Answer Key</b>			
<b>Q.No.</b>	<b>Answer</b>	<b>Topic's Name</b>	<b>Chapter's Name</b>
86	d	Regional Geography of India	Geography
87	a	Regional Geography of India	Geography
88	c	Major Natural Regions of the World	Geography
89	a	Major Natural Regions of the World	Geography
90	a	Major Natural Regions of the World	Geography
91	c	Macroeconomics	Economics
92	b	Macroeconomics	Economics
93	b	Environment	Current Affairs
94	a	Elementary Knowledge of Five-Year Plans	Economics
95	c	Macroeconomics	Economics
96	c	Government Schemes	Current Affairs
97	d	Macroeconomics	Economics
98	c	Taxes	Economics
99	d	Reports and Indices	Current Affairs
100	a	Macroeconomics	Economics
101	c	Macroeconomics	Economics
102	c	Macroeconomics	Economics
103	d	Financial Organisations	Economics
104	c	Government Schemes	Current Affairs
105	b	Union Budget	Economics
106	d	Cultural and Sports Activities in India and World	Current Affairs
107	c	National Affairs	Current Affairs
108	b	Government Schemes	Current Affairs
109	a	Rankings and Indices	Current Affairs
110	d	Important Current Events around the World	Current Affairs
111	c	Important Current Events around the World	Current Affairs
112	a	Latest Events in India	Current Affairs
113	c	Government Schemes	Current Affairs
114	c	Government Schemes	Current Affairs
115	c	Regional Geography of India	Geography
116	a	Latest Events in India	Current Affairs
117	b	Awards	Current Affairs
118	d	Latest Events in India	Current Affairs
119	c	Defence	Current Affairs
120	a	Important Current Events around the World	Current Affairs

## ANSWERS WITH EXPLANATIONS

- Option (c) is correct.**  
*Explanation:* Magnesium is a macronutrient essential for plants, involved in chlorophyll production and other functions. Micro-nutrients, which are required in smaller quantities, include iron, manganese, and chlorine.
- Option (b) is correct.**  
*Explanation:* The Xylem is responsible for the upward transport of water and dissolved minerals from the roots to other parts of the plant.
- Option (c) is correct.**  
*Explanation:* Abscisic acid is a plant hormone that inhibits growth and helps the plant respond to stress conditions, such as drought.
- Option (b) is correct.**  
*Explanation:* Starch is a polysaccharide and thus belongs to the carbohydrate category. It serves as a storage form of energy in plants.
- Option (b) is correct.**  
*Explanation:* Xerophytes are adapted to dry environments and typically have fewer stomata to reduce water loss, along with features like smaller leaves, waxy cuticles and stomata in pits.
- Option (b) is correct.**  
*Explanation:* Halophytes are adapted to grow in saline environments, such as salt marshes and coastal areas.
- Option (d) is correct.**  
*Explanation:* The vascular bundle consists of xylem, phloem and cambium. The endodermis is a layer of cells surrounding the vascular bundle but is not part of it.
- Option (d) is correct.**  
*Explanation:* Methanol is a liquid with a high density and strong molecular bonds, which allow sound waves to travel through it at a faster speed compared to other options. Distilled water, seawater and drinking water are all liquids with lower densities and weaker molecular bonds, resulting in slower sound speeds.
- Option (b) is correct.**  
*Explanation:* Lysosomes contain digestive enzymes that break down foreign materials, cellular waste and other substances within the cell.
- Option (c) is correct.**  
*Explanation:* Chloroplasts are the organelles in plant cells where chlorophyll is located, enabling the process of photosynthesis.
- Option (d) are correct.**  
*Explanation:* In colloids, the dispersing medium is the substance in which another substance (the dispersed phase) is distributed. Shaving cream is a type of foam where gas is dispersed in a liquid (the dispersing medium). The other options are incorrect because: Mist consists of liquid droplets dispersed in a gas (air), so the dispersing medium is gas. Foam is similar to shaving cream but can refer to gas dispersed in liquid or solid. Jelly is a colloid where a liquid is dispersed in a solid, so the dispersing medium is solid. Thus, shaving cream has a liquid-dispersing medium.
- Option (d) is correct.**  
*Explanation:* Isotopes are those species which have similar atomic numbers but different atomic masses. The mass number is different due to the presence of different numbers of neutrons. For chlorine atom isotopes are  ${}_{17}^{35}\text{Cl}$  and  ${}_{17}^{37}\text{Cl}$   
 ${}_{17}^{35}\text{Cl} - 75\%$  or  ${}_{17}^{37}\text{Cl} - 25\%$
- Option (d) is correct.**  
*Explanation:* The metal which is not stored under oil is lithium because lithium is a lighter metal. Therefore, it is stored in paraffin wax.

14. **Option (b) is correct.**

*Explanation:* Potassium nitrate ( $\text{KNO}_3$ ) is also known as saltpetre. It has wide applications which include food preservatives, fertilisers, fireworks, propellants, etc. It is not used in the preparation of medicines.

15. **Option (a) is correct.**

*Explanation:* The surface of the concrete structure of a new construction is covered with straw/gunny bags by wetting. This is done to prevent fast evaporation until hydration has proceeded well.

16. **Option (b) is correct.**

*Explanation:* Helium is not commonly used in electric bulbs. In electric bulbs mainly Argon gas is used.

17. **Option (a) is correct.**

*Explanation:* A-3, B-1, C-2, D-4

List-I (Trade Name)	List-II (Chemical Name)
A. Bleaching powder	3. Calcium oxychloride ( $\text{CaOCl}_2$ )
B. Baking soda	1. Sodium bicarbonate ( $\text{NaHCO}_3$ )
C. Washing soda	2. Sodium carbonate, 10 water ( $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ )
D. Plaster of Paris	4. Calcium sulphate, $\frac{1}{2}$ water ( $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ )

18. **Option (c) is correct.**

*Explanation:* Glass is an amorphous solid and it is made up of a mixture of sodium oxide along with  $\text{SiO}_2$ . It cannot be converted into crystalline nature or cooling of molten mass of the glass.

19. **Option (b) is correct.**

*Explanation:* The factor that is mainly responsible for determining the chemical properties of an element is electrons.

The elements which readily lose electrons are metals, while those that gain electrons are non-metals.

20. **Option (a) is correct.**

*Explanation:* In the bleaching of paper, chloride is mainly used. The powder used for bleaching is the derivatives of chlorine e.g., chlorine oxide.

21. **Option (c) is correct.**

*Explanation:* X-rays can be used to inspect welded joints between two metal parts of a

machine: This is correct. X-rays are commonly used in non-destructive testing (NDT) to check for cracks, voids, or imperfections in welded joints without damaging the metal parts. X-rays can be used to study the structure of crystals: This is also correct. X-ray crystallography is a powerful technique used to determine the atomic and molecular structure of crystals. Hence, both statements are true, making option (c) Both 1 and 2 the correct answer.

22. **Option (b) is correct.**

*Explanation:* The correct example of convection is boiling water in a pot on a gas stove. In this process, heat is transferred through the movement of the water itself: warmer water rises while cooler water sinks, creating convection currents that distribute heat evenly. The other options illustrate different heat transfer methods: heating food in a microwave oven and feeling the warmth from the sun involves radiation, where heat is transferred through electromagnetic waves, and heating a brass rod demonstrates conduction, where heat moves through a solid material.

23. **Option (d) is correct.**

*Explanation:* The phenomenon of rainbow formation by water involves dispersion, refraction and internal reflection of sunlight. The water droplets act as small prisms for the sunlight. When the sunlight passes into a raindrop, it bends or refracts. The white light disperses into seven colours. The colours of the rainbow are: Violet, Indigo, Blue, Green, Yellow, Orange and Red. When a beam of light passes through a denser medium and hits the surface of a less dense medium, it reflects back into the denser medium. Each colour bends at a different angle with respect to their incident beams. Violet is the most deviated colour, while Red is the least deviated one.

24. **Option (c) is correct.**

*Explanation:* The ozone hole is a region over the Antarctic region that has significantly reduced ozone concentration caused mainly by the excessive use of Chlorofluorocarbons (CFCs). Ozone is the protective layer present in the Earth's Stratosphere. It contains high concentrations of ozone ( $\text{O}_3$ ) molecules. It plays a critical role in protecting life on Earth by absorbing the majority of the Sun's harmful UltraViolet (UV) radiation. UV radiation can cause skin cancer, cataracts and damage to ecosystems, particularly marine life.

25. **Option (a) is correct.**

*Explanation:* ISRO successfully launched Chandrayaan 3, India's moon mission on July 14, 2023. On 5 August 2023, India became the



first country to touch the Moon's south pole. The mission comprised a Vikram lunar lander and a Pragyan lunar rover. With this, India became the fourth country to make a soft landing on the Moon.

ISRO launched its Solar mission Aditya L-1 on 2 September 2023, to study the Sun. It is placed in a halo orbit around the Lagrange point 1 (L1) of the Sun–Earth system, which is about 1.5 million km from the Earth.

**26. Option (d) is correct.**

*Explanation:* High friction caused during landing might cause a lot of charge to build up. A conductor can disperse charge all over its body thus reducing the charge density and easily pass on the charge to the ground when contact. Thus, the conducting tyres avoid sparking by dispersing and grounding the charge built up.

**27. Option (d) is correct.**

*Explanation:* Presbyopia is a condition related to aging, where the eye's lens loses flexibility, making it difficult to focus on close objects. It does not affect colour vision. Bi-focal or progressive lenses are used to correct the vision problems associated with presbyopia.

**28. Option (a) is correct.**

*Explanation:* The speed of a wave is given by the formula:

$$\text{Speed} = \text{Frequency} \times \text{Wavelength}$$

We can rearrange this formula to find the time taken to travel a distance equal to 150 times of it wavelength.

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

Substituting the given values:

$$\text{Time} = 150 \times \frac{\text{Wavelength}}{(\text{Frequency} \times \text{Wavelength})}$$

Simplifying:

$$\text{Time} = \frac{150}{\text{Frequency}}$$

Substituting the frequency:

$$\text{Time} = \frac{150}{300}$$

$$\text{Time} = 0.5 \text{ seconds}$$

Therefore, the value of  $t$  is 0.5 s.

**29. Option (d) is correct.**

*Explanation:* Mission Shakti was the Anti-Satellite (ASAT) Missile test successfully conducted on 27 March 2019. It demonstrated India's capability to destroy satellites in low Earth orbit and was a significant milestone

in India's space defence capabilities. India became the fourth country after the US, China and Russia to develop such technology. DRDO developed ASAT indigenously.

**30. Option (b) is correct.**

*Explanation:* In the Sun–Earth System, the Sun, the Earth and the Lagrange point L4 form an equilateral triangle. A Lagrangian point is a location where the gravitational forces of two large celestial bodies, such as the Earth and the Sun, balance with the centrifugal force experienced by a smaller object. There are five Lagrangian points in the space for every combination of two large orbital bodies.

**31. Option (c) is correct.**

*Explanation:*

Training Institute	Location
National Academy of Customs, Indirect Taxes and Narcotics	Palasamudram, Andhra Pradesh
LBS National Academy of Administration	Mussoorie
National Academy of Audit and Accounts	Shimla
All India Institute of Local Self Government	Mumbai

**32. Option (c) is correct.**

*Explanation:* Both the given statements are correct.

The Flag Code of India, 2002, came into effect on 26 January 2002, and it superseded the earlier 'Flag Code - India'. The Flag Code of India, 2002, has three parts - Part I deals with a general description of the National Flag. Part II deals with how the National Flag can be displayed by the public, private organisations and educational institutions. Part III deals with how the National Flag can be displayed by the Central and State governments and their organisations and agencies.

**33. Option (d) is correct.**

*Explanation:* The National Mission on Sustainable Habitat (NMSH) forms a part of the National Action Plan on Climate Change (NAPCC). The focus areas of NMSH are making cities and human habitats more sustainable, with an emphasis on improving energy efficiency, managing solid waste and promoting sustainable urban planning.

**34. Option (a) is correct.**

*Explanation:* The Indian Legal System encompasses several key components. These include the basic values and principles

enshrined in the Constitution, which form the foundation of the legal framework. Rights and obligations conferred by ordinary statutes are created through legislation. The organizational set-up to enforce rights and obligations includes various institutions like courts and law enforcement agencies. Additionally, legal and judicial persons—both individuals and entities involved in legal proceedings—play a crucial role. All these elements together constitute the Indian Legal System.

**35. Option (a) is correct.**

*Explanation:* The Vibrant Village Programme was launched by the Central government in 2023. Under this program, the government intends to promote the development of border villages, particularly in regions along India's northern borders. It promotes livelihood opportunities and economic activities in these villages. It will cover the border areas of Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Sikkim and Ladakh.

**36. Option (c) is correct.**

*Explanation:* The World Food Programme (WFP) was awarded the Nobel Peace Prize in 2020 for its efforts to combat hunger, for its contribution to bettering conditions for peace in conflict-affected areas and for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict.

The International Labour Organisation (ILO) was awarded the Nobel Peace Prize in 1969 for the creation of international conventions improving the working conditions and social rights of employees in every country.

The United Nations High Commissioner for Refugees (UNHCR) was awarded the Nobel Peace Prize twice, in 1954 and 1981. In 1954, it was awarded for its efforts to heal the wounds of war by providing help and protection to refugees all over the world. In 1981, it was awarded for promoting the fundamental rights of refugees.

**37. Option (c) is correct.**

*Explanation:* The areas that have been exempted from CAA 2019 are the sixth scheduled areas. The Sixth Schedule of the Indian Constitution deals with the administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram in northeast India. CAA 2019 amended the Citizenship Act of 1955 to pave a pathway for providing Indian citizenship for the religiously persecuted minorities from Afghanistan, Bangladesh and Pakistan and who entered India on or before 31 December 2014.

**38. Option (b) is correct.**

*Explanation:* Dr. B.R. Ambedkar said 'A just society is that society in which ascending sense of reverence and descending sense of contempt is dissolved into the creation of a compassionate society.' He is known as the Father of the Indian Constitution.

**39. Option (b) is correct.**

*Explanation:* Criminal law is not exclusively a subject under the State List; it falls under the Concurrent List of the Constitution of India. This means both the central and state governments can legislate on criminal law, but central laws prevail in case of conflict. The Code of Civil Procedure is indeed a subject under the Concurrent List of the Constitution. This allows both the central and state governments to legislate on civil procedure, with central legislation taking precedence in case of a conflict. Thus, statement 2 is correct, and statement 1 is incorrect.

**40. Option (c) is correct.**

*Explanation:*

- Tashkent Declaration was signed in 1966 to end the Indo-Pakistani War of 1965.
- Indus Water Treaty is a water-distribution treaty signed to make use of water from the Indus River and its Tributaries. It was a World Bank-brokered treaty signed on 19 September 1960.
- The Agreement in the Prohibition of Attack against Each Other's Nuclear Installation and Facilities was a bilateral agreement signed on 31 December 1988, and it came into force on 27 January 1991.
- The agreement on reducing the risk from accidents relating to nuclear weapons was inked in 2007.

**41. Option (c) is correct.**

*Explanation:* Shanghai Cooperation Organisation (SCO) is an international organisation established in 2001 by China and Russia. The members of SCO are: China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India, Pakistan, Iran and Belarus. It focuses on political, economic and security-related cooperation among its member states. It's headquartered in Beijing, China.

**42. Option (c) is correct.**

*Explanation:* The Financial Action Task Force (FATF) is a global money laundering and terrorist financing watchdog. It was established in 1989 and is headquartered in Paris, France. FATF sets international standards and promotes

effective implementation of legal, regulatory and operational measures for combating these issues.

**43. Option (d) is correct.**

*Explanation:* All the given statements are correct.

The UN General Assembly needs to pass a resolution by a two-thirds majority of members present and voting for the admission of new members to the UN and election of the non-permanent members to the Security Council.

The Economic and Social Council consists of 54 members. Of this, 18 members are elected by the General Assembly each year for a three-year term.

**44. Option (c) is correct.**

*Explanation:* Bharat Parv was organised on Republic Day and the Cannes Film Festival. Bharat Pav is organised by the Ministry of Tourism and was held from 23 to 31 January 2024 at the Lawns and Gyan Path in front of Red Fort, Delhi. India organised a 'Bharat Pav' at the 77th Cannes Film Festival for the famous dignitaries and delegates from around the world. It served as a platform for the Indian film community to engage in various activities, including, fostering production collaborations, curated knowledge sessions, signing distribution deals, greenlighting scripts, B2B meetings and networking with prominent entertainment and media players from around the world.

**45. Option (a) is correct.**

*Explanation:* Naz Foundation challenged the constitutionality of Section 377 of the Indian Penal Code (IPC) in the Supreme Court of India. Section 377 criminalised all sexual acts against order of nature. It was the 2013 Suresh Kumar Koushal vs. Naz Foundation case in which a two-judge bench of the Supreme Court had reinstated Section 377 of IPC. However, it was in 2018 in the Navtej Singh Johar v. Union of India case where a five-judge bench of the Supreme Court overturned the 2013 judgement and abolished Section 377 of the Indian constitution.

**46. Option (d) is correct.**

*Explanation:* Article 371G of the Indian constitution deals with Mizoram. It is under Part XXI of the Indian Constitution. It is a special provision to protect the interests of the Mizoram community by preserving their social and religious practices, customary law and procedure. The ownership and transfer of land resources are included in this.

**47. Option (a) is correct.**

*Explanation:* The electronic signature is legally valid in the same manner as a handwritten signature: This is correct. The Information Technology Act, of 2000, recognizes electronic signatures as valid and legally enforceable, giving them the same legal status as handwritten signatures.

Both the Central Government and State Governments have been given the power to make rules concerning electronic signatures: This is incorrect. Under the IT Act, of 2000, the Central Government has the power to make rules related to electronic signatures, not the state governments.

Thus, only statement 1 is correct.

**48. Option (a) is correct.**

*Explanation:* The National Recruitment Agency was established in 2020 to conduct a Common Eligibility Test (CET) for selection to all of the Group 'C' and Group 'D' employee posts in all central government establishments.

**49. Option (c) is correct.**

*Explanation:* The Research Design and Standards Organisation is the R&D wing of the Indian Railways. It was founded in 1957 and is headquartered in Lucknow, Uttar Pradesh. It conducts research and develops new technologies, systems and processes that enhance the operational capabilities of the rail network.

**50. Option (a) is correct.**

*Explanation:*

Manohar Gunjan Joshi	13th Speaker of the Lok Sabha (2002–04)
Somnath Chatterjee	14th Speaker of the Lok Sabha (2004–09)
Meira Kumar	15th Speaker of the Lok Sabha (2009–14)
Sumitra Mahajan	16th Speaker of the Lok Sabha (2014–19)

**51. Option (c) is correct.**

*Explanation:* Adi Shankaracharya was the founder of Advaita Vedanta. Advaita Vedanta is a Philosophical system that states the true nature of reality is non-dual which means there is no separation between the individual self (Atman) and the ultimate reality. Dvaita Vedanta is a Philosophical system that states that there is a fundamental distinction between the individual soul (Atman) and the ultimate reality. This school of thought was founded by Madhvacharya.

**52. Option (b) is correct.**

*Explanation:* The All India Congress Committee in 1921 emphasised on the distribution of charkhas on a wide scale among the people. Charkha symbolised to encourage the Swadeshi Movement in which people started using Indian-made goods and the boycott of British products. This thought process was pioneered by Mahatma Gandhi.

**53. Option (b) is correct.**

*Explanation:* The Rig Veda mentions Yava and Dhanya. Barley was referred to as Yava, and Wheat was mentioned as godhuma. Barley was the staple crop during the Rigvedic period. The term 'Dhanya' in the Rig Veda generally referred to grain or cereals in a broader sense. Vrihi is used in a general sense to refer any grain.

**54. Option (d) is correct.**

*Explanation:* Raja Sawai Jai Singh of Amber promoted widow remarriage. He was known for his progressive views and took steps to improve the social conditions of women, including promoting widow remarriage.

Maratha General Parshuram Bhau also supported widow remarriage, contributing to social reform efforts in his time.

Raja Ram Mohan Roy was a prominent social reformer who strongly opposed the practice of Sati (the ritual of burning a widow on her husband's funeral pyre) and played a crucial role in its abolition.

Thus, all three statements are correct, making (d) 1, 2 and 3 the correct answer.

**55. Option (c) is correct.**

*Explanation:* Ashta Pradhan was the eight prominent officials of the Maratha kingdom and this system was created by Chatrapati Shivaji in 1674. These officials were tasked with the administrative and military functions. These were: Peshwa, Amatya or Mazumdar, Shurunavis/Sacheev, Waqia-Navis, Sar-i-Naubat or Senapati, Sumant/Dabir, Nyayadhish and Panditrao. Shivaji introduced Marathi in place of Persian and coined Sanskrit technical terms for administrative purposes.

**56. Option (b) is correct.**

*Explanation:* The first discovery of rock paintings in the world was indeed made in India by the British archaeologist Archibald Carlley in 1867-68 at Sohaghat in the Mirzapur District of Uttar Pradesh. Hence, Statement 1 is not correct.

Bhimbetka rock paintings were discovered by archaeologist V.S. Wakankar while travelling

from Bhopal to Itarsi. He noticed the distinctive rock formations from the train window, got off at the nearest station, and later explored the site, leading to the discovery of the famous Bhimbetka rock shelters, which contain numerous prehistoric paintings. Hence, Statement 2 is correct.

The statement about Orissa's rock art is incorrect. In the rock art of Orissa (Odisha), both paintings and engravings have been found in the same shelters. Therefore, the claim that paintings and engravings do not exist together is false.

**57. Option (d) is correct.**

*Explanation:* Kinjalkini refers to a garland of thousand Lotus flowers. Stupas are ancient Buddhist monuments that are primarily used as places of meditation and veneration.

**58. Option (b) is correct.**

*Explanation:* The shaft (stambha-yashti) or the tall tapering column: This is correct. The Lion Capital of Sarnath sits on top of a tall, tapering column known as the stambha.

An elliptical top part — the abacus, devoid of any carvings: This is incorrect. The abacus of the Lion Capital is not devoid of carvings; it is richly decorated with carvings of animals like a bull, a horse, an elephant, and a lion, as well as a wheel (dharmachakra).

Overflowing inverted petals below the abacus: This is correct. Below the abacus, there are inverted lotus petals, which symbolize purity.

Thus, the correct components are 1 and 3 only.

**59. Option (c) is correct.**

*Explanation:* The Lucknow Pact was a political agreement signed between the Indian National Congress and the All Indian Muslim League in 1916 to create a united front between the two organisations against the British Empire.

Subhash Chandra Bose was a prominent leader in the Indian independence movement. He returned to India in 1921 and joined the Indian National Congress (INC).

Cripps Mission of 1942 was named after the British minister Sir Stafford Cripps. It was a key diplomatic initiative by the British government during World War II to gain the support of Indian political leaders.

The Naval Mutiny in Bombay was also called the 1946 Naval Uprising. It was a failed revolt by Indian sailors and other naval personnel against British colonial rule.

**60. Option (c) is correct.**

*Explanation:* The Ahoms ruled the northeastern region of Assam from 13th to the 19th century.

They were known for their skills in metal casting and expertise in metallurgy, particularly in the casting of bronze and other metals.

**61. Option (c) is correct.**

*Explanation:* The Chola period is well known for the aesthetic and technical finesse of its metal sculpture: This is correct. The Chola dynasty, especially during its height in South India, is renowned for producing highly sophisticated bronze sculptures, particularly of deities such as Nataraja (Shiva as the cosmic dancer). These sculptures are admired for their beauty, craftsmanship, and detail.

The iconography and style of Chola metal images were similar to those of their stone counterparts: This is also correct. The Chola metal sculptures often followed the same iconographic conventions as their stone sculptures, with similar forms, poses, and styles, even though they were made of different materials.

**62. Option (a) is correct.**

*Explanation:* Dr. B.R. Ambedkar introduced the draft of the Indian Constitution on 4 November 1948. He was the Chairman of the Drafting Committee. He referred to India as the 'Union of States.'

**63. Option (d) is correct.**

*Explanation:* Antariya was worn during the Mauryan period. It was made of strips sewn together and tied at the waist with a cord. It was usually made of cotton, linen or silk and was used in the lower body.

**64. Option (c) is correct.**

*Explanation:* Avantivarman, the founder, devoted his energies to the economic upliftment of his subjects.

This is correct. Avantivarman, the founder of the Utpala dynasty, is known for his focus on economic development. He implemented various measures to improve the economic conditions of his subjects, including agricultural reforms and infrastructure projects.

Avantivarman's period in Kashmir is known for the engineering operations under his minister Suyya, resulting in an enormous increase in grains and a fall in prices. This is also correct.

Avantivarman's minister, Suyya, was a skilled engineer who oversaw significant irrigation and water management projects. These efforts led to increased agricultural productivity, resulting in abundant food supplies and lower prices for grains.

**65. Option (b) is correct.**

*Explanation:* Samahartri: Chief Collector of Revenue – This is correctly matched. The Samahartri was responsible for overseeing the collection of revenue and taxes in the Mauryan administration.

Dauvarika: Chief of Army – This is incorrectly matched. The Dauvarika was not the chief of the army but the officer in charge of the royal palace gates (a doorkeeper or chamberlain). The chief of the army was called the Senapati.

Akshapatala: Records-cum-Audit Officer – This is correctly matched. The Akshapatala was responsible for maintaining records and auditing in the Mauryan administration.

Samnidhatri: Treasurer – This is correctly matched. The Samnidhatri was the officer responsible for the royal treasury, managing the state's financial resources.

**66. Option (b) is correct.**

*Explanation:* Awadh was referred to as 'A cherry that will drop into our mouth one day' in 1851 by the then Governor-General Lord Dalhousie. It was annexed by the Britishers in 1856.

**67. Option (c) is correct.**

*Explanation:* The first All India Census was attempted in 1872. This is correct. While there were some earlier attempts at conducting censuses in specific regions, the first comprehensive census covering the entire country was conducted in 1872 under the leadership of Lord Mayo.

From 1881, decennial censuses became a regular feature: This is correct. Starting from 1881, the decennial census became a regular and systematic feature of demographic data collection in India.

**68. Option (c) is correct.**

*Explanation:* The British Government did not agree to the primary nationalist demand for complete independence during the Second Round Table Conference. Hence, Statement 1 is correct.

India was granted dominion status on August 15, 1947, when it was declared independent. Hence, Statement 2 is not correct.

Lord Willingdon was known for his more repressive stance towards the Congress Party during his tenure as Viceroy. Hence, Statement 3 is not correct.

The Civil Disobedience Movement, initiated by Gandhi in 1930, began with the symbolic act of breaking the salt laws, famously with the Salt March. Hence, Statement 4 is correct.

**69. Option (b) is correct.**

*Explanation:* The Cabinet Mission was sent to India in 1946 to discuss and negotiate the transfer of power from the British government to Indian leaders.

The Cabinet Mission toured the country for three months and recommended a loose three-tier confederation. India was to remain united. The plan envisaged a federal structure consisting of a central government and federating units, including provinces and princely states.

The Cabinet Mission plan provided that provinces would be free to form regional unions to which they would surrender some powers by mutual consent.

**70. Option (c) is correct.**

*Explanation:* Gajapati Dynasty: A powerful Hindu dynasty that ruled Odisha (formerly known as Orissa) from the 15th to 18th centuries. Gajapati literally means Lord of Elephants, reflecting their military prowess and wealth.

Deccan Sultans: A group of Muslim dynasties that ruled the Deccan region of India from the 14th to 17th centuries. They were often called Ashvapati or Lord of Horses, indicating their military strength and expertise in cavalry warfare.

Rayas: A Hindu dynasty that ruled the Vijayanagara Empire in southern India from the 14th to 17th centuries. They were often called Narapati or Lord of Men emphasizing their authority and leadership over their subjects.

**71. Option (a) is correct.**

*Explanation:*

Siachen	Nubra Valley Region
Chungphar	Pir Panjal range
Zemu	Kanchenjunga–Everest
Gasherbrum	Karakoram mountain range

**72. Option (d) is correct.**

*Explanation:* The Barak River rises near the Liyai Khullen village, Manipur. It is also known as Barbakro and it flows through the states of Manipur, Mizoram and Assam. This river flows into Bangladesh and it splits into two rivers: the Surma and the Kushiya.

**73. Option (d) is correct.**

*Explanation:* Dover is a ferry port in Kent, England. It is also known as the 'Lock and Key of England' and is a large port as it handles large volumes of port traffic.

**74. Option (a) is correct.**

*Explanation:* Cumulonimbus clouds are large, towering clouds often associated with thunderstorms and severe weather. These are developed from Cumulus congestus clouds. Cumulonimbus clouds form in unstable air conditions, where warm, moist air rapidly rises into the atmosphere. As the air rises, it cools and condenses, forming a cloud. With sufficient moisture and upward movement, the cloud can grow into a cumulonimbus.

**75. Option (b) is correct.**

*Explanation:* Point Calimere Wildlife and Bird Sanctuary is situated in Nagappattinam District, Tamil Nadu. It is classified as an important Bird Area.

Hokersar Wetland is a bird sanctuary in Zainakote, in the Srinagar district of Jammu and Kashmir,

Tso Moriri or Lake Moriri is situated in Changthang Plateau, Leh. It is also known as the mountain lake.

Wular Lake is near Bandipora town in the Bandipora district of Jammu and Kashmir.

**76. Option (a) is correct.**

*Explanation:* Eratosthenes measured the distance between Alexandria and Syene to determine the circumference of Earth. His calculation was 40,000 kilometres, which is close to the current measured value of about 40,075 kilometres. He was a Greek mathematician and astronomer.

**77. Option (d) is correct.**

*Explanation:* Creep is a slow and long-term wasting process in which there is a movement of soil down the slope. It is very slow and happens throughout the year.

So, the correct option is  $\text{Na} > \text{Li} > \text{Be} > \text{O}$ .

**78. Option (a) is correct.**

*Explanation:* Hadley cells are key to understanding the wind patterns of Earth. This statement is correct.

Hadley cells are large-scale atmospheric circulation patterns that play a crucial role in determining global wind patterns. They influence the trade winds, westerlies, and other prevailing winds.

Hadley cells are formed because the Equator is heated more strongly by the Sun than other places, creating thermal circulations. This statement is also correct and explains statement 1. The intense solar radiation at the Equator heats the air, causing it to rise. This rising air creates a low-pressure zone at the Equator, while the cooler, descending air at higher

latitudes creates high-pressure zones. These pressure differences drive the circulation of air, resulting in the Hadley cells.

**79. Option (c) is correct.**

*Explanation:* Ocean currents are dominated by huge surface gyres that are driven by the global surface wind pattern: This statement is correct. Ocean currents are indeed influenced by large-scale surface gyres, which are primarily driven by global wind patterns, including trade winds and westerlies.

Equatorial currents move cold water westward and then poleward along the east coasts of continents: This statement is false. Equatorial currents typically move warm water westward, not cold water.

**80. Option (d) is correct.**

*Explanation:* The India State of Forest Report (ISFR) 2021 was published after a biennial assessment conducted by the Forest Survey of India. It states that the Total Forest and Tree Cover is 24.62% of the geographical area of the country. The top five states in terms of the largest forest cover are: Madhya Pradesh, Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.

**81. Option (a) is correct.**

*Explanation:* Isobars are lines on a map that connect points of equal atmospheric pressure. Closely spaced isobars indicate strong winds and large pressure changes over a small area. Widely spaced isobars indicate lighter winds and a weak pressure gradient.

**82. Option (c) is correct.**

*Explanation:* Salt crystal growth weathering is a process where the growth of salt crystals causes the disintegration of rocks and other materials. This type of weathering is especially common in arid and coastal environments where salt is abundant.

**83. Option (b) is correct.**

*Explanation:* Arc volcanoes are found near convergent tectonic plate boundaries. The convergent boundaries are the ones in which two tectonic plates collide and one moves beneath the other and this process is called subduction.

**84. Option (b) is correct.**

*Explanation:* Primary (P) and Secondary (S) waves are seismic waves generated during an earthquake. These waves propagate through the Earth's interior. P-waves are the fastest type of seismic wave and are the first to be detected by seismometers after an earthquake occurs.

S-waves are slower than P-waves. However, they are often more destructive due to the larger ground displacements they cause. S-waves can only travel through solids.

**85. Option (d) is correct.**

*Explanation:* The Ganga Basin covers in 11 states: Uttarakhand, U.P, M.P, Rajasthan, Haryana, Himachal Pradesh, Chhattisgarh, Jharkhand, Bihar, West Bengal and Delhi. The Ganga Basin stretches across northern India and extends into Bangladesh. It is one of the largest basins in the world and encompasses an area of approximately 1,000,000 square kilometres.

**86. Option (d) is correct.**

*Explanation:* Kabini is a tributary of River Kaveri. It originates in the Wayanad District of Kerala.

**87. Option (a) is correct.**

*Explanation:* Bajra (Pearl millet) is predominantly grown in states like Rajasthan, Uttar Pradesh, and Gujarat, where the climate is arid and semi-arid. Ragi (Finger millet), on the other hand, is mainly cultivated in Karnataka and Tamil Nadu, where the soil and climate conditions are favourable for its growth.

Bajra grows well in sandy and shallow black soils, which are common in regions like Rajasthan and Gujarat. Ragi thrives in red and shallow black soils, which are typical in parts of Karnataka and Tamil Nadu.

Hence, both statements are correct, and statement 2 provides a valid explanation for statement 1.

**88. Option (c) is correct.**

*Explanation:*

Dhaulagiri	Nepal
Namcha Barwa	Arunachal Himalayas, India
Kamet	Uttarakhand, India
Makalu	Koshi Province (Khumbu), Nepal

**89. Option (a) is correct.**

*Explanation:* Antarctica is larger than Europe in terms of area. It is the fifth-largest continent, while Europe is the sixth-largest.

Antarctica has the highest average elevation compared to all other continents due to its thick ice sheets.

Mt. Ross is not the highest peak in Antarctica. The highest peak is Mt. Vinson.

The waters of the Southern Ocean (West Wind Drift) move in a clockwise direction, not anticlockwise, around Antarctica due to the Coriolis effect.

**90. Option (a) is correct.**

*Explanation:* The highest peak of Antarctica is Mount Vision (16,050 feet). It is the Sentinel Range of the Ellsworth Mountains in western Antarctica.

**91. Option (c) is correct.**

*Explanation:* Statement 1 is correct: A rupee Vostro account is indeed an account held by an Indian bank

on behalf of a foreign bank, in Indian rupees. It facilitates international banking services by enabling transactions in the domestic currency (rupee).

Statement 2 is also correct: Insurance density, which represents the average insurance premium per capita, does not fully capture the financing gap in the event of premature death. This is because most insurance products sold in India are savings-linked, with only a small portion offering protection coverage. Hence, the actual protection against financial loss due to premature death may be insufficient.

**92. Option (b) is correct.**

*Explanation:* Statement 1 is incorrect: An additional spending by the government is generally expected to have a larger impact on income than an additional transfer of the same amount to households. This is because direct government spending often has a stronger multiplier effect, as it directly increases demand in sectors like infrastructure or public services, whereas transfers to households may not be fully spent and could lead to savings rather than immediate consumption.

Statement 2 is correct: Government spending is likely to have less impact on income if it is not accompanied by an expansion in the money supply. Without an increase in money supply, additional government spending could be offset by higher interest rates or reduced private sector spending, limiting its overall impact on income.

**93. Option (b) is correct.**

*Explanation:* Transition from fossil fuels in a just, smooth, and sustainable manner (Statement 1) is a key element of most long-term low emissions strategies, ensuring that the shift to cleaner energy sources considers social and economic impacts.

Increased use of biofuels (Statement 2) is often a component of strategies aimed at reducing reliance on fossil fuels and promoting renewable energy sources.

Climate-resistant urban development (Statement 3) is crucial for adapting to the

impacts of climate change and promoting sustainable urbanization.

Financing sustainable development through Green Bonds (Statement 4) is a strategy used to raise capital for sustainable projects, but it is not specifically mentioned as part of every Long-Term Low Emissions Development Strategy.

**94. Option (a) is correct.**

*Explanation:* The Twelfth Five-Year Plan was effective from 2012-2017. Its focus was 'Faster, More Sustainable and More Inclusive Growth.' This was the last Five-Year Plan of India. The growth rate was set at 8%.

**95. Option (c) is correct.**

*Explanation:* The Balance of Payments of a country comprises Capital and Current Accounts. The Capital Account tracks the net financial assets and liabilities of the country. This includes: Foreign Direct Investments, Commercial borrowings and external assistance. The Current Account includes Invisibles, which covers the services, transfers, and income.

**96. Option (c) is correct.**

*Explanation:* The motive of this scheme is to enable the country to independent and self-reliant in all senses. Government has taken a number of steps to make easier for business in India including reducing the corporate taxes.

**97. Option (d) is correct.**

*Explanation:* The marginal cost increases at the equilibrium output. Marginal cost is the total change in the cost that is incurred for making an additional unit.  $MC = \frac{\text{Change in total cost}}{\text{Change in quantity of output}}$ .

Equilibrium output is the point where the aggregate demand for goods and services is equal to the actual output.

**98. Option (c) is correct.**

*Explanation:* Surcharge and Cess are the additional taxes that are levied by the government. Cess is the additional tax that is levied for a specific purpose and is applicable to all the taxpayers e.g., Swachh Bharat Cess.

The surcharge is an additional tax that is levied on certain taxpayers and is imposed on payable tax and not taxable income. It is applicable to taxpayers who fall in the high income category.

**99. Option (d) is correct.**

*Explanation:* The Human Development Index (HDI) was developed by the United Nations Development Programme (UNDP). It is a composite statistic used to measure a country's overall achievement in its social and economic dimensions. It consists of the following com-



ponents: Life Expectancy at Birth, Education Index–Mean Years of Schooling and Expected Years of Schooling, Gross National Income (GNI) per Capita.

**100. Option (a) is correct.**

*Explanation:* The demand for good X decreases and demand for Y is indeterminate as it will be dependent on the relationship between X and Y i.e., if they are complimentary or substitute goods.

**101. Option (c) is correct.**

*Explanation:* The inflation rate can be calculated for each year as follows:

$$2022: (110-100)/100 = 10\%$$

$$2023: (132-110)/110 \approx 20\%$$

Therefore, the overall rate of inflation from 2021 to 2023 is (c) 20%.

**102. Option (c) is correct.**

*Explanation:* The Rangarajan Committee methodology for determining the poverty line included:

A food component included calorie-based norms for determining the minimum required food consumption.

A normative level of expenditure for essential non-food items – This covered expenditures for basic needs such as education, healthcare, clothing, and shelter.

A behaviorally determined expenditure for other non-food items – It considered actual expenditure patterns of households for other non-food items.

All three components were incorporated into the Rangarajan Committee approach to better reflect the multi-dimensional nature of poverty.

**103. Option (d) is correct.**

*Explanation:* The National Investment and Infrastructure Fund Limited was established in 2015 and is headquartered in Mumbai, Maharashtra. It was established to promote infrastructure development and investment across the country to support the economic growth and infrastructure of the country. It manages four funds: Master Fund, Fund of Funds, Strategic Opportunities Fund, and India-Japan Fund.

**104. Option (c) is correct.**

*Explanation:* Pandit Deendayal Upadhyay National Welfare Fund for Sportspersons (PDUNWFS) was established in 1982 to provide financial assistance to sportsmen and athletes. It also offers assistance to families of deceased sportspersons who are facing financial hardship.

**105. Option (b) is correct.**

*Explanation:* Interest payments comprise the

major portion of revenue expenditure of the Union Government of India. In 2023-24, the interest payments are estimated to be Rs. 10.80 lakh crore, which is 30.8% of the total revenue expenditure.

**106. Option (d) is correct.**

*Explanation:* The 2024 Badminton Asia Team Championship was held in Shah Alam, Selangor, Malaysia. Indian women's team won the championship and the members of the team were: Ashmita Chaliha, Tanisha Crasto, Treasa Jolly, Anmol Kharb, Priya Konjengbam, Shruti Mishra, Ashwini Ponnappa, Gayatri Gopichand, P. V. Sindhu and Tanvi Sharma.

**107. Option (c) is correct.**

*Explanation:* AYUSH is an acronym for Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa Rigpa and Homoeopathy. The Ministry of AYUSH is responsible for research and education in these fields.

**108. Option (b) is correct.**

*Explanation:* NISHTHA is a capacity-building programme for 'Improving Quality of School Education through Integrated Teacher Training.' It stands for National Initiative for School Heads 'Teachers' Holistic Advancement.

It is a Centrally Sponsored Scheme and a teacher-training program launched by the Department of School Education and Literacy.

**109. Option (a) is correct.**

*Explanation:*

Country	Rank
China	75
India	134
Russia	56
Brazil	89
South Africa	110

**110. Option (d) is correct.**

*Explanation:* India signed a Trade and Economic Partnership Agreement (TEPA) with EFTA countries comprising Switzerland, Iceland, Norway and Liechtenstein.

**111. Option (c) is correct.**

*Explanation:* Belarus shares the territorial border with Russia and Ukraine.

**112. Option (a) is correct.**

*Explanation:* Indian Railways signed an MoU with the US to achieve net zero carbon emissions by 2030. The MoU will also help the Indian Railways in developing an energy efficiency policy and action plan for green buildings and clean energy procurement to achieve its net zero vision.

**113. Option (c) is correct.**

*Explanation:* The PM-JANMAN scheme stands for Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan. It was launched in 2023 to improve the quality of life for Particularly Vulnerable Tribal Groups (PVTGs). It will be implemented by the Ministry of Tribal Affairs to bring tribal communities into the mainstream.

**114. Option (c) is correct.**

*Explanation:* Sagar Manthan is a real-time performance monitoring dashboard of the Ministry for Ports and Shipping (MoPSW). It promotes real-time project tracking, risk management, resource allocation and progress reporting.

**115. Option (c) is correct.**

*Explanation:* Ghepang Ghat Lake trek is a glacial lake at an altitude of 4140m. It originates from the Sissu Village ( Lahaul region) of Himachal Pradesh.

**116. Option (a) is correct.**

*Explanation:* The Bru-Reang Agreement was signed between the Government of India and the governments of Tripura and Mizoram and Bru-Reang representatives. It was a quadripartite accord signed for the process of settlement of Mizoram Bru refugees in Tripura.

TIPRA agreement is a tripartite agreement that was signed between the Union government, the government of Tripura and The Indigenous Progressive Regional Alliance (TIPRA), popularly known as Tipra Motha and other stakeholders. This pact made way for amicably resolving all issues of the indigenous people of Tripura related to history, land and political rights, economic development, identity, culture and language.

The NLFT-SD Agreement is the peace accord signed between the Government of India and the National Liberation Front of Tripura – Sabir Das (NLFT-SD), a separatist insurgent group operating in the state of Tripura, India. The agreement was aimed at addressing issues related to insurgency and bringing about peace in the region.

**117. Option (b) is correct.**

*Explanation:* Oppenheimer won the 96th Academy Award 2024. In all, the movie won seven awards. The awards were held at the Dolby Theatre Hollywood, Los Angeles, California, U.S.

**118. Option (d) is correct.**

*Explanation:* India's first transgender OPD was started in Ram Manohar Lohia Hospital, New Delhi. It is a step towards inclusivity and healthcare accessibility for all, regardless of gender identity.

**119. Option (c) is correct.**

*Explanation:* INS Tarmugli was gifted to the Maldivian Naval Defence Forces (MNDF) in 2006 and was returned in May 2023. It is a Trinkat-class patrol vessel of the Indian Navy designed and constructed by Garden Reach Shipbuilders and Engineers in Kolkata, West Bengal.

**120. Option (a) is correct.**

*Explanation:* COP28 was the United Nations Climate Change Conference taking place in Dubai, United Arab Emirates, from 30 November until 12 December 2023. It called for transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, to achieve net zero by 2050.