

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. Consider the following statements about the Jorwe culture of the Deccan:
 1. It covers, practically, the whole of modern Maharashtra except the coastal Konkan district.
 2. The Pravara-Godavari valleys seem to have been the central zone.
 3. The large sites of this culture yield evidence of shifting agriculture.Which of the statements given above is/are correct?
(a) 1 only (b) 1 and 2 only
(c) 2 and 3 only (d) 1, 2 and 3
2. Consider the following statements about Madurai, the capital city of the Pandya kingdom:
 1. It has been 'described' in *Maduraikkanchi* as a large grand city, enclosed by walls on three sides and the Vaigai river on the fourth side.
 2. The *Arthashastra* mentions it as a centre of fine cotton textiles.
 3. Other literary sources describe it as a major craft centre.Which of the statements given above is/are correct?
(a) 1 only (b) 1 and 2 only
(c) 2 and 3 only (d) 1, 2 and 3
3. Consider the following statements about Sawai Jai Singh's astronomical work:
 1. He learnt of the accuracy of European observations, and obtained de La Hire's tables from which he reproduced a refraction table.
 2. His astronomers also developed a telescope of their own to observe the lunar phases of Venus.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
4. *Man Kautuhal*, a work on music, was prepared under the aegis of
(a) Raja Man Singh of Gwalior
(b) Tansen
(c) Meera Bai
(d) Amir Khusrau
5. Consider the following statements regarding the Sugamya Bharat Abhiyan :
 1. This programme is initiated by the Department of Empowerment of Persons' with Disabilities, Ministry of Social Justice and Empowerment.
 2. It aims to develop an inclusive society for persons with disabilities.
 3. It has provisions of pension for persons with disabilities.Which of the statements given above is/are correct?
(a) 1, 2 and 3 (b) 1 and 2 only
(c) 2 and 3 only (d) 1 only

6. Which one among the following was **not** a part of the action programme of the Non-Cooperation Movement?
- The Congress organisation was to reach down to the village and the Mohalla level
 - Boycott of government affiliated schools and colleges
 - Taking control of the law and order machinery of the State by the Congress Working Committee
 - Surrender of titles and honours given by the government
7. Consider the following statements about the Mauryan State and the forest people :
- The forest people were subjected to new forms of political and economic dominance and the necessity to subordinate and assimilate them led to a change in the earlier attitude of excluding these people from imperial territory.
 - The State recognised that the forest produce was the sole monopoly of the forest people.
 - The State was concerned with the conservation of forests and to this end the burning of forests was prohibited.
 - The forest people could be harnessed to serve the State and could be used as troops, spies and assassins.
- How many of the above statements is/are correct?
- 1
 - 2
 - 3
 - 4
8. At which of the following places was diamond mining carried out during the Delhi Sultanate period?
- Awadh
 - Khambhat
 - Panna
 - Lakhnauti
9. Which one of the following statements is true for James Webb Space Telescope launched in December 2021?
- It orbits the Sun, about 15 lakh km away from the Earth.
 - It orbits the Earth, about 15 lakh km away.
 - It is stationary in space nearly 10 lakh km away from the Earth.
 - It revolves around the Moon nearly 3.5 lakh km away from the Earth.
10. Which of the following particles are subatomic particles?
- Electron
 - Proton
 - Neutron
 - Muon
- Select the correct answer using the code given below.
- 1 and 4 only
 - 1, 2, 3 and 4
 - 2 and 3 only
 - 1, 2 and 3 only
11. Qubit refers to a two-valued quantity used in
- classical computers
 - classical cryptography
 - quantum computers
 - lasers
12. Photo 51 refers to an image of
- a crater on the Moon
 - DNA molecules
 - the virus responsible for COVID-19
 - the virus responsible for common cold
13. The rest mass of Higgs boson is estimated to be close to
- 0.5 MeV
 - 900 MeV
 - 100 GeV
 - 1000 GeV
14. Which one of the following correctly describes the principle of working of an atomic clock?
- Vibration of a small quartz crystal
 - Simple harmonic motion of atoms inside a crystal
 - Resonant frequency in cesium (or rubidium) atom
 - Excitation and de-excitation of hydrogen atoms
15. Political analysis involves both normative and empirical approaches. Which of the following statements is/are correct about the two approaches?
- Knowledge acquired through the empirical approach is value-loaded.
 - Knowledge acquired through the normative approach is objectively neutral.
- Select the correct answer using the code given below.
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
16. Which one amongst the following **cannot** be a feature of a 'totalitarian regime'?
- State control of the political and often personal realms of individual life
 - A monopoly of the means of mass communication
 - One-party State
 - Autonomy of civil society
17. Which of the following statements are **not** correct?

1. In world politics, 'hard power' can be exercised by both States and other actors involving use of threat or coercion.
 2. Globalisation is necessarily economic, not cultural.
 3. The term 'Washington Consensus' refers to a policy that seeks intervention in the market.
 4. 'Autarky' is generally understood as economic 'self-sufficiency'.
- Select the correct answer using the code given below.
- (a) 1 and 4 only (b) 2 and 3 only
(c) 2, 3 and 4 only (d) 1, 2, 3 and 4
18. Consider the following statements:
1. Under Part III of the Constitution of India, individuals can enforce rights guaranteed by this Part when they are violated by the action of a government authority.
 2. Under Part III of the Constitution of India, individuals can enforce rights guaranteed by this Part when they are violated by not only the action of a government authority, but also by its inaction.
- 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
19. Consider the following statements:
1. The International Covenant on Civil and Political Rights (ICCPR) provides that everyone shall have the right to recognition everywhere as a person before the law.
 2. Although India agrees in principle with the ethos of ICCPR, it has not yet ratified it fully.
- 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
20. Which of the following statements with respect to the right to have a legal aid is/are correct?
1. Under the Constitution of India, it is given under the Directive Principles of State Policy.
 2. It is the duty of the police to inform the nearest Legal Aid Committee immediately after the arrest of a person.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
21. Which of the following statements as per the 'Universal Declaration of Human Rights' is/are correct?
1. The Declaration provides that everyone has a right to seek and enjoy in other country's asylum from prosecution in respect of political crimes.
 2. The Declaration provides that everyone has the freedom from arbitrary deprivation of nationality, except for the freedom to change nationality.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
22. Which of the following UN organisations has been awarded with Nobel Prize twice?
- (a) IPCC (b) IAEA
(c) UNHCR (d) UNICEF
23. Which of the following statements is/are correct about vaccination that provides protection against an infectious disease?
1. It blocks the entry of the infectious agent into the body.
 2. It produces antibodies against infection.
 3. It kills the infectious agent when it enters in the body.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) 2 and 3 only (d) 1, 2 and 3
24. Which cells in human body have **no** nucleus?
- (a) Muscle cells (b) Phagocytic cells
(c) Red blood cells (d) Ciliated cells
25. The use of plastics has led to a number of environment-related problems. For this, which one of the following statements is correct?
- (a) They are non-biodegradable.
(b) They do not get released into water and food.
(c) They do not have any biochemical synthesis activity.
(d) They are harmless to humans.
26. Microbodies found to be present in plant and animal cells contain
- (a) broken down membranes
(b) enzymes
(c) acidic fluids
(d) waste metabolites
27. An antibacterial enzyme present in saliva and tears is called

- (a) ribozyme (b) lipase
(c) lysozyme (d) isomerase
28. Which set of vegetables is underground stem or modified stem of a plant?
(a) Potato, artichoke, round gourd
(b) Onion, garlic, carrot
(c) Potato, onion, garlic
(a) Potato, garlic, turnip
29. Which of the following indicators is/are used to observe the monetary transmission mechanism in the economy?
1. Weighted average lending rate
2. Weighted average domestic term deposit rate
3. 1-year median MCLR
4. SDF rate
Select the correct answer using the code given below.
(a) 1 and 2 only (b) 1, 2 and 3
(c) 3 and 4 (d) 4 only
30. Consider the following statements regarding instruments of monetary policy :
1. Standing deposit facility (SDF) rate was introduced in April 2022.
2. SDF rate replaced fixed reverse repo rate as the floor of the LAF corridor.
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
31. Consider the following statements regarding weightage of different articles in Wholesale Price Index (WPI):
1. Fuel and power have higher weightage in WPI than that of primary articles.
2. Weightage of manufactured products in WPI is higher than that of fuel and power.
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
32. If India enters into Free Trade Agreements (FTAs) with other nations, then the growth of exports of India would depend upon which of the following?
1. Extent of tariff reduction vis-a-vis MFN tariffs
2. Extent of relaxation in terms of rules of origin
3. Extent of relaxation in sanitary and phytosanitary measures
4. Level of infrastructure in India
5. Income in nations with which India enters into FTAs
Select the correct answer using the code given below.
(a) 1, 3 and 4 only (b) 1, 2 and 4 only
(c) 2, 3 and 5 only (d) 1, 2,3, 4 and 5
33. Which one of the following is an amphoteric oxide?
(a) MgO (b) P_4O_{10}
(c) Na_2O (d) Al_2O_3
34. The correct order of octane number of butane, pentane, hexane and cyclohexane is
(a) butane > pentane > hexane > cyclohexane
(b) butane > pentane > cyclohexane > hexane
(c) butane > cyclohexane > pentane > hexane
(d) cyclohexane > butane > pentane > hexane
35. Which one of the following is the correct order of reactivity of Mg, Al, Zn and Fe with HCl?
(a) $Mg > Al > Zn > Fe$
(b) $Mg > Al > Fe > Zn$
(c) $Zn > Fe > Mg > Al$
(d) $Fe > Al > Zn > Mg$
36. Methanol is toxic because
(a) methanol coagulates the protoplasm
(b) methanol gets oxidised to methanal in liver which coagulates the protoplasm
(c) methanol gets oxidised to acetic acid in liver which coagulates the protoplasm
(d) methanol gets oxidised to CO in liver which coagulates the protoplasm
37. Vinegar is
(a) 5-8% solution of acetic acid in water
(b) 5-8% solution of carbonic acid in water
(c) 5-8% solution of ethanol in water
(d) 10-15% solution of propionic acid in water
38. Which one of the following is related to global dimming?
(a) Fall of atmospheric pressure due to increased particulates
(b) Raise of atmospheric pressure due to increased particulates
(c) Raise of temperature due to increased particulates
(d) Fall of temperature due to increased particulates

39. Which one of the following is known as cetane?
 (a) Hexadecane (b) Heptadecane
 (c) Octadecane (d) Nonadecane

40. Which one among the following countries is **not** a part of the Arabian Peninsula?

(a) Kuwait (b) Oman
 (c) Jordan (d) Yemen

41. Which of the following statements regarding continent of Antarctica is/are correct?

1. It has the highest average elevation as compared to all other continents.
2. Mount Vinson is the highest peak of this continent.

Select the correct answer using the code given below.

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

42. Which one of the following biosphere reserves is spread over the three States in India?

(a) Nilgiri
 (b) Achanakmar-Amarkantak
 (c) Seshachalam
 (d) Agasthyamalai

43. Which one of the following pairs is **not** correctly matched?

| | | |
|-----|----------------------------------|-------------------|
| (a) | Ramnagar Wildlife Sanctuary : | Uttarakhand |
| (b) | Chakrashila Wildlife Sanctuary : | Assam |
| (c) | Nahar Wildlife Sanctuary : | Haryana |
| (d) | Kane Wildlife Sanctuary : | Arunachal Pradesh |

44. Which of the following statements regarding coconut production in Lakshadweep is/are correct?

1. Productivity per hectare is highest in India.
 2. Oil content in nuts is highest in the world.
- Select the correct answer using the code given below.

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

45. Which of the following statements regarding barrier islands is/are correct?

1. These are small chain of sand islands that form offshore, far from the coast.
2. Lagoons or shallower marshes separate the barrier islands from the mainland.

3. Such locations are hazardous for settlements because they are easily swept away by storms and hurricanes.

Select the correct answer using the code given below.

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

46. Identify the type of cloud on the basis of the given characteristics:

1. High, thin, puffy white clouds of ice crystals that look like ripples
2. They appear between 20000 feet and 40000 feet above the Earth's surface
3. One of its types is called a 'mackerel sky' because the clouds resemble large fish scales, especially when they are coloured pink at sunset

Select the correct answer.

(a) Altostratus (b) Cirrostratus
 (c) Altocumulus (d) Cirrocumulus

47. Identify the type of drainage pattern on the basis of the given characteristics:

1. It represents the most common pattern of streams and their tributaries
2. It occurs in areas of uniform rock type and regular slope
3. A map, or aerial photograph, shows a pattern like the veins on a leaf—smaller streams join the main stream at an acute angle

Select the correct answer.

(a) Dendritic (b) Radial
 (c) Trellis (d) Centripetal

48. Which of the following regarding gateway city is/are correct?

1. City whose physical location makes it a link between one country and others, or between one region and others
2. A gateway city exercises control over a large area because it commands the entry and exit rights and powers for a particular country or region
3. Most gateway cities are ports, many of which were formerly administrative centres for a colonial government

Select the correct answer using the code given below.

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

49. Which one of the following has been an important early Chola painting discovered at the Brihadisvara Temple, Thanjavur in 1931?

- (a) 2 and 3 only (b) 1 and 3 only
(c) 1, 2 and 3 (d) 1 only
59. Which of the following statements about the International Court of Justice is/are correct?
1. The Court consists of members, wherein two members cannot be nationals of the same State.
 2. The General Assembly and the Security Council proceed independently of one another to elect the members of the Court.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
60. Consider the following statements regarding Bhoonidhi Vista:
1. It is a data visualisation service of Bhoonidhi providing full resolution mosaicked data visualisation capability through Web Map Service.
 2. It is enabled for ResourceSat-2/2A, Sentinel 1 and 2 satellites.
- 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
61. Which of the following were objectives of the G20 Summit, 2023 under India's Presidency?
1. Green development
 2. Accelerating progress on SDGs
 3. Women-led development
- Select the correct 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
62. The causal organism of dengue fever is a mosquito-borne virus which belongs to which one among the following categories?
- (a) Flavi-ribo virus (b) Adenovirus
(c) Vaccinia virus (d) Nipah virus
63. From which among the following are blood clotting factors released?
- (a) RBCs (b) Eosinophils
(c) Platelets (d) Monocytes
64. Pulse is felt due to the rhythmic contraction and relaxation of the
- (a) chambers of heart
(b) valves present in veins
(c) aorta and main arteries
(d) valves of heart
65. When eggs are heated, the transparent liquid portion around yolk turns solid and turbid white. This happens due to the thermal denaturation of
- (a) fats (b) proteins
(c) ribose sugar (d) carbohydrates
66. Which of the following statements is/are correct?
1. GDP deflator captures the average price of an unchanging basket of commodities that constitutes the GDP of the country.
 2. GDP deflator can be used to measure the real GDP of the economy but not the inflation rate.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
67. Which of the following statements is/are correct?
1. A price index captures the change in the average price of a constant basket of commodities.
 2. If the price index takes values 100, 110 and 121 in three consecutive years respectively, then the inflation rates in the 2nd and 3rd years are 10% and 21% respectively.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
68. Which of the following statements is/are correct?
1. Most of India's reserves is held in the form of foreign currency.
 2. There is no cost of holding foreign currency as reserves by a nation.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
69. Which one of the following statements is **not** correct?
- (a) The market mechanism over-produces a good that generates positive externality.
(b) A cap and trade of pollution permits can be used by the government to achieve the social optimum.
(c) The optimal amount of subsidy in the case of an activity that produces a positive externality is the difference between the so-

- cial benefit and the private benefit at the optimum.
- (d) Tragedy of Commons is an example of negative externality.
70. Which one of the following statements regarding GST is **not** correct?
- Amendment 115 to the Constitution of India kept alcohol for human use and five petroleum products outside the ambit of GST.
 - Amendment 122 to the Constitution of India kept only alcohol for human use outside the ambit of GST.
 - Precious metals are taxed at a rate of 1% under GST.
 - Unworked diamond is taxed at a rate of 0.25%.
71. Which of the following statements with regard to the Report of Tendulkar Committee (2009) on poverty estimates is/are correct?
- The Committee had used an all-India urban poverty line basket as a reference to derive both rural and urban poverty levels.
 - The Committee had anchored the poverty line to the official food calorie norms.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
72. Which of the following components of Central Government taxes on petroleum products is/are **not** shareable with the States?
- Basic Excise Duty
 - Additional Excise Duty
 - Special Additional Excise Duty
- Select the correct answer using the code given below.
- (a) 1 and 2 only (b) 1, 2 and 3
(c) 3 only (d) 2 and 3 only
73. Level of per capita GDP depends upon which of the following?
- Proportion of population in the working age
 - Work participation rate
 - Per worker productivity
- Select the correct answer using the code given below.
- (a) 3 only (b) 1 and 3 only
(c) 1 and 2 only (d) 1, 2 and 3
74. Which of the following are included in M1 definition of money for the Indian economy?
- Reserves
 - Currency
 - Time deposits
 - Demand deposits
- Select the correct answer using the code given below.
- (a) 1 and 3 only (b) 2 and 3
(c) 2 and 4 (d) 1, 3 and 4
75. Which one of the following statements is **not** correct for National Income Accounting for India?
- Imports are subtracted in calculating Gross Domestic Product.
 - Net factor payments earned from abroad are included in Gross Domestic Product.
 - Purchase and sale of second-hand goods are not included in Gross Domestic Product.
 - Inventories are included in Gross Domestic Capital Formation.
76. Under normal downward sloping demand curve and fully elastic supply curve of a commodity, an exogenous decrease in demand would lead to
- increase in equilibrium price and quantity
 - decrease in equilibrium price and quantity
 - decrease in equilibrium quantity and no change in price
 - increase in equilibrium price and no change in quantity
77. The correct order of atomic radius of Li, Na, Be and O is
- $\text{Na} > \text{Li} > \text{Be} > \text{O}$
 - $\text{Na} > \text{Be} > \text{Li} > \text{O}$
 - $\text{Be} > \text{Li} > \text{Na} > \text{O}$
 - $\text{O} > \text{Be} > \text{Li} > \text{Na}$
78. Which of the following catalytic systems is used for the reduction of unsaturated hydrocarbon to saturated hydrocarbon?
- Copper and H_2
 - Iron and H_2
 - Zinc and H_2
 - Nickel and H_2
79. Which one of the following has the highest ionic character?
- BeF_3
 - SiO_2
 - NCl_3
 - K_2S
80. Which of the following statements regarding ice-cap climate is/are correct?
- In the Koeppen climate classification, the ice-cap climate is signified by the letters EF.
 - It is the Earth's most severe climate, where the mean monthly temperature is never above 0 degree Celsius.

3. This climate is found in the Pir Panjal and the Great Himalayas.
Select the correct answer using the code given below.
(a) 1 only (b) 1 and 2 only
(c) 2 and 3 only (d) 1, 2 and 3
81. Which of the following statements regarding the Industrial Revolution is/are correct?
1. It was change of a society from a rural and agricultural lifestyle to one in which most people earned their living in the industrial or secondary sector of the economy.
2. The first Industrial Revolution began in Germany in the early eighteenth century.
3. During Industrial Revolution, technological advances in iron smelting and later steel production, were accompanied by the invention of steam engine.
Select the correct answer using the code given below.
(a) 1 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3
82. Which of the following statements regarding insolation is/are correct?
1. Insolation is predominantly short-wave radiation, with wavelengths in the range of 0.39 micrometre to 0.76 micrometre.
2. Insolation is evenly distributed across the Earth because of the Earth's curved surface.
Select the correct answer using the code given below.
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
83. Which of the following statements regarding river meanders is/are correct?
1. It is a U-shaped bend in a river.
2. An extremely tight meander is called a gooseneck; it is likely to become a cutoff, or oxbow lake, after a flood.
3. Tectonic uplift can cause a river to continue downcutting along its meandering course, producing incised or entrenched meanders.
Select the correct answer using the code given below.
(a) 1 only (b) 1 and 2 only
(c) 2 and 3 only (d) 1, 2 and 3
84. How can one determine the relative humidity on a particular day at a given place?
(a) If temperature is given (b) If absolute humidity is given
(c) If both temperature and absolute humidity are given (d) If percentage of absolute humidity is given
85. Which greenhouse gas has maximum average residence time in the atmosphere?
(a) CFC (b) CH₄
(c) N₂O (d) Water vapour
86. What does BW stand for as per the Koeppen climate classification?
(a) Steppe climate (b) Desert climate
(c) Tundra climate (d) Mesothermal climate
87. Which organisation publishes worldwide list of endangered species?
(a) The International Union for Conservation of Nature (IUCN)
(b) The World Wide Fund for Nature (WWF)
(c) The United Nations Environment Programme (UNEP)
(d) The United Nations Development Programme (UNDP)
88. On which among the following is National Waterway No. 2 situated?
(a) The Ganga, Haldia-Prayagraj
(b) West Coast Canal, Kottapuram-Kollam
(c) The Brahmaputra, Sadiya-Dhubri
(d) Godavari and Krishna, Kakinada- Puducherry
89. What is culturable wasteland?
(a) Land that has been left fallow in last four years
(b) Land that has been left fallow between one and two years
(c) Land that has been left fallow for less than one year
(d) Land that has been left fallow for more than five years
90. Which of the following statements is/are correct?
1. Angular velocity for all locations on the Earth's surface is the same while linear velocity varies.
2. Linear velocity is maximum at the equator and minimum at the poles.
Select the correct answer using the code given below.
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

91. Consider the following statements about Rana Kumbha of Mewar:
1. He wrote a commentary on Jayadeva's *Gitagovinda*.
 2. He wrote four dramas in which he is said to have made use of four provincial languages.
 3. He erected Kirtistambha in Chitor in commemoration of his victory over Gujarat.
- Which of the statements given above is/are correct?
- (a) 1, 2 and 3 (b) 2 and 3 only
(c) 1 and 2 only (d) 3 only
92. Who among the following Chola kings encouraged the Sailendra ruler of Sri Vijaya to build a Buddhist Vihara in Negapatnam?
- (a) Parantaka I (b) Rajaraja I
(c) Rajendra I (d) Kulottunga I
93. Who among the following was **not** a court poet of king Krishnadevaraya?
- (a) Timmana (b) Dhurjati
(c) Mallana (d) Siddheshvara
94. The royal portraits of Simhavishnu and Mahendravarman are found in which cave temple at Mamallapuram?
- (a) Varaha Cave (b) Ramanuja Cave
(c) Adivaraha Cave (d) Trimurti Cave
95. How many of the following statements about Bhakti poet Namdev is/are correct?
1. He seems to have played a part in transmitting the southern Bhakti to northern India.
 2. He was a rigorous monotheist and opposed caste distinctions.
 3. He was a devout follower of Kabir.
- Select the correct answer.
- (a) 1 (b) 2 (c) 3 (d) None
96. How many of the following statements regarding medicine and related practices in medieval India is/are correct?
1. Indian medicine of the Graeco-Arabic tradition (Tibb-i-Yunani) was almost identical in its practice with contemporary Persian medicine.
 2. Harvey's discovery of the circulation of blood was explained to a scholarly noble by European traveller Francois Bernier.
 3. The practice of smallpox inoculation was described in contemporary Yunani and Ayurvedic texts.
- Select the correct answer.
- (a) 1 (b) 2 (c) 3 (d) None
97. Which of the following statements about Virashaivism is/are correct?
1. The Virashaivism traces its origin to the five great religious teachers-Renuka, Daruka, Ghantakarna, Dhenukarna and Vishvakarna.
 2. The Virashaiva philosophy is called Shaktivishishtadvaita-the non-duality of God.
 3. Ashtavarana are the eight rules of the Virashaivism to be observed by the followers.
- Select the correct answer using the code given below.
- (a) 1 and 2 only (b) 1, 2 and 3
(c) 1 and 3 only (d) 3 only
98. Who propounded Kashmir Shaivism?
- (a) Vasugupta
(b) Abhinavagupta
(c) Ramakantha
(d) Ranganathacharya
99. Which one among the following is **not** under the jurisdiction of the Protection of Human Rights Act, 1993?
- (a) The National Human Rights Commission
(b) The State Human Rights Commission
(c) The Human Rights Courts
(d) The Human Rights Council
100. According to B. R. Ambedkar, which one among the following Articles is the 'heart and soul' of the Constitution of India?
- (a) Article 15 (b) Article 21
(c) Article 23 (d) Article 32
101. Who among the following filed the Writ Petition that led to the famous verdict of the Supreme Court of India recognising the Right to Privacy as a Fundamental Right?
- (a) Justice P. N. Bhagwati
(b) Justice Rohinton Fali Nariman
(c) Justice K. S. Puttaswamy
(a) Justice Anil R. Dave
102. Through the Forty Second Amendment to the Constitution of India, which of the following was/were inserted into its Preamble?
1. 'Liberty of thought, expression and belief was substituted by 'Liberty of thought, expression, belief, faith and worship'.
 2. The expression 'Unity of the Nation' was substituted by 'Unity and Integrity of the Nation'.

Select the correct answer using the code given below.

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

103. As per the State List under the Seventh Schedule of the Constitution of India, the States have jurisdiction over agricultural land in connection with which of the following subjects?

1. Taxes on agricultural income
2. Duties in respect of succession of agricultural land
3. Estate duty in agricultural land respect of agricultural land

Select the correct answer using the code given below.

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

104. The 7th edition of the Indian Ocean Conference was held at

- (a) Dhaka (b) New Delhi
(c) Malé (d) Perth

105. Match List-I with List-II and select the correct answer using the code given below the Lists:

List-I

(Political idea)

- A. Human beings, unlike all other objects, possess dignity
- B. It is Swaraj when we learn to rule ourselves
- C. Freedom implies not only emancipation from political bondage but also equal distribution of wealth
- D. For me real freedom is freedom from fear

List II

(Thinker)

1. Aung San Suu Kyi
2. Subhas Chandra Bose
3. Immanuel Kant
4. Mahatma Gandhi

Code :

- (a) A B C D
3 2 4 1
- (b) A B C D
1 4 2 3
- (c) A B C D
3 4 2 1
- (d) A B C D
1 2 4 3

106. Who among the following is the author of the book *Four Stars of Destiny: An Autobiography* ?

- (a) Sam Manekshaw
(b) K. J. S. Dhillon
(c) Bipin Rawat
(d) Manoj Mukund Naravane

107. The Indian Army launched 'Operation Sarvashakti' to flush out terrorists in

- (a) Myanmar
(b) Manipur
(c) Jammu and Kashmir
(d) Chhattisgarh

108. Which of the following cities were conferred with the cleanest city award under Swachh Survekshan Awards, 2023?

- (a) Varanasi and Prayagraj
(b) Indore and Surat
(c) Prayagraj and Indore
(d) Surat and Varanasi

109. Which one of the following is an indigenous assault rifle developed by DRDO?

- (a) Heckler (b) T91
(c) Tikka (d) Ugram

110. With which one among the following sports is Yogesh Singh, who won a Gold Medal in an Asian Championship in 2024, associated?

- (a) Badminton (b) Shooting
(c) Archery (d) Wrestling

111. Renowned classical singer Prabha Atre, who passed away recently, was an exponent of which one of the following Gharanas?

- (a) Kirana Gharana (b) Patiala Gharana
(c) Gwalior Gharana (d) Agra Gharana

112. Who among the following was the first Indian Commander-in-Chief of the Indian Army of independent India?

- (a) S. M. Srinagesh
(b) K. M. Cariappa
(c) K. S. Thimayya
(d) K. S. Rajendrasinhji

113. Which one of the following is an 'end-to-end secure mobile ecosystem' developed recently by the Indian Army?

- (a) SANCHAR (b) VAIBHAV
(c) SAMPARK (d) SAMBHAV

114. Consider the following statements about the Regional Comprehensive Economic Partnership (RCEP):

1. It is a comprehensive free trade agreement

- between the ASEAN member States and ASEAN's free trade agreement partners.
2. India opted out of RCEP.
- 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
115. Recently the Government of India entered into an agreement for a lithium exploration and mining project with which one among the following countries?
- (a) Brazil (b) Australia
(c) Argentina (d) Chile
116. Consider the following statements about the Shanghai Cooperation Organisation (SCO):
1. One of the goals of SCO is to promote a new democratic, fair and rational international political and economic order.
 2. Iran is a permanent member of SCO.
- 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
117. Which of the following statements about the ICC under-19 Men's Cricket World Cup, 2024 is/are correct?
1. Australia won this title for the 4th time.
 2. It was organised in South Africa.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
118. Which of the following statements with regard to Bharat Ratna Award is/are correct?
1. It was instituted in the year 1972.
 2. The award does not carry any monetary grant.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
119. Which of the following statements about India's rank in the Global Innovation Index-2023, published by the World Intellectual Property Organisation, is/are correct?
1. India has been placed at 40th rank.
 2. India has been on a rising trajectory over the period 2015–2023.
- Select the correct answer using the code given below.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
120. Which of the following statements about 'Green Credit Initiative' is/are correct?
1. It is a response to the challenge of climate change.
 2. It promotes plantations on wasteland and river catchment areas.
 3. It is a scheme of the Government of India to replace the kerosene oil with solar power used by the rural poor.
- Select the correct answer using the code given below.
- (a) 1, 2 and 3 (b) 1 and 2 only
(c) 2 only (d) 1 and 3 only

| Answer Key | | | |
|-------------------|---------------|--|---|
| Q.No. | Answer | Topic's Name | Chapter's Name |
| 1 | b | Jorwe Culture of the Deccan | Ancient History |
| 2 | d | Madurai, Capital City of the Pandya Kingdom | Ancient History |
| 3 | a | Sawai Jai Singh's Astronomical Work | Ancient History |
| 4 | a | Indian Music and Musicians | Ancient History |
| 5 | b | Suganya Bharat Abhiyan | Government Schemes and Policies |
| 6 | c | Non-Cooperation Movement | Modern Indian History |
| 7 | c | Mauryan State | Ancient Indian History |
| 8 | c | Delhi Sultanate Period | Medieval Indian History |
| 9 | a | James Webb Space Telescope | Science and Technology |
| 10 | d | Sub-atomic particles | Structure of Atom |
| 11 | c | Quantum Computer | Modern Physics |
| 12 | b | vaccination | immunity |
| 13 | c | Rest Mass | Modern Physics |
| 14 | c | Atomic Clock | Modern Physics |
| 15 | a | Political Analysis: Normative and Empirical Approaches | Political Science |
| 16 | d | Totalitarianism | Political Science |
| 17 | a | Concepts and Theories | International Relations |
| 18 | c | Fundamental Rights | Indian Polity |
| 19 | a | International Organizations and Agreements | International Relations |
| 20 | a | Indian Constitution | Fundamental Rights and Directive Principles |
| 21 | b | Universal Declaration of Human Rights | International Human Rights |
| 22 | c | International Organizations | International Organizations |
| 23 | b | Blood Cells | Human Circulatory System |
| 24 | c | Cells | Human cells |
| 25 | a | Plastic waste | Pollution |
| 26 | b | Enzymes | Biomolecules |
| 27 | c | Types Of Stems | Plants |
| 28 | c | Dengue | Human Health And Disease |
| 29 | b | Monetary Policy and its Impact | Economic and Social Development |
| 30 | c | Monetary Policy and its Instruments | Economic and Social Development |
| 31 | b | Inflation and Price Indices | Economic and Social Development |
| 32 | b | International Trade and Economic Agreements | Economy |
| 33 | d | Amphoteric oxide | Metal and Non-metal |
| 34 | d | Octane Number | Carbon and its compounds |
| 35 | a | Reactivity of Metal | Metal and Non-metal |

| Q.No. | Answer | Topic's Name | Chapter's Name |
|-------|--------|---|--------------------------|
| 36 | b | Blood Clotting | Human Circulatory System |
| 37 | a | Vinegar composition | Carbon and its compounds |
| 38 | d | Climate Change and Global Dimming | Environment and Ecology |
| 39 | a | Cetane number | Combustion and Flame |
| 40 | c | Physical Geography | Geography |
| 41 | c | Continents and Oceans | Geography |
| 42 | a | Biodiversity and Conservation | Environment and Ecology |
| 43 | a | Wildlife Sanctuaries and National Parks | Environment and Ecology |
| 44 | a | Crop Production and Productivity | Agriculture |
| 45 | c | Coastal Landforms and Processes | Geography |
| 46 | d | Atmosphere and Weather | Geography |
| 47 | a | Drainage Systems and Patterns | Geography |
| 48 | d | Urbanization and Settlements | Geography |
| 49 | b | Ancient Indian Art and Architecture | Art and Culture |
| 50 | b | British Colonial Rule and Development of Railways | History |
| 51 | b | Deindustrialization of India | Indian Economy |
| 52 | b | Early Phase of the National Movement | History |
| 53 | b | Telescope | EMW |
| 54 | a | Space Station | Science and Technology |
| 55 | c | Ferromagnetic character | Magnetic Character |
| 56 | c | Heat and Temperature | Science and Technology |
| 57 | c | Climate Change and Partnerships | Environment and Ecology |
| 58 | c | Fundamental Rights and Human Rights | Polity |
| 59 | c | International Organizations | International Relations |
| 60 | c | Remote Sensing and GIS Applications | Science and Technology |
| 61 | c | G20 Summit and Objectives | International Relations |
| 62 | a | Diseases | Virus |
| 63 | c | Proteins | Biomolecules |
| 64 | c | DNA | DNA |
| 65 | b | Chemicals | Chemicals |
| 66 | b | National Income Accounting and Inflation | Economics |
| 67 | c | Inflation | Economics |
| 68 | a | Foreign Exchange Management | Indian Economy |
| 69 | a | Market Failure and Externalities | Economics |
| 70 | c | Goods and Services Tax | Indian Economy |
| 71 | c | Poverty and Developmental Issues | Indian Economy |
| 72 | b | Taxation and Fiscal Policy | Indian Economy |
| 73 | d | National Income and Economic Growth | Indian Economy |
| 74 | c | Money and Banking | Indian Economy |

| Q.No. | Answer | Topic's Name | Chapter's Name |
|-------|--------|---|-------------------------------------|
| 75 | b | National Income Accounting | Indian Economy |
| 76 | b | Market Equilibrium and Elasticity | Economics |
| 77 | a | Atomic radii | Periodic classification of elements |
| 78 | d | Hydrogenation | Carbon and its compounds |
| 79 | d | Ionic compounds | Metal and Non-metal |
| 80 | b | Climatology | Geography |
| 81 | c | Industrial Revolution | History |
| 82 | a | Insolation and Solar Radiation | Geography |
| 83 | d | Fluvial Landforms - River Meanders and Evolution | Geography |
| 84 | c | Atmospheric Science - Humidity and Relative Humidity | Geography |
| 85 | c | Composition of the air | Matter in our surroundings |
| 86 | b | Climate Classification | Geography |
| 87 | a | Conservation and Biodiversity | Environmental Ecology |
| 88 | c | Inland Waterways in India | Geography |
| 89 | d | Land Resources and Agriculture | Geography |
| 90 | c | Linear/Angular Momentum | Rotational Motion |
| 91 | c | Medieval Indian History | History |
| 92 | b | Medieval Indian History | History |
| 93 | d | Medieval Indian History | History |
| 94 | c | Medieval Indian History | History |
| 95 | b | Medieval Indian History | History |
| 96 | c | Medieval Indian History | History |
| 97 | b | Medieval Indian History | History |
| 98 | a | Medieval Indian History | History |
| 99 | d | Protection of Human Rights in India - Legal Framework | Polity and Governance |
| 100 | d | Constitution of India - Fundamental Rights | Polity and Governance |
| 101 | c | Constitution of India - Fundamental Rights | Polity and Governance |
| 102 | b | Constitution of India - Preamble | Polity and Governance |
| 103 | b | Constitution of India | Polity and Governance |
| 104 | d | Events and Conferences | Current Affairs |
| 105 | c | Political Ideas and thinker | History |
| 106 | d | Books and Authors | Current Affairs |
| 107 | c | Defence Operations | Current Affairs |
| 108 | b | Swachh Survekshan Awards | Current Affairs |
| 109 | d | Indigenous Weapon Systems | Defence Research and Development |
| 110 | b | Sports and Games | Current Affairs |
| 111 | a | Indian Culture and Heritage | Current Affairs |

| Q.No. | Answer | Topic's Name | Chapter's Name |
|--------------|---------------|--|----------------------------|
| 112 | b | India's Independence Movement | History |
| 113 | d | Defence Technology | Current Affairs |
| 114 | c | Regional Comprehensive Economic Partnership (RCEP) | International Relations |
| 115 | c | India's International Agreements | Current Affairs |
| 116 | a | Shanghai Cooperation Organisation (SCO) | International Relations |
| 117 | c | Sports and Games | Current Affairs |
| 118 | b | Bharat Ratna Award | Indian Awards and Honours |
| 119 | c | Global Innovation Index-2023 | Current Affairs |
| 120 | b | Green Credit Initiative | Environmental Conservation |

ANSWERS WITH EXPLANATIONS

- Option (b) is correct.**
Explanation: It encompasses almost the entire modern Maharashtra, excluding the coastal Konkan district.
The Pravara-Godavari valleys appear to have been the central zone.
- Option (d) is correct.**
Explanation: Maduraiakkanchi depicts it as a vast, splendid city surrounded by walls on three sides, with the Vaigai river forming its fourth boundary. The Arthashastra recognises it as a hub for exquisite cotton textiles, while other literary accounts label it as a significant craft centre.
- Option (a) is correct.**
Explanation: He learnt of the accuracy of European observations and obtained de La Hire's tables from which he reproduced a refraction table.
- Option (a) is correct.**
Explanation: Man Kautuhā, a significant treatise on Indian music theory was a treatise created under Raja Man Singh Tomar.
- Option (b) is correct.**
Explanation: Sugamya Bharat Abhiyan, a flagship program, is indeed spearheaded by the Department of Empowerment of Persons with Disabilities under the Ministry of Social Justice and Empowerment.
The initiative focuses on creating a barrier-free and accessible environment for people with disabilities, not specifically offering pensions. Pensions for persons with disabilities might be a separate program.
- Option (c) is correct.**
Explanation: The Non-Cooperation Movement aimed at peaceful protests and civil disobedience. Taking control of law and order would have involved violence, which was not a part of the movement's strategy.
- Option (c) is correct.**
Explanation: The state did not recognise the forest produce as the monopoly of the forest people.
- Option (c) is correct.**
Explanation: Panna in Madhya Pradesh is known to have been a centre for diamond mining in India for centuries. Historical records indicate its importance during the Delhi Sultanate period as well.
- Option (a) is correct.**
Explanation: The James Webb Space Telescope (JWST) is located at the second Lagrange point (L₂), roughly 1.5 million kilometers (or 15 lakh km) from Earth, and it orbits the sun from this point. This location enables the JWST to maintain a consistent position relative to Earth while both travel around the Sun.
- Option (d) is correct.**
Explanation: In an atom, three fundamental/subatomic particles are present and they are electron proton and neutron.

| Subatomic particle | Relative charge | Relative mass |
|--------------------|-----------------|---------------|
| electron | -1 | — |
| proton | +1 | 1 |
| neutron | 0 | 1 |
- Option (c) is correct**
Explanation: Cubit is basic unit of quantum information just like bit. A bit stores information only in 0 or 1, a cubit can store in 0,1 or combination of both.
- Option (b) is correct**
Explanation: Photo 51 is an X-ray diffraction image of DNA taken by Rosalind Franklin in 1952. It was a crucial piece of evidence used by James Watson and Francis Crick in their discovery of the double helix structure of DNA. Franklin's work provided key insights into the structure of DNA molecules.

13. Option (c) is correct

Explanation: Rest mass of Higgs boson is $125.1 \text{ GeV}/c^2$. Here closest possible number is 100 GeV.

14. Option (c) is correct

Explanation: Resonance frequency of atom (cesium or rubidium) is used to measure accurate time. These two have particularly stable and well-defined resonance frequency which helps in measuring time accurately.

15. Option (a) is correct.

Explanation: Knowledge gained through the empirical approach carries inherent values, biases, or interpretations. This statement is accurate as empirical methods involve gathering data and observations influenced by these factors.

On the other hand, knowledge obtained through the normative approach is not objectively neutral. Normative methods make judgments about what should be, reflecting subjective perspectives rather than objective neutrality.

16. Option (d) is correct.

Explanation: A feature inconsistent with a 'totalitarian regime' is the autonomy of civil society. Totalitarian regimes usually exercise extensive control over both political and personal aspects of individual lives, monopolise mass communication means and frequently operate as one-party states. Autonomy of civil society contradicts the controlling nature of totalitarian regimes.

17. Option (a) is correct.

Explanation: Globalisation encompasses the integration of economies, cultures and societies, extending beyond mere economic transactions to include the dissemination of ideas, values and cultural expressions. The Washington Consensus comprises a collection of economic strategies advocating for privatisation, deregulation and trade liberalisation, typically favouring reduced government involvement in the marketplace.

18. Option (c) is correct.

Explanation: Both statements are correct. Under Part III of the Indian Constitution, individuals can enforce their fundamental rights against government authorities actions or inactions. This enforcement typically occurs through writ petitions filed in the High Courts or the Supreme Court.

19. Option (a) is correct.

Explanation: India has signed and ratified IC-CPR.

20. Option (a) is correct.

Explanation: The right to legal aid is in Article 39A of the Indian Constitution under the Directive Principles of State Policy (DPSP). While DPSP guides social welfare and justice, it isn't directly enforceable. The Constitution doesn't mandate the police to notify the nearest Legal Aid Committee post-arrest.

21. Option (b) is correct.

Explanation: The UDHR protects against arbitrary deprivation of nationality (Article 15). This means governments cannot take away a person's nationality without proper justification. Additionally, the UDHR recognises the right to change nationality (Article 15).

22. Option (c) is correct.

Explanation: The United Nations High Commissioner for Refugees (UNHCR) has been awarded the Nobel Peace Prize twice - in 1954 and 1981.

23. Option (b) is correct

Explanation: Vaccination does not directly block the entry of the infectious agent into the body. Instead, it prepares the immune system to recognise and combat the infectious agent upon entry. Vaccination stimulates the production of antibodies specific to the infectious agent, providing protection against infection. Vaccination does not directly kill the infectious agent when it enters the body. Instead, it primes the immune system to respond rapidly and effectively to neutralise or eliminate the infectious agent.

24. Option (c) is correct

Explanation: Red blood cells, or erythrocytes, are unique among the options listed because they lack a nucleus in humans. This absence of a nucleus allows red blood cells to have more space to carry hemoglobin, the protein responsible for oxygen transport in the blood.

25. Option (a) is correct

Explanation: Plastics are synthetic polymers that are typically resistant to degradation by natural processes, making them non-biodegradable. This property contributes to their persistence in the environment and their harmful effects on ecosystems.

26. Option (b) is correct

Explanation: Microbodies, also known as peroxisomes, are membrane-bound organelles found in both plant and animal cells. They

contain various enzymes involved in metabolic processes, particularly those related to the breakdown of fatty acids and hydrogen peroxide detoxification.

27. Option (c) is correct

Explanation: The antibacterial enzyme present in saliva and tears is called lysozyme. Lysozyme works by breaking down the cell walls of certain bacteria, leading to their destruction. It is an important component of the innate immune system, providing a first line of defense against bacterial infections in the oral cavity and eyes.

28. Option (c) is correct

Explanation: Potato, onion and garlic are examples of vegetables that have underground stems or modified stems. In potatoes, we eat the swollen underground stem known as a tuber. Onions and garlic both have underground bulbs, which are modified stems that store nutrients for the plant.

29. Option (b) is correct.

Explanation: The monetary transmission mechanism refers to the process by which a central bank's monetary policy actions influence economic activity.

30. Option (c) is correct.

Explanation: Both statements are correct regarding the Standing Deposit Facility (SDF) rate and its role in monetary policy.

31. Option (b) is correct.

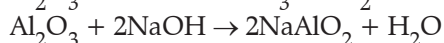
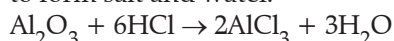
Explanation: Fuel and power have lower weightage in WPI than primary articles, which include essential items like food and minerals. In contrast, manufactured products carry a higher weightage in WPI due to their diverse range and significant impact on overall inflation.

32. Option (b) is correct.

Explanation: India's export growth under Free Trade Agreements (FTAs) would depend on several factors, but among the options listed, the most crucial ones are Extent of tariff reduction visa-a-visa MFN Tariffs, Extent of relaxation in terms of rules of origin and Level of infrastructure in India.

33. Option (d) is correct

Explanation: Amphoteric oxide are those oxides which can react with both acids and bases to form salt and water.



34. Option (d) is correct

Explanation: Octane number defines the quality of fuel in an internal engine.

The quality of fuel is increased with increased octane number.

Higher the length of carbon chain less is the octane number.

Similarly, higher the branches higher will be octane number.

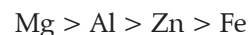
The octane number value decrease with increase in number of carbon atom.

Octane number order will be

Cyclohexane > Butane > Pentane > Hexane

35. Option (a) is correct

Explanation: The correct order of reactivity of Mg, Al, Zn & Fe with HCl as follows:



36. Option (b) is correct

Explanation: Methanol is toxic because when ingested, it metabolises into methanal and formic acid in the body. These metabolites are highly toxic and can cause severe damage to the optic nerve, leading to blindness, as well as damage to other organs such as the liver and kidneys. Ingesting even small amounts of methanol can be fatal, making it extremely dangerous if consumed accidentally or intentionally.

37. Option (a) is correct

Explanation: Vinegar is 5–8% solution of acetic acid in water.

Acetic acid belongs to carboxylic acid family having formula CH_3COOH .

38. Option (d) is correct.

Explanation: Global dimming is the gradual decrease in the sunlight reaching the Earth's surface, mainly caused by an increase in atmospheric particles like aerosols and dust.

39. Option (a) is correct

Explanation: Hexadecane is known as cetane. Cetane number is used to find the delay in ignition time of the fuel.

40. Option (c) is correct.

Explanation: The Arabian Peninsula is situated in Southwest Asia and Northeast Africa, encompassing countries like Saudi Arabia, Yemen, Oman, Kuwait, Bahrain, Qatar and the United Arab Emirates. Jordan, however, is not part of the Arabian Peninsula; it lies to the northwest of this region.

41. Option (c) is correct.

Explanation: Antarctica has the highest average elevation among continents, around 2,000 meters above sea level. Mount Vinson, in the

Ellsworth Mountains, is its highest peak at 4,892 meters.

42. Option (a) is correct.

Explanation: The Nilgiri Biosphere Reserve is spread across three states in India: Tamil Nadu, Karnataka and Kerala. It encompasses the Nilgiri Hills and is known for its rich biodiversity and unique ecosystems.

43. Option (a) is correct.

Explanation: Ramnagar wildlife Sanctuary is located in Jammu & Kashmir.

44. Option (a) is correct.

Explanation: Productivity per hectare is highest in India.

45. Option (c) is correct.

Explanation: Barrier islands are typically not formed far offshore but rather parallel to the mainland coast.

Lagoons or shallower marshes do indeed separate barrier islands from the mainland.

Barrier islands are indeed vulnerable to storms, hurricanes and erosion, making them hazardous for settlements.

46. Option (d) is correct.

Explanation: The Correct Answer will be Cirrocumulus.

47. Option (a) is correct.

Explanation: The dendritic drainage pattern is the most common, resembling tree branches. It forms in areas with uniform geology and shows smaller streams joining the main stream at acute angles, similar to leaf veins on a map or aerial photograph.

48. Option (d) is correct.

Explanation: All three statements provided are true characteristics of a gateway city.

49. Option (b) is correct.

Explanation: The Brihadisvara Temple in Thanjavur is famous for its Chola architecture and artworks. Among the notable paintings found there is one portraying Shiva as Yoga-Dakshinamurti, representing Lord Shiva as the ultimate yoga teacher.

50. Option (b) is correct.

Explanation: Initially, under the rule of British the railways were private.

51. Option (b) is correct.

Explanation: In the 19th century, British colonial policies posed major challenges to India's handloom cotton textile industry. The promotion of inexpensive machine-made textiles

from Britain contributed to the decline of India's traditional handloom sector.

52. Option (b) is correct.

Explanation: Surendranath Banerjee and his associates organised an Indian National Conference in Calcutta. This statement is accurate, as Banerjee played a role in the early stages of the National Movement through his involvement with the Indian National Conference.

53. Option (b) is correct.

Explanation: The Giant Metrewave Radio Telescope (GMRT) consists of multiple parabolic antennas spread across a large area, working together to observe radio waves from celestial sources.

54. Option (a) is correct.

Explanation: Axiom Station is set to become the first commercial space station, designed to be attached to the International Space Station (ISS). It aims to support research, manufacturing and tourism activities

55. Option (c) is correct.

Explanation: Ferromagnetic substance are those substance which can be permanently magnetised. In solid state, metal ions of ferromagnetic substance grouped together into small region called domain and each domain act as a tiny magnet.
Fe, Co & Ni are ferromagnetic substance.

56. Option (c) is correct.

Explanation: Placing the bowl of rice in another bowl of water and using a fan at full speed increases the rate of evaporation, which helps in cooling the rice faster.

57. Option (c) is correct.

Explanation: The Marrakech Partnership for Global Climate Action is an initiative focused on tackling climate change. All three statements are correct

58. Option (c) is correct.

Explanation: All three statements are true:

- The Special Marriage Act offers legal protection for interfaith marriages.
- The right to marry is a fundamental right under Article 21.
- The Universal Declaration of Human Rights supports the right to marry.

59. Option (c) is correct.

Explanation: The International Court of Justice (ICJ) comprises 15 judges serving nine-year terms, ensuring that no two judges are from the same country.

The General Assembly and the Security Council the Security Council proceed independently of one another to elect the members of the Court. Those candidates who obtain majority in the General Assembly and Security Council shall be considered as elected.

60. Option (c) is correct.

Explanation: Bhoonidhi Vista is a data visualisation service provided by Bhuvan, allowing users to view geospatial data from various satellites directly in a web browser through a Web Map Service (WMS) interface. This feature removes the requirement to download and process data locally, enhancing accessibility.

Bhoonidhi Vista supports data visualisation for several satellites, such as:

- ResourceSat-2/2A (Indian remote sensing satellites)
- Sentinel-1 and Sentinel-2 (European Space Agency satellites)

Both statements correctly depict the capabilities of Bhoonidhi Vista.

61. Option (c) is correct

Explanation: The G20 Summit 2023 held under India's presidency focused on several key objectives. All three statements are correct.

62. Option (a) is correct

Explanation: The causal organism of dengue fever is a mosquito-borne virus belonging to the Flaviviridae family, specifically the Flavivirus genus. Hence, the correct category is Flavi-ribo virus.

63. Option (c) is correct

Explanation: Blood clotting factors are released from platelets. Platelets, also known as thrombocytes, are small cell fragments found in the blood that play a crucial role in blood clotting and wound healing.

64. Option (c) is correct

Explanation: The pulse is felt due to the rhythmic contraction and relaxation of the arteries, particularly the aorta and main arteries, as blood is ejected from the heart during systole and flows through the arterial system during diastole.

65. Option (b) is correct

Explanation: When eggs are heated, the transparent liquid portion around the yolk, known as the egg white or albumen, turns solid and turbid white. This transformation occurs due to the thermal denaturation of proteins present in the egg white, causing them to unfold and aggregate, resulting in the solidification of the

egg white.

66. Option (b) is correct.

Explanation: The GDP deflator is a price index representing the average price of goods and services in a country's GDP. It reflects the composition of the economy's final products and is updated for changing consumption patterns.

67. Option (c) is correct.

Explanation: Statement 1 is correct. A price index is a statistical measure used to track the change in the average price of a fixed basket of goods and services over time. It essentially captures how the prices of a representative group of items in an economy change. This helps us understand inflation and deflation trends.

Statement 2 is also correct. The inflation rate calculation for the two years:

Year 2 Inflation Rate:

$$\left(\frac{(110 - 100)}{100} \right) \times 100\% = 10\%$$

increase from year 1 to year 2.

Year 3 Inflation Rate:

$$\left(\frac{(121 - 110)}{110} \right) \times 100\% = 10\% \times \left(\frac{110}{100} \right)$$

$\approx 10.9\%$ increase from year 2 to year 3.

68. Option (a) is correct.

Explanation: Holding foreign currency reserves incurs costs like opportunity cost from not investing in higher-yielding assets, storage expenses and potential losses from exchange rate fluctuations.

69. Option (a) is correct.

Explanation: The market mechanism over-produces a good that generates positive externality.

70. Option (c) is correct.

Explanation: 3% IGST (Integrated Goods and Services Tax) is applicable on precious metals in addition to the basic customs duty.

71. Option (c) is correct.

Explanation: Tendulkar committee recommended the shift from calorie and consumption based poverty estimation to other factors such as health, education, etc.

72. Option (b) is correct.

Explanation: None of the mentioned taxes are shared between state and central government.

73. Option (d) is correct.

Explanation: Proportion of population in the working age: A larger working-age population

(usually 15–64 years old) boosts the potential workforce, leading to increased production of goods and services.

Work participation rate: This is the percentage of the working-age population actively employed or seeking work, indicating more people contributing to the economy.

Per worker productivity: This measures the average output per worker. Technological advancements and skill improvements can enhance productivity, increasing economic output.

74. Option (c) is correct.

Explanation: M1 refers to the narrowest definition of the money supply in India. It includes the most liquid assets that can be readily used for transactions.

Components of M1 in India (as of April 2024):

Currency: Physical cash held by the public (notes and coins)

Demand Deposits: Money deposited in bank accounts that can be withdrawn on demand using checks, ATM cards, or online transfers.

75. Option (b) is correct.

Explanation: The Net Factor payments earned from abroad are included in Gross National Product (GNP).

76. Option (b) is correct.

Demand Curve: A typical downward-sloping demand curve shows that as the price of a product rises, the quantity demanded falls, adhering to the Law of Demand.

Supply Curve: A completely elastic supply curve is represented by a horizontal line, indicating that suppliers can adjust the quantity they supply endlessly at the current market price.

77. Option (a) is correct.

Explanation: In a periodic table, in a period left to right atomic radii decreases due to increase in effective nuclear charge while top to bottom it increases due to increase in the member of shell.

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

78. Option (d) is correct.

Explanation: For the reduction of unsaturated compound into saturated compound we mainly used Ni & H_2 .

Unsaturated compound $\xrightarrow{\text{H}_2/\text{Ni}}$

Saturated compound

The process is also known as hydrogenation of oil.

79. Option (d) is correct.

Explanation: The ionic character of the compound is mainly calculated due to the difference in the electronegativity of atom ($\Delta E.N.$)

Higher the difference, higher will be ionic character.

Similarly ionic bond is formed between electronegative metal and electronegative non-metal.

Here K_2S have highest ionic character because potassium is metal while sulphur is a non-metal.

80. Option (b) is correct.

Explanation:

Correct: In the Koeppen climate classification, the ice-cap climate is indeed signified by the letters EF.

Correct: Ice-cap climate is one of Earth's most severe climates, characterised by every month having an average temperature below 0°C (32°F).

81. Option (c) is correct.

Explanation:

Correct: The Industrial Revolution transitioned societies from agrarian to industrial, with people working more in factories.

Incorrect: The Industrial Revolution started in Britain in the mid-18th century, not Germany, due to factors like coal, capital, and market growth.

Correct: The Industrial Revolution was marked by advancements in iron and steel production and the invention of the steam engine, revolutionising industry and transportation.

82. Option (a) is correct.

Explanation:

Correct: Insolation is primarily short-wave radiation found in the visible spectrum, with wavelengths between about 0.39 micrometres (violet) and 0.76 micrometres (red).

Incorrect: Insolation isn't evenly spread across the Earth due to its curvature and axial tilt, leading to varying solar intensities at different latitudes and seasons.

83. Option (d) is correct.

Explanation: All three statements accurately describe river meanders.

84. Option (c) is correct.

Relative humidity (RH) is the ratio of the amount of water vapor present in the air (actual vapor pressure) to the maximum amount of water vapor the air can hold at that specific temperature (saturation vapor pressure), expressed as a percentage.

85. **Option (c) is correct.**
Explanation: The gas which has maximum average residence time in the atmosphere is nitrous oxide (N_2O).
86. **Option (b) is correct.**
Explanation: In the Köppen climate classification system, BW signifies an Arid climate, specifically Desert. Arid climates are marked by minimal precipitation throughout the year.
87. **Option (a) is correct.**
Explanation: The IUCN maintains the IUCN Red List of Threatened Species, which is the world's most comprehensive inventory of the global conservation status of plant and animal species.
88. **Option (c) is correct.**
Explanation: National Waterway No. 2 (NW-2) is a designated inland waterway in India, running along the Brahmaputra River from Sadiya to Dhubri in Assam.
89. **Option (d) is correct.**
Explanation: Culturable wasteland is the land that has been left uncultivated for more than five years but can potentially be reclaimed for cultivation.
90. **Option (c) is correct.**
Explanation: Angular velocity of the earth is approximately constant for all locations on its surface, while the linear velocity varies depending on the distances from the Earth's axis of rotation. Hence statement 1 is correct. At the equator linear speed is maximum due to larger radius and at poles minimum due to smaller radius. Hence statement 2 is also correct.
91. **Option (c) is correct.**
Explanation: Rana Kumbha is indeed known for erecting the Kirti Stambha (Victory Tower) in Chittorgarh Fort to commemorate his victory over Sultan Mahmud Khilji of Gujarat. This magnificent tower stands as a testament to his military prowess.
92. **Option (b) is correct.**
Explanation: Rajaraja I encouraged the Sailendra ruler of Sri Vijaya to build a Buddhist Vihara in Negapatnam.
93. **Option (d) is correct.**
Explanation: Siddheshvara did not serve as a court poet during the reign of King Krishnadevaraya of the Vijayanagara Empire. In contrast, Timmana, Dhurjati and Mallana were renowned court poets at that time.
94. **Option (c) is correct.**
Explanation: The royal portraits of Simhavishnu and Mahendravarman are found in the Adivaraha Cave at Mamallapuram.
95. **Option (b) is correct.**
Explanation: Namdev advocated monotheism, emphasising devotion to a single supreme deity. He also opposed the rigid caste system, advocating for the equality of all devotees before God.
96. **Option (c) is correct.**
Explanation: The practice of smallpox inoculation was indeed described in contemporary Yunani and Ayurvedic texts.
97. **Option (b) is correct.**
Explanation: All the given statements are correct.
98. **Option (a) is correct.**
Explanation: Kashmir Shaivism, alternatively known as Trika Shaivism, was founded by Vasugupta. This philosophical school emphasizes the concept of supreme consciousness (Shiva) and the acknowledgment of one's divine essence.
99. **Option (d) is correct.**
Explanation: The Protection of Human Rights Act, 1993 (PHRA) of India establishes a statutory framework for protecting and promoting human rights in the country. The institutions and bodies it covers include:
 - The National Human Rights Commission
 - The State Human Rights Commission
 - The Human Rights Courts
100. **Option (d) is correct.**
Explanation: Dr. Ambedkar referred to Article 32 as the 'Heart and Soul' of the Indian Constitution. It is also known as 'the right to Constitutional remedies.'
101. **Option (c) is correct.**
Explanation: Justice K. S. Puttaswamy filed the Writ Petition that led to the landmark verdict of the Supreme Court of India recognising the Right to Privacy as a Fundamental Right. This verdict was delivered by a nine-judge bench of the Supreme Court on August 24, 2017.
102. **Option (b) is correct.**
Explanation: Similarly, the exchange of 'Unity of the Nation' for 'Unity and Integrity of the Nation' is also accurate and was instituted through the Forty-Second Amendment. The amendment changed 'Sovereign democratic

republic' to 'Sovereign, socialist, secular, democratic republic.'

103. Option (b) is correct.

Explanation: States possess authority over agricultural land concerning duties regarding succession and estate duty. However, they lack jurisdiction over taxes levied on agricultural income.

104. Option (d) is correct.

Explanation: The 7th edition of the Indian Ocean Conference was held at Perth, Australia.

105. Option (c) is correct.

A - 3, B - 4, C - 2, D - 1

106. Option (d) is correct.

Explanation: The book "Four Stars of Destiny: An Autobiography" is an autobiography written by General Manoj Mukund Naravane, the former Chief of Army Staff of the Indian Army.

107. Option (c) is correct.

Explanation: Operation Sarvashakti was initiated by the Indian Army to address terrorist activities in Jammu and Kashmir. This operation focused on combating terrorists operating on both sides of the Pir Panjal Mountain range within the Union Territory.

108. Option (b) is correct.

Explanation: Indore and Surat were jointly awarded the cleanest city title in the Swachh Survekshan Awards 2023.

109. Option (d) is correct.

Explanation: Ugram is an indigenous assault rifle developed by DRDO (Defence Research and Development Organisation).

110. Option (b) is correct.

Explanation: Yogesh Singh, who won a Gold Medal in an Asian Championship in 2024, associated with Shooting.

111. Option (a) is correct.

Explanation: Prabha Atre was indeed a renowned Indian classical vocalist associated with the Kirana Gharana.

112. Option (b) is correct.

Explanation: K. M. Cariappa made history as the inaugural Indian Commander-in-Chief of the Indian Army after independence. Assuming office in January 1949, he succeeded British General Roy Bucher in this esteemed role.

113. Option (d) is correct.

Explanation: SAMBHAV (Secure Army Mobile Bharat Version) is the indigenously developed end-to-end secure mobile ecosystem for the Indian Army.

114. Option (c) is correct.

Explanation: RCEP is a comprehensive free trade agreement between the ASEAN member states and ASEAN's free trade agreement partners. India opted out of RCEP.

115. Option (c) is correct.

Explanation: India inked a deal with Argentina to explore and mine lithium across five lithium brine blocks situated in the Catamarca province of Argentina. This marks the maiden endeavour of a entity, Khanij Bidesh India Ltd. (KABIL) to enter into such an agreement.

116. Option (a) is correct.

Explanation: Statement 1 is correct. One of the primary goals of the Shanghai Cooperation Organisation (SCO) is indeed to promote a new democratic, fair, and rational international political and economic order. The SCO aims to enhance cooperation in various fields such as security, economy, culture, and technology among its member states.

Statement 2 is incorrect. Iran is not a permanent member of the SCO. The SCO has eight full members, namely China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, India, and Pakistan. Iran holds an observer status in the organization, but it is not a permanent member.

117. Option (c) is correct.

Explanation: Australia clinched their fourth ICC Under-19 Men's Cricket World Cup title in 2024 by defeating India in the final. The tournament took place in South Africa, spanning across cities like Johannesburg, Bloemfontein, Potchefstroom and Benoni.

118. Option (b) is correct.

Explanation: The Bharat Ratna Award was instituted in 1954. It's the highest civilian honour in India, but it doesn't include any monetary grant. Recipients receive a certificate signed by the President of India and a medallion.

119. Option (c) is correct.

Explanation: India ranks 40th in the Global Innovation Index-2023 by WIPO, showing an upward trend in innovation from 2015 to 2023.

120. Option (b) is correct.

Explanation: The Green Credit Initiative addresses climate change by promoting tree plantations on wasteland and river catchment areas. However, it's not intended to replace kerosene oil with solar power for rural areas; instead, it emphasises green initiatives and sustainability.