

2021

UPSC

CIVIL SERVICES EXAMINATION  
(PRELIMS)

PAPER

1



## General Instructions

1. This Test Booklet contains **100** 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 OMR Sheet provided.
3. All items carry equal marks.
4. **Penalty for wrong answers :**
  - (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 (0.33)** 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. **With reference to the history of ancient India, Bhavabhuti, Hastimalla and Kshemeshvara were famous**
  - (a) Jain monks
  - (b) playwrights
  - (c) temple architects
  - (d) philosophers
2. **Consider the following statements.**
  1. The Montagu-Chelmsford Reforms of 1919 recommended granting voting rights to all the women above the age of 21.
  2. The Government of India Act of 1935 gave women reserved seats in the legislature.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
3. **With reference to 8th August, 1942 in Indian history, which one of the following statements is correct?**
  - (a) The Quit India Resolution was adopted by the AICC.
  - (b) The Viceroy's Executive Council was expanded to include more Indians.
  - (c) The Congress ministries resigned in seven provinces.
  - (d) Cripps proposed an Indian Union with full Dominion Status once the Second World War was over.
4. **Who among the following is associated with 'Songs from Prison', a translation of ancient Indian religious lyrics in English?**
  - (a) Bal Gangadhar Tilak
  - (b) Jawaharlal Nehru
  - (c) Mohandas Karamchand Gandhi
  - (d) Sarojini Naidu
5. **With reference to medieval India, which one of the following is the correct sequence in ascending order in terms of size?**
  - (a) Paragana – Sarkar – Suba
  - (b) Sarkar – Paragana – Suba
  - (c) Suba – Sarkar – Paragana
  - (d) Paragana – Suba – Sarkar
6. **Who among the following was associated as Secretary with Hindu Female School which later came to be known as Bethune Female School?**

- (a) Annie Besant  
(b) Debendranath Tagore  
(c) Ishwar Chandra Vidyasagar  
(d) Sarojini Naidu
7. **In the context of Colonial India, Shah Nawaz Khan, Prem Kumar Sehgal and Gurbaksh Singh Dhillon are remembered as:**  
(a) Leaders of Swadeshi and Boycott Movement  
(b) Members of the Interim Government in 1946  
(c) Members of the Drafting Committee in the Constituent Assembly  
(d) Officers of the Indian National Army
8. **With reference to Indian history, which of the following statements is/are correct?**  
1. The Nizamat of Arcot emerged out of Hyderabad State.  
2. The Mysore Kingdom emerged out of Vijayanagara Empire.  
3. Rohilkhand Kingdom was formed out of the territories occupied by Ahmad Shah Durrani.  
Select the correct answer using the code given below.  
(a) 1 and 2 only      (b) 2 only  
(c) 2 and 3 only      (d) 3 only
9. **Which one of the following statements is correct?**  
(a) Ajanta Caves lie in the gorge of Waghora river.  
(b) Sanchi Stupa lies in the gorge of Chambal river.  
(c) Pandu-lena Cave Shrines lie in the gorge of Narmada river.  
(d) Amaravati Stupa lies in the gorge of Godavari river.
10. **Consider the following statements.**  
1. 21<sup>st</sup> February is declared to be the International Mother Language Day by UNICEF.  
2. The demand that Bangla has to be one of the national languages was raised in the Constituent Assembly of Pakistan.  
Which of the above statements is/are correct?  
(a) 1 only      (b) 2 only  
(c) Both 1 and 2      (d) Neither 1 nor 2
11. **With reference to Chausath Yogini Temple situated near Morena, consider the following statements:**  
1. It is a circular temple built during the reign of Kachchhapaghata Dynasty.  
2. It is the only circular temple built in India.  
3. It was meant to promote the Vaishnava cult in the region.  
4. Its design has given rise to a popular belief that it was the inspiration behind the Indian Parliament building.  
Which of the statements given above are correct?  
(a) 1 and 2      (b) 2 and 3 only  
(c) 1 and 4      (d) 2, 3 and 4
12. **Which one of the following ancient towns is well-known for its elaborate system of water harvesting and management by building a series of dams and channelizing water into connected reservoirs?**  
(a) Dholavira      (b) Kalibangan  
(c) Rakhigarhi      (d) Ropar
13. **In the first quarter of seventeenth century, in which of the following was/were the factory/factories of the English East India Company located?**  
1. Broach  
2. Chicacole  
3. Trichinopoly  
Select the correct answer using the code given below:  
(a) 1 only      (b) 1 and 2 only  
(c) 3 only      (d) 2 and 3 only
14. **From the decline of Guptas until the rise of Harshavardhana in the early seventh century, which of the following kingdoms were holding power in Northern India?**  
1. The Guptas of Magadha  
2. The Paramaras of Malwa  
3. The Pushyabhutis of Thanesar  
4. The Maukharis of Kanauj  
5. The Yadavas of Devagiri  
6. The Maitrakas of Valabhi  
Select the correct answer using the code given below:  
(a) 1, 2 and 5 only      (b) 1, 3, 4 and 6 only  
(c) 2, 3 and 4 only      (d) 5 and 6 only
15. **According to Portuguese writer Nuniz, the women in the Vijayanagara Empire were experts in which of the following areas?**  
1. Wrestling      2. Astrology  
3. Accounting      4. Soothsaying  
Select the correct answer using the code given below:  
(a) 1, 2 and 3 only      (b) 1, 3 and 4 only  
(c) 2 and 4 only      (d) 1, 2, 3 and 4

16. With reference to Madanapalle of Andhra Pradesh, which one of the following statements is correct?

- Pingali Venkayya designed the tricolour Indian National Flag here.
- Pattabhi Sitaramaiyya led the Quit India Movement of Andhra region from here.
- Rabindranath Tagore translated the National Anthem from Bengali to English here.
- Madame Blavatsky and Colonel Olcott set up headquarters of Theosophical Society first here.

17. Consider the following pairs:

	Historical Place	Well-known for
1.	Burzahom	Rock-cut shrines
2.	Chandraketugarh	Terracotta art
3.	Ganeshwar	Copper artefacts

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

- 1 only
- 1 and 2 only
- 3 only
- 2 and 3 only

18. Consider the following statements.

- It was during the reign of Iltutmish that Chengiz Khan reached the Indus in pursuit of the fugitive Khwarezm prince.
- It was during the reign of Muhammad bin Tughluq that Taimur occupied Multan and crossed the Indus.
- It was during the reign of Deva Raya II of Vijayanagara Empire that Vasco da Gama reached the coast of Kerala.

Which of the statements given above is/are correct?

- 1 only
- 1 and 2 only
- 3 only
- 2 and 3 only

19. Consider the following statements.

- St. Francis Xavier was one of the founding members of the Jesuit Order.
- St. Francis Xavier died in Goa and a church is dedicated to him there.
- The Feast of St. Francis Xavier is celebrated in Goa each year.

Which of the statements given above are correct?

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

20. With reference to the history of ancient India, which of the following statements is/are correct?

- Mitakshara was the civil law for upper castes and Dayabhaga was the civil law for lower castes.
- In the Mitakshara system, the sons can claim right to the property during the lifetime of the father, whereas in the Dayabhaga system, it is only after the death of the father that the sons can claim right to the property.
- The Mitakshara system deals with the matters related to the property held by male members only of a family, whereas the Dayabhaga system deals with the matters related to the property held by both male and female members of a family.

Select the correct answer using the code given below:

- 1 and 2 only
- 2 only
- 1 and 3 only
- 3 only

21. The money multiplier in an economy increases with which one of the following?

- Increase in the Cash Reserve Ratio in the banks
- Increase in the Statutory Liquidity Ratio in the banks
- Increase in the banking habit of the people
- Increase in the population of the country

22. With reference to Indian economy, demand-pull inflation can be caused/increased by which of the following?

- Expansionary policies
- Fiscal stimulus
- Inflation-indexing of wages
- Higher purchasing power
- Rising interest rates

Select the correct answer using the code given below:

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

23. With reference to India, consider the following statements:

- Retail investors through demat account can invest in 'Treasury Bills' and 'Government of India Debt Bonds' in primary market.
- The 'Negotiated Dealing System-Order Matching' is a government securities trading platform of the Reserve Bank of India.

3. The 'Central Depository Services Ltd.' is jointly promoted by the Reserve Bank of India and the Bombay Stock Exchange. Which of the statements given above is/are correct?  
 (a) 1 only (b) 1 and 2 only  
 (c) 3 only (d) 2 and 3 only
24. With reference to 'Water Credit', consider the following statements:  
 1. It puts microfinance tools to work in the water and sanitation sector.  
 2. It is a global initiative launched under the aegis of the World Health Organization and the World Bank.  
 3. It aims to enable the poor people to meet their water needs without depending on subsidies.  
 Which of the statements given above are correct?  
 (a) 1 and 2 only (b) 2 and 3 only  
 (c) 1 and 3 only (d) 1, 2 and 3
25. In India, the central bank's function as the 'lender of last resort' usually refers to which of the following?  
 1. Lending to trade and industry bodies when they fail to borrow from other sources  
 2. Providing liquidity to the banks having a temporary crisis  
 3. Lending to governments to finance budgetary deficits  
 Select the correct answer using the code given below:  
 (a) 1 and 2 only (b) 2 only  
 (c) 2 and 3 only (d) 3 only
26. 'R2 Code of Practices' constitutes a tool available for promoting the adoption of  
 (a) environmentally responsible practices in electronics recycling industry.  
 (b) ecological management of Wetlands of International Importance under the Ramsar Convention.  
 (c) sustainable practices in the cultivation of agricultural crops in degraded lands.  
 (d) 'Environmental Impact Assessment' in the exploitation of natural resources.
27. Why is there a concern about copper smelting plants?  
 1. They may release lethal quantities of carbon monoxide into environment.  
 2. The copper slag can cause the leaching of some heavy metals into environment.  
 3. They may release sulphur dioxide as a pollutant.  
 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
28. With reference to furnace oil, consider the following statements:  
 1. It is a product of oil refineries.  
 2. Some industries use it to generate power.  
 3. Its use causes sulphur emissions into environment.  
 Which of the statements given above are correct?  
 (a) 1 and 2 only (b) 2 and 3 only  
 (c) 1 and 3 only (d) 1, 2 and 3
29. What is blue carbon?  
 (a) Carbon captured by oceans and coastal ecosystems.  
 (b) Carbon sequestered in forest biomass and agricultural soils.  
 (c) Carbon contained in petroleum and natural gas.  
 (d) Carbon present in atmosphere.
30. In the nature, which of the following is/are most likely to be found surviving on a surface without soil?  
 1. Fern 2. Lichen  
 3. Moss 4. Mushroom  
 Select the correct answer using the code given below.  
 (a) 1 and 4 only (b) 2 only  
 (c) 2 and 3 (d) 1, 3 and 4
31. Consider the following statements.  
 1. The Governor of the Reserve Bank of India (RBI) is appointed by the Central Government.  
 2. Certain provisions in the Constitution of India give the Central Government the right to issue directions to the RBI in public interest.  
 3. The Governor of the RBI draws his power from the RBI Act.  
 Which of the above statements are correct?  
 (a) 1 and 2 only (b) 2 and 3 only  
 (c) 1 and 3 only (d) 1, 2 and 3
32. With reference to casual workers employed in India, consider the following statements:  
 1. All casual workers are entitled for Employees Provident Fund coverage.

2. All casual workers are entitled for regular working hours and overtime payment.
3. The Government can by a notification specify that an establishment or industry shall pay wages only through its bank account.

Which of the above statements are correct?

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

33. Which among the following steps is most likely to be taken at the time of an economic recession?

- (a) Cut in tax rates accompanied by increase in interest rate.  
(b) Increase in expenditure on public projects.  
(c) Increase in tax rates accompanied by reduction of interest rate.  
(d) Reduction of expenditure on public projects.

34. Consider the following statements. Other things remaining unchanged, market demand for a good might increase if

1. Price of its substitute increases.  
2. Price of its complement increases.  
3. The good is an inferior good and income of the consumers increases.  
4. Its price falls.

Which of the above statements are correct?

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

35. With reference to 'Urban Cooperative Banks' in India, consider the following statements:

1. They are supervised and regulated by local boards set up by the State Governments.  
2. They can issue equity shares and preference shares.  
3. They were brought under the purview of the Banking Regulation Act, 1949 through an Amendment in 1966.

Which of the statements given above is/are correct?

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

36. Indian Government Bond Yields are influenced by which of the following?

1. Actions of the United States Federal Reserve  
2. Actions of the Reserve Bank of India  
3. Inflation and short-term interest rates

Select the correct answer using the code given below:

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

37. Consider the following statements.

1. Foreign currency convertible bonds  
2. Foreign institutional investment with certain conditions  
3. Global depository receipts  
4. Non-resident external deposits

Which of the above can be included in Foreign Direct Investments?

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

38. Consider the following statements.

The effect of devaluation of a currency is that it necessarily

1. Improves the competitiveness of the domestic exports in the foreign markets  
2. Increases the foreign value of domestic currency  
3. Improves the trade balance

Which of the above statements is/are correct?

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

39. Which one of the following effects of creation of black money in India has been the main cause of worry to the Government of India?

- (a) Diversion of resources to the purchase of real estate and investment in luxury housing.  
(b) Investment in unproductive activities and purchase of precious stones, jewellery, gold, etc.  
(c) Large donations to political parties and growth of regionalism.  
(d) Loss of revenue to the State Exchequer due to tax evasion.

40. Which one of the following is likely to be the most inflationary in its effect?

- (a) Repayment of public debt  
(b) Borrowing from the public to finance a budget deficit  
(c) Borrowing from the banks to finance a budget deficit  
(d) Creation of new money to finance a budget deficit

41. Which one of the following is used in preparing a natural mosquito repellent?

- (a) Congress grass (b) Elephant grass  
(c) Lemongrass (d) Nut grass

42. Consider the following kinds of organisms:  
 1. Copepods      2. Cyanobacteria  
 3. Diatoms      4. Foraminifera  
 Which of the above are primary producers in the food chains of oceans?  
 (a) 1 and 2 only      (b) 2 and 3 only  
 (c) 3 and 4 only      (d) 1 and 4 only
43. Consider the following animals:  
 1. Hedgehog  
 2. Marmot  
 3. Pangolin  
 To reduce the chance of being captured by predators, which of the above organisms rolls up/roll up and protects/protects its/their vulnerable parts?  
 (a) 1 and 2 only      (b) 2 only  
 (c) 3 only      (d) 1 and 3 only
44. With reference to the 'New York Declaration on Forests', which of the following statements are correct?  
 1. It was first endorsed at the United Nations Climate Summit in 2014.  
 2. It endorses a global timeline to end the loss of forests.  
 3. It is a legally binding international declaration.  
 4. It is endorsed by governments, big companies and indigenous communities.  
 5. India was one of the signatories at its inception.  
 Select the correct answer using the code given below:  
 (a) 1, 2 and 4 only      (b) 1, 3 and 5 only  
 (c) 3 and 4 only      (d) 2 and 5 only
45. Magnetite particles, suspected to cause neurodegenerative problems, are generated as environmental pollutants from which of the following?  
 1. Brakes of motor vehicles  
 2. Engines of motor vehicles  
 3. Microwave stoves within homes  
 4. Power plants  
 5. Telephone lines  
 Select the correct answer using the code given below:  
 (a) 1, 2, 3 and 5 only  
 (b) 1, 2 and 4 only  
 (c) 3, 4 and 5 only  
 (d) 1, 2, 3, 4 and 5
46. Which one of the following is a filter feeder?  
 (a) Catfish      (b) Octopus  
 (c) Oyster      (d) Pelican
47. In case of which one of the following biogeochemical cycles, the weathering of rocks is the main source of release of nutrients to enter the cycle?  
 (a) Carbon cycle  
 (b) Nitrogen cycle  
 (c) Phosphorus cycle  
 (d) Sulphur cycle
48. Which of the following are detritivores?  
 1. Earthworms      2. Jellyfish  
 3. Millipedes      4. Seahorses  
 5. Woodlice  
 Select the correct answer using the code given below:  
 (a) 1, 2 and 4 only      (b) 2, 3, 4 and 5 only  
 (c) 1, 3 and 5 only      (d) 1, 2, 3, 4 and 5
49. The 'Common Carbon Metric', supported by UNEP, has been developed for  
 (a) assessing the carbon footprint of building operations around the world.  
 (b) enabling commercial financial entities around the world to enter carbon emission trading.  
 (c) enabling governments to assess the overall carbon footprint caused by their countries.  
 (d) assessing the overall carbon foot-print caused by the use of fossil fuels by the world in a unit time.
50. Which of the following have species that can establish a symbiotic relationship with other organisms?  
 1. Cnidarians  
 2. Fungi  
 3. Protozoa  
 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
51. Under the Indian Constitution, concentration of wealth violates  
 (a) The Right to Equality  
 (b) The Directive Principles of State Policy  
 (c) The Right to Freedom  
 (d) The Concept of Welfare
52. What is the position of the Right to Property in India?  
 (a) Legal right available to citizens only.  
 (b) Legal right available to any person.  
 (c) Fundamental Right available to citizens only.  
 (d) Neither Fundamental Right nor legal right.

53. What was the exact constitutional status of India on 26<sup>th</sup> January, 1950?
- A Democratic Republic
  - A Sovereign Democratic Republic
  - A Sovereign Secular Democratic Republic
  - A Sovereign Socialist Secular Democratic Republic
54. Constitutional government means
- A representative government of a nation with federal structure
  - A government whose Head enjoys nominal powers
  - A government whose Head enjoys real powers
  - A government limited by the terms of the Constitution
55. With reference to India, the terms 'Halbi, Ho and Kui' pertain to
- Dance forms of Northwest India
  - Musical instruments
  - Pre-historic cave paintings
  - Tribal languages
56. Consider the following statements in respect of Bharat Ratna and Padma Awards:
- Bharat Ratna and Padma Awards are titles under the Article 18(1) of the Constitution of India.
  - Padma Awards, which were instituted in the year 1954, were suspended only once.
  - The number of Bharat Ratna Awards is restricted to a maximum of five in a particular year.
- Which of the above statements are not correct?
- 1 and 2 only
  - 2 and 3 only
  - 1 and 3 only
  - 1, 2 and 3
57. Consider the following statements.
- Statement 1:** The United Nations Capital Development Fund (UNCDF) and the Arbor Day Foundation have recently recognized Hyderabad as 2020 Tree City of the World.
- Statement 2:** Hyderabad was selected for the recognition for a year following its commitment to grow and maintain the urban forests.
- Which one of the following is correct in respect of the above statements?
- Both Statement 1 and Statement 2 are correct and Statement 2 is the correct explanation for Statement 1.
  - Both Statement 1 and Statement 2 are correct but Statement 2 is not the correct explanation for Statement 1.
  - Statement 1 is correct but Statement 2 is not correct.
  - Statement 1 is not correct but Statement 2 is correct.
58. Consider the following statements in respect of the Laureus World Sports Award which was instituted in the year 2000:
- American golfer Tiger Woods was the first winner of this award.
  - The award was received mostly by 'Formula One' players so far.
  - Roger Federer received this award maximum number of times compared to others.
- Which of the above statements are correct?
- 1 and 2 only
  - 2 and 3 only
  - 1 and 3 only
  - 1, 2 and 3
59. Consider the following statements in respect of the 32nd Summer Olympics:
- The official motto for this Olympics is 'A New World'.
  - Sport Climbing, Surfing, Skateboarding, Karate and Baseball are included in this Olympics.
- Which of the above statements is/are correct?
- 1 only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2
60. Consider the following statements in respect of the ICC World Test Championship:
- The finalists were decided by the number of matches they won.
  - New Zealand was ranked ahead of England because it won more matches than England.
- Which of the above statements is/are correct?
- 1 only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2
61. Consider the following statements:
- 'Right to the City' is an agreed human right and the UN-Habitat monitors the commitments made by each country in this regard.
  - 'Right to the City' gives every occupant of the city the right to reclaim public spaces and public participation in the city.
  - Right to the City' means that the State cannot deny any public service or facility to the unauthorized colonies in the city.

Which of the statements given above is/are correct?

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

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

1. Judicial custody means an accused is in the custody of the concerned magistrate and such accused is locked up in a police station, not in jail.
2. During judicial custody, the police officer in charge of the case is not allowed to interrogate the suspect without the approval of the court.

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

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

1. When a prisoner makes out a sufficient case, parole cannot be denied to such prisoner because it becomes a matter of his/her right.
2. State Governments have their own Prisoners Release on Parole Rules.

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

64. **At the national level, which ministry is the nodal agency to ensure effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006?**

- (a) Ministry of Environment, Forest and Climate Change  
(b) Ministry of Panchayati Raj  
(c) Ministry of Rural Development  
(d) Ministry of Tribal Affairs

65. **A legislation that confers on the executive or administrative authority an unguided and uncontrolled discretionary power in the matter of the application of law violates which one of the following Articles of the Constitution of India?**

- (a) Article 14                      (b) Article 28  
(c) Article 32                      (d) Article 44

66. **Which one of the following in Indian polity is an essential feature that indicates that it is federal in character?**

- (a) The independence of judiciary is safeguarded.

- (b) The Union Legislature has elected representatives from constituent units.  
(c) The Union Cabinet can have elected representatives from regional parties.  
(d) The Fundamental Rights are enforceable by Courts of Law.

67. **Which one of the following best defines the term 'State'?**

- (a) A community of persons permanently occupying a definite territory independent of external control and possessing an organized government  
(b) A politically organized people of a definite territory and possessing an authority to govern them, maintain law and order, protect their natural rights and safeguard their means of sustenance  
(c) A number of persons who have been living in a definite territory for a very long time with their own culture, tradition and government  
(d) A society permanently living in a definite territory with a central authority, an executive responsible to the central authority and an independent judiciary

68. **With reference to the Indian judiciary, consider the following statements:**

1. Any retired judge of the Supreme Court of India can be called back to sit and act as a Supreme Court judge by the Chief Justice of India with the prior permission of the President of India.
2. A High Court in India has the power to review its own judgement as the Supreme Court does.

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

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

1. There is only one citizenship and one domicile.
2. A citizen by birth only can become the Head of State.
3. A foreigner once granted citizenship cannot be deprived of it under any circumstances.

Which of the statements given above is/are correct?

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



70. Which one of the following factors constitutes the best safeguard of liberty in a liberal democracy?
- A committed judiciary
  - Centralization of powers
  - Elected government
  - Separation of powers
71. The vegetation of savannah consists of grassland with scattered small trees, but extensive areas have no trees. The forest development in such areas is generally kept in check by one or more or a combination of some conditions. Which of the following are such conditions.
- Burrowing animals and termites
  - Fire
  - Grazing herbivores
  - Seasonal rainfall
  - Soil properties
- Select the correct answer using the code given below:
- 1 and 2 only
  - 4 and 5 only
  - 2, 3 and 4 only
  - 1, 3 and 5 only
72. With reference to the water on the planet Earth, consider the following statements:
- The amount of water in the rivers and lakes is more than the amount of groundwater.
  - The amount of water in polar ice caps and glaciers is more than the amount of groundwater.
- Which of the statements given above is/are correct?
- 1 only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2
73. Consider the following statements.
- Moringa (drumstick tree) is a leguminous evergreen tree.
  - Tamarind tree is endemic to South Asia.
  - In India, most of the tamarind is collected as minor forest produce.
  - India exports tamarind and seeds of moringa.
  - Seeds of moringa and tamarind can be used in the production of biofuels.
- Which of the statements given above are correct?
- 1, 2, 4 and 5
  - 3, 4 and 5 only
  - 1, 3 and 4 only
  - 1, 2, 3 and 5 only
74. The black cotton soil of India has been formed due to the weathering of
- Brown forest soil
  - Fissure volcanic rock
  - Granite and schist
  - Shale and limestone
75. With reference to recent developments regarding 'Recombinant Vector Vaccines', consider the following statements:
- Genetic engineering is applied in the development of these vaccines.
  - Bacteria and viruses are used as vectors.
- Which of the statements given above is/are correct?
- 1 only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2
76. In the context of hereditary diseases, consider the following statements:
- Passing on mitochondrial diseases from parent to child can be prevented by mitochondrial replacement therapy either before or after in vitro fertilization of the egg.
  - A child inherits mitochondrial diseases entirely from mother and not from father.
- Which of the statements given above is/are correct?
- 1 only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2
77. Bollgard I and Bollgard II technologies are mentioned in the context of
- clonal propagation of crop plants
  - developing genetically modified crop plants
  - production of plant growth substances
  - production of biofertilizers
78. In a pressure cooker, the temperature at which the food is cooked depends mainly upon which of the following?
- Area of the hole in the lid
  - Temperature of the flame
  - Weight of the lid
- Select the correct answer using the code given below:
- 1 and 2 only
  - 2 and 3 only
  - 1 and 3 only
  - 1, 2 and 3
79. Consider the following statement.
- Bacteria
  - Fungi
  - Virus
- Which of the above can be cultured in an artificial/synthetic medium?
- 1 and 2 only
  - 2 and 3 only
  - 1 and 3 only
  - 1, 2 and 3

80. Consider the following statements.

1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.
2. Common cold is sometimes caused by an adenovirus whereas AIDS is caused by a retrovirus.

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

81. How is permaculture farming different from conventional chemical farming?

1. Permaculture farming discourages monocultural practices but in conventional chemical farming, monoculture practices are predominant.
2. Conventional chemical farming can cause an increase in soil salinity but the occurrence of such phenomenon is not observed in permaculture farming.
3. Conventional chemical farming is easily possible in semi-arid regions but permaculture farming is not so easily possible in such regions.
4. Practice of mulching is very important in permaculture farming but not necessarily so in conventional chemical farming.

Select the correct answer using the code given below:

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

82. With reference to 'palm oil', consider the following statements:

1. The palm oil tree is native to Southeast Asia.
2. The palm oil is a raw material for some industries producing lipstick and perfumes.
3. The palm oil can be used to produce biodiesel.

Which of the statements given above are correct?

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

83. With reference to the Indus river system, of the following four rivers, three of them pour into one of them which joins the Indus directly. Among the following, which one is such river that join the Indus direct?

- (a) Chenab                      (b) Jhelum  
(c) Ravi                         (d) Sutlej

84. With reference to India, Didwana, Kuchaman, Sargol and Khatu are the names of

- (a) Glaciers                      (b) Mangrove areas  
(c) Ramsar sites              (d) Saline lakes

85. Consider the following rivers:

1. Brahmani                      2. Nagavali  
3. Subarnarekha              4. Vamsadhara

Which of the above rise from the Eastern Ghats?

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

86. Consider the following statements.

1. The Global Ocean Commission grants license for seabed exploration and mining in international waters.
2. India has received license for seabed mineral exploration in international waters.
3. 'Rare earth minerals' are present on the seafloor in international waters.

Which of the statements given above are correct?

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

87. Among the following, which one is the least water-efficient crop?

- (a) Sugarcane                      (b) Sunflower  
(c) Pearl millet                      (d) Red gram

88. Consider the following statements.

1. In the tropical zone, the western sections of the oceans are warmer than the eastern sections owing to the influence of trade winds.
2. In the temperate zone, westerlies make the eastern sections of oceans warmer than the western sections.

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

89. In the context of India's preparation for Climate-Smart Agriculture, consider the following statements:

1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CCAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.

3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.  
Which of the statements given above are correct?  
(a) 1 and 2 only (b) 2 and 3 only  
(c) 1 and 3 only (d) 1, 2 and 3
90. "Leaf litter decomposes faster than in any other biome and as a result the soil surface is often almost bare. Apart from trees, the vegetation is largely composed of plant forms that reach up into the canopy vicariously, by climbing the trees or growing as epiphytes, rooted on the upper branches of trees." This is the most likely description of  
(a) Coniferous forest  
(b) Dry deciduous forest  
(c) Mangrove forest  
(d) Tropical rainforest
91. Water can dissolve more substances than any other liquid because  
(a) it is dipolar in nature.  
(b) it is a good conductor of heat.  
(c) it has a high value of specific heat.  
(d) it is an oxide of hydrogen.
92. With reference to street lighting, how do sodium lamps differ from LED lamps?  
1. Sodium lamps produce light in 360 degrees but it is not so in the case of LED lamps.  
2. As street lights, sodium lamps have a longer lifespan than LED lamps.  
3. The spectrum of visible light from sodium lamps is almost monochromatic while LED lamps offer significant colour advantages in street lighting.  
Select the correct answer using the code given below:  
(a) 3 only (b) 2 only  
(c) 1 and 3 only (d) 1, 2 and 3
93. The term 'ACE2' is talked about in the context of  
(a) genes introduced in the genetically modified plants.  
(b) development of India's own satellite navigation system.  
(c) radio collars for wildlife tracking.  
(d) spread of viral diseases.
94. Bisphenol A (BPA), a cause of concern, is a structural/key component in the manufacture of which of the following kinds of plastics?  
(a) Low-density polyethylene  
(b) Polycarbonate  
(c) Polyethylene terephthalate  
(d) Polyvinyl chloride
95. 'Triclosan', considered harmful when exposed to high levels for a long time, is most likely present in which of the following?  
(a) Food preservatives  
(b) Fruit-ripening substances  
(c) Reused plastic containers  
(d) Toiletries
96. Which one of the following is a reason why astronomical distances are measured in light-years?  
(a) Distances among stellar bodies do not change.  
(b) Gravity of stellar bodies does not change.  
(c) Light always travels in a straight line.  
(d) Speed of light is always the same.
97. We adopted parliamentary democracy based on the British model, but how does our model differ from that model?  
1. As regards legislation, the British Parliament is supreme or sovereign but in India, the power of the Parliament to legislate is limited.  
2. In India, matters related to the constitutionality of Amendment of an Act of the Parliament are referred to the Constitution Bench by the Supreme 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
98. With reference to the Union Government, consider the following statements:  
1. N. Gopalaswamy Iyengar Committee suggested that a minister and a secretary be designated solely for pursuing the subject of administrative reform and promoting it.  
2. In 1970, the Department of Personnel was constituted on the recommendation of the Administrative Reforms Commission, 1966 and this was placed under the Prime Minister's charge.  
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

99. 'Right to Privacy' is protected under which Article of the Constitution of India?

- (a) Article 15            (b) Article 19  
(c) Article 21            (d) Article 29

100. Consider the following statements.

1. In India, there is no law restricting the candidates from contesting in one Lok Sabha election from three constituencies.
2. In the 1991 Lok Sabha Election, Shri Devi Lal contested from three Lok Sabha constituencies.

3. As per the existing rules, if a candidate contests in one Lok Sabha election from many constituencies, his/her party should bear the cost of bye-elections to the constituencies vacated by him/her winning in all the constituencies.

Which of the statements given above is/are correct?

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

OSWAAL

360

# OMR SHEET

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## ANSWERS WITH EXPLANATION

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

**Explanation:** Bhavabhuti was a famous Indian dramatist, poet and scholar during 8<sup>th</sup> century. He wrote Mahaviracharita (depicting the early life of Rama), Malatimadhava (the romance of Malati and Madhava) and Uttararamacharita (depicts Rama's coronation, the abandonment of Sita and their reunion).

Hastimalla was a Jain poet in the court of the Solanki rulers, and the author of Purvapurana.

Kshemeshwara was the court poet of Mahipala of Kannauj, and the author of Dasavatar Charita.

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

**Explanation:** In 1918, Edwin Montagu, the Secretary of State and Lord Chelmsford, the Viceroy, introduced constitutional reforms, known as the Montagu-Chelmsford (or Mont-Ford) Reforms, or the Government of India Act of 1919. The Act introduced reforms at the Central as well as Provincial levels.

**Key provision:**

**(1) Provincial Government-Introduction of Dyarchy:**

**(a) Executive:** Dyarchy, i.e., the rule of two executive councillors and popular ministers was introduced. The governor was to be the executive head of the province.

- ◆ Subjects were divided into two lists: "reserved" which included subjects such as law and order, finance, land revenue, irrigation, etc. and "transferred" subjects such as education, health, local government, industry, agriculture, excise, etc.

- ◆ The "reserved" subjects were to be administered by the governor through his executive council of bureaucrats and the "transferred" subjects were to be administered by ministers nominated from among the elected members of the legislative council.

**(b) Legislature:** The Provincial Legislative Councils were further expanded and 70% of the members were to be elected.

- ◆ The system of communal and class electorates was further consolidated.
- ◆ Women were also given the right to vote.
- ◆ The Governor could veto bills and issue ordinances.

**(2) Central Government- Still Without Responsible Government:**

**(a) Executive:** The Governor-General was to be the chief executive authority.

- ◆ In the Viceroy's Executive Council of 8, three were to be Indians.

- ◆ The Governor-General could restore cuts in grants, certify bills rejected by the Central Legislature, summon, prorogue, dissolve the Chambers and issue ordinances.

**(b) Legislature:** A bicameral arrangement was introduced.

The Council of State had a tenure of 5 years while the Central Legislative Assembly had a tenure of 3 years.

The Secretary of State would control affairs relating to the Government of India.

The Government of India Act, 1935 extended the principle of communal representation by providing separate electorates for depressed classes (scheduled castes), women and workers.

**Key provision:** The establishment of an All India federation consisting of provinces and princely states as units.

- (1) Division of powers in terms of three lists Federal list, provincial list and the concurrent list but the Residuary powers were given to the Viceroy.
- (2) It abolished dyarchy in the provinces and introduced 'provincial autonomy'.
- (3) It provided for the adoption of dyarchy at the centre.

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

**Explanation:** Mahatma Gandhi launched the Quit India Movement at the Mumbai session of the All-India Congress Committee on 8<sup>th</sup> August, 1942. Gandhiji gave the call "Do or

Die" at the Gowalia Tank Maidan, now August Kranti Maidan.

The immediate cause for the movement was the collapse of Cripps Mission.

**Quit India movement:** After the failure of the Cripps Mission, Gandhiji gave the call "Do or Die" in his speech delivered at the Gowalia Tank Maidan.

The Quit India resolution stated the provisions of the movement as:

- An immediate end to British rule over India.
- Declaration of the commitment of free India to defend itself against all kinds of imperialism and fascism.
- Formation of a provisional government of India after British withdrawal.
- Sanctioning a Civil Disobedience Movement against the British rule.

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

**Explanation:** (Mohandas Karamchand Gandhi) Mahatma Gandhi is associated with "Songs from Prison", a translation of ancient Indian religious lyrics in English.

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

**Explanation:** The Mughals in India had an elaborate administrative setup. The emperor was the head of the central administration, aided by different officials like Mir Bakshi, Diwan etc. The empire was divided into provinces called subas, each being looked after by a military officer called the Chief Shiqdar. Each suba was divided into sarkar. Each Sarkar was divided into smaller units called Parganas. The correct sequence in ascending order in terms of size is Paragana-Sarkar-Suba.

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

**Explanation:** In 1849, the Hindu Female School was founded by J. E. D. Bethune. In 1856, the British Government took charge of the Hindu Female School and later renamed it as Bethune School. Pandit Ishwar Chandra Vidyasagar was made the secretary of the school.

Ishwar Chandra Vidyasagar (1820-1891) was one of the pillars of Bengal renaissance and managed to continue the social reforms movement, started by Raja Rammohan Roy in the early 1800s. He refined the way the Bengali language was written and taught. He wrote a book, 'Borno Porichoy' (Introduction to the letter) is still used as the introductory text to learn the Bengali alphabet.

He wrote two books 'Upakramonika' and 'Byakaran Koumudi', interpreting complex notions of Sanskrit grammar in easy legible Bengali language.

He was a keen advocate of education for women and spent his life's energies trying to ensure an end to the practice of child marriage and initiate widow remarriage.

He supported Drinkwater Bethune to establish the first permanent girls' school in India, the Bethune School.

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

**Explanation:** The Indian National Army (Azad Hind Fauj) was an armed force that was formed by imperial Japan and the Indian Nationalists in the year 1942. It was formed during World War II to help in the independence movement of India against the British rule. The Indian Prisoners of War of the British Army that were captured by Japan first formed this army under Mohan Singh in 1942.

Subhash Chandra Bose came to Singapore in July of 1943 and took charge of the Indian National Army.

Prem Kumar Sehgal, Shah Nawaz Khan and Gurbaksh Singh Dhillon were the second-tier commanders of the Indian National Army (INA).

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

**Explanation:** The Nizamat of Carnatic (Arcot) was one of the subas (dependency) of the Mughal Deccan. It was under the legal purview of the Nizam and later emerged from Hyderabad.

After the decline of the Vijayanagara Empire, Mysore became an independent state under the Hindu Wodeyar Dynasty in 1565 AD. In 1761, Hyder Ali established his own control over that state.

Most of Rohilkhand's borders were established by Ali Mohammed Khan and largely came into existence as a check to the power of Oudh State.

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

**Explanation:**



Figure: Ajanta caves

Ajanta is a series of rock-cut caves lying in the Sahyadri ranges (Western Ghats) on the Waghora river near Aurangabad in Maharashtra. There are a total of 29 Buddhist caves. 25 caves were used as Viharas or residential caves while 4 were used as Chaitya or prayer halls.



**Figure: Sanchi Stupa**

The Sanchi Stupa located in Madhya Pradesh is one of India's most important Buddhist landmarks. It was built in the third century BCE by Mauryan ruler Ashoka the Great. It began with a basic hemispheric brick edifice erected over the Buddha's relics.

Since 1989, Sanchi Stupa has been a UNESCO World Heritage Site.

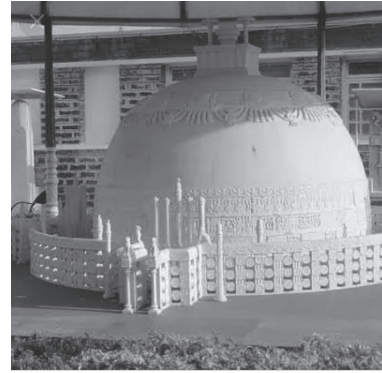
It lies in an upland plateau region just west of the Betwa River.



**Figure: Pandavleni caves**

The Pandavleni caves are a collection of ancient Buddhist caves located near the Gomai River. The Kshatrapas, Satavahanas and Abhirs, the three Kings who previously governed Nashik are depicted in these caverns.

It is a set of 24 Buddhist caves of the Hinayana faith.



**Figure: Amravati stupa**

Amaravati School of Sculpture was patronized by the Satavahanas and later by the Ikshavaku. Amravati stupa is located in the gorges of the Krishna river.

10. Option (b) is correct.

*Explanation:* The Constituent Assembly of Pakistan, in its session at Karachi on 23<sup>rd</sup> February, 1948 proposed that the members would have to speak either Urdu or English at the Assembly. Dharendra Nath Datta, a member of the East Pakistan Congress Party, moved an amendment motion and demanded to include Bangla as one of the languages of the Constituent Assembly.

The International Mother Language Day is observed every year on 21<sup>st</sup> February. It was declared by UNESCO and not by UNICEF.

11. Option (c) is correct.

*Explanation:*



**Figure: Chausath Yogini Temple**

According to an inscription dated 1323 AD, the Chausath Yogini temple was built by the Kachchhapaghata king Devapala (reigned 1055-1075).

It is also known as Ekattarso Mahadeva Temple. There is presence of a multitude of



Shiva Lingam inside its cells.

Many of the curious visitors have compared this temple with the Indian Parliament building (Sansad Bhawan) as both are circular in style. There is much similarity between the design of both the buildings, so many have drawn conclusions that this temple was the inspiration behind the Sansad Bhawan.

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

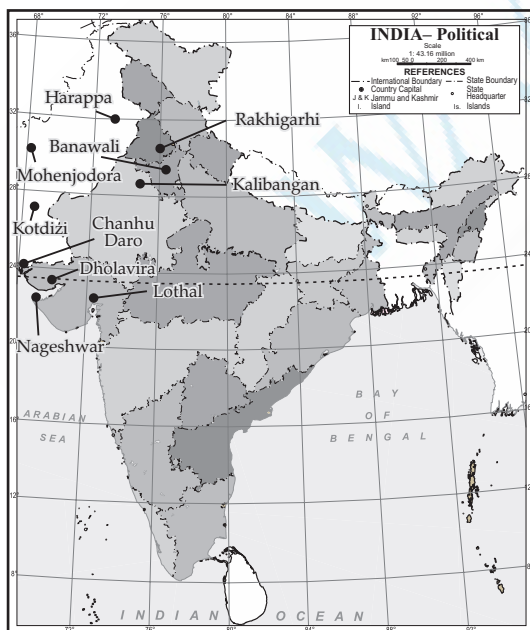
**Explanation:** Dholavira was located on Khadir Bet in the Rann of Kutch.

- It is the fifth largest metropolis of IVC (Indus Valley Civilization) after Mohenjo-Daro, Ganweriwala and Harappa in Pakistan and Rakhigarhi in Haryana of India..
- It has a fortified citadel, a middle town and a lower town. It has its walls made of sandstone or limestone instead of mud bricks in many other Harappan sites.
- It is known for its unique characteristics, such as its water management system, multi-layered defensive mechanisms, and extensive use of stone in construction and special burial structures.

During the excavations, artefacts made of copper, stone, jewellery of terracotta, gold and ivory have been found.

No mortal remains of humans have been discovered at Dholavira.

Evidence of dams, irrigation, water reservoir, water harvesting system and embankments have been found.



This map is not to scale and is for reference only.

**Figure: Some Important Indus Valley Civilization Sites**

**Rakhigarhi (on Ghaggar-Hakra river, Haryana):**

- Largest IVC site in India ( also claimed to be largest IVC site).
- Evidence of Domestication of Dog.
- Manufacturing centre of terracotta (Idly shaped terracotta).
- Painted potteries in large numbers (show rich and dominant people lived).
- Recent finding shows that Rakhigarhi doesn't have the last phase of IVC.
- DNA finding of Skeletal remains of a woman.

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

**Explanation:** In January, 1618, the English factories in the dominions of the Mughal Empire numbered five in all: Agra, Ahmadabad, Burhanpur (in Khandesh), Broach and Surat.

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

**Explanation:** The Gupta kingdom emerged as a great power and achieved a large part of the Indian subcontinent from 300 to 700 AD. The Puranas mention that Magadha, Allahabad and Oudh were the dominions of the Guptas. The decline of the Gupta empire resulted in the emergence of numerous ruling dynasties in different parts of northern India. The prominent among them were the Pushyabhutis of Thanesar, Maukharis of Kanauj and the Maitrakas of Valabhi.

The Chalukyas and the Pallavas respectively during 550–750 AD were also rise as important kingdoms in the southern India.

The Maitrakas were tributary chiefs of the Guptas, and established an independent kingdom in western India.

The Maukharis ruled over Kanauj, a city in western Uttar Pradesh, which gradually replaced Pataliputra as a political centre of north India.

The Pushyabhuti dynasty became influential in the regions of Punjab and Haryana.

The Paramara dynasty ruled Malwa and surrounding areas in west-central India between the 9<sup>th</sup> and 14<sup>th</sup> centuries.

The Yadavas initially were the feudatories of the Western Chalukyas. The Yadava king Bhillama V declared independence around the 12<sup>th</sup> century.

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

*Explanation:* The Vijaynagara Empire was founded in the 14<sup>th</sup> century (1336 AD) by Harihara and Bukka of the Sangama dynasty. They made Hampi the capital city. In 1986, Hampi was declared a World Heritage site by UNESCO.

The Vijaynagara Empire was stretched from the river Krishna in the north to the extreme south of the peninsula.

It was ruled by four important dynasties and they are:

- Sangama
- Saluva
- Tuluva
- Aravidu

In Vijayanagara society, women were well-versed in literature widows could remarry, Women from the upper castes and nobility were well-educated and held high positions.

According to Portuguese writer Nuniz, women in the Vijaynagara Empire were wrestlers, astrologers, accountants, writers and musicians. It was the only empire in Medieval India which employed women in state services.

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

*Explanation:* The 'Jana Gana Mana' (National Anthem) originally was written in Bengali. It is important to know that it was written in a Sanskritized dialect known as Sadhu Bhasha. Rabindranath Tagore got the idea to translate it in to English while visiting the Besant Theosophical College at the invitation of Irish poet James H. Cousins. He penned down the English translation at Madanapalle in the Chittoor district of Andhra Pradesh.

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

*Explanation:* Tools made of bones and stones and tools representing the ritualistic practices were found at Burzahom in the Kashmir valley.

**Chandraketugarh:** Major findings of this site includes Buddhist stupas and images,

decorative designs belonging to the Pala period, coins of the Gupta and Kushana periods, different kinds of beads, terracotta seals, bricks and plaques depicting scenes from Jataka tales and figurines of Sunga, Maurya, Kushana and Gupta periods.

**Ganeshwar:** Copper artefacts, objects, microliths and pottery were found throughout the deposits. These objects included arrowheads, spearheads, fish hooks, bangles and chisels.

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

*Explanation:* In the year 1221, Chengiz Khan at the western bank of the Indus River defeated Jalal-ud-Din, the Shah of Khwarezm. It happened during the reign of Iltutmish, the third sultan of the Slave dynasty.

In 1398, Timur invaded India with the aim of destroying the Hindu kings and rulers while Mohammed Bin Tughlaq ruled during 1325-1351 AD.

Deva Raya II of the Sangama dynasty ruled from 1422-1446. Vasco da Gama landed in Calicut in 1498 during the reign of Tuluva Narsa Nayaka in 1498.

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

*Explanation:* Saint Francis Xavier was a Catholic missionary and the co-founder of the Society of Jesus.

He was born in Javier, Kingdom of Navarre (in present-day Spain). He was a companion of Ignatius of Loyola. He was one of the first seven Jesuits.

He was one of the founders of the Jesuit order. He sought religious converts throughout Asia during the 1500s.

He died on the Sancian (Shangchuan) island on December 3, 1552, at the age of 46. His body was then taken to Goa.

The Feast of St. Francis Xavier or Lord of Goa Festival is the biggest of all the Christian festivals in Goa celebrated each year on 3<sup>rd</sup> December.

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

*Explanation:* Mitakshara and Dayabhaga terms were used to denote regions. It is not related to the caste system.

Mitakshara is the oldest school of Hindu law and is practiced in India except in the state of West Bengal and Assam. Dayabhaga is also an important school of Hindu law mainly practiced in Assam & West Bengal. Both law deals with upper and lower castes

The difference between Dayabhaga and Mitakshara is the first school does not give anyone the right to property before the death of their forefathers, whereas the second school gives anyone the right to property just after their birth.

Dayabhaga allows both the male and female members of the family to be coparceners while Mitakshara system allows only the male members to be coparceners.

Both Mitakshara and Dayabhaga deal with male and female property rights. Mitakshara school is an orthodox school. It is biased against women & gave them very less right to inherit property. Dayabhaga is also biased, but it is a liberal school, and it gives more rights to women to inherit property compared to Mitakshara.

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

*Explanation:* A money multiplier method is used to demonstrate the maximum amount of broad money that commercial banks could create for a given fixed amount of base money and reserve ratio.

Money multiplier (m) is the inverse of the reserve requirement (R)

$$\text{Money Multiplier} = 1/\text{Reserve ratio}$$

$$m = 1/R$$

The effect of money multiplier can be seen in the banking system of a country. An increase in bank lending should translate to expanding of money supply in a country. Thus, an increase in the banking habits of the people is directly proportional to the increase in the money multiplier.

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

*Explanation:* Inflation is mainly caused either by Demand- Pull factors or Cost -Push factors. The increase in Aggregate demand either by increase in Government Expenditure (Expansionary Fiscal Policy) or increase in

expenditure from Households and Firms leads to Demand -Pull Inflation.

Aggregate demand > Aggregate Supply is the root cause of demand -pull inflation. The shortages of goods and services are due to an increase in demand fuels the inflation.

There are multiple causes of an increase in demand-pull inflation in an economy including:

- **Expansionary Policies:** An expansion of the money supply with too few goods to buy, which leads to an increase in price.
- **Higher Purchasing Power:** If in an economy, employment rises, more people go to work, and make more money, that leads to an increase in will to spend more money while goods are limited, then competition among consumers drives the prices up.
- **Fiscal Stimulus:** Lowering interest rates, increasing government spending and quantitative easing lead to the increase of money supply in the economy.
- A wage of lowest-paid workers that keeps pace with the rising costs of goods and services. It does not lead to demand pull inflation.
- There is an inverse relationship between the interest rates and rate of inflation.

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

*Explanation:* Gilt Account is debited or credited with treasury bills or government securities. It can be compared to a bank account, but here there is no credit or debit of money.

It is for individuals who wish to invest in government securities and treasury bills. Banks in effect maintain a Demat account ( In India, shares and securities are held electronically in a dematerialized (Demat) account, instead of the investor taking physical possession of certificates. A Demat account is opened by the investor while registering with an investment broker) for these instruments in the name of the individuals.

Negotiated Dealing System-Order Matching (NDS-OM) is RBI's screen-based, anonymous electronic order matching system for trading

in government securities in the secondary market.

Central Depository Services Ltd (CDSL)- It is the first listed Indian central securities depository. It is based in Mumbai. It is promoted jointly by Bombay Stock Exchange Ltd. with leading banks such as State Bank of India, Bank of India, Bank of Baroda, HDFC Bank and Standard Chartered Bank.

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

*Explanation:* It puts microfinance tools to work in the water and sanitation sector. It helps bring small loans to those who need access to affordable financing and expert resources to make household water and toilet solutions a reality.

The model empowers people to address their own water and sanitation needs in developing countries that often lack access to traditional credit markets. It eliminates the need for subsidies.

Water Credit is a global initiative launched by Water.org in India in 2004. It is a non-profit organization working to bring water and sanitation to the world.

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

*Explanation:* The Reserve Bank of India also known as a Banker to Banks acts as the 'lender of the last resort'. It rescues a bank that is solvent but faces temporary liquidity problems by supplying it with much needed liquidity when no one else is willing to extend credit to that bank.

The Central Bank or the RBI helps a financial institution which finds itself unable to obtain sufficient liquidity in the interbank lending market when other facilities or such sources have been exhausted. It is, in effect, a government guarantee to provide liquidity to financial institutions. The functions of the central banks usually also include ensuring liquidity in the financial market in general.

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

*Explanation:* Responsible Recycling (R2) Code of Practices is a set of guidelines used by electronics recyclers to promote better environmental, health and security

practices by Sustainable Electronics Recycling International (SERI).

"Responsible Recycling ("R2") Practices is a standard for Use in Accredited Certification Programs for Electronics Recyclers".

The companies certified with R2 need to have a policy on managing used and end-of-life electronics equipment, components and materials. The companies should do this with strategies such as reuse, materials and energy recovery and/or disposal.

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

*Explanation:* Smelting is the process of producing metal from its ore by applying heat in order to extract a base metal.

The separation of elemental copper from copper concentrates through multiple sulphide oxidizing stages in copper smelting plants has serious environmental impacts due to the release of toxic metals into the atmosphere. The smelting process also produces excess waste material such as wastewater and slag.

Sulphur dioxide and particulate matter are the principal air pollutants emitted from the process, and the main portion of solid waste is discarded slag.

The slag produced can contain significant concentrations of a number of potentially toxic elements including arsenic, lead, cadmium, barium, zinc, etc. The slag can release these potentially toxic elements into the environment, under natural weathering conditions and cause pollution of soils, surface waters and groundwater.

Copper smelting does not release lethal quantities of carbon monoxide into the environment.

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

*Explanation:* A dark viscous residual product of crude-oil distillation is known as furnace oil or fuel oil or bunker fuel. As one of the cheapest fuels available for industrial use and it is used in different types of combustion equipment. It causes huge emissions of sulphur dioxide and secondary sulphate formation as particulate matter (PM).

### Applications of Furnace oil

Marine engines and slow-speed engines for power generation;

#### Drying tea leaves;

Thermic fluid heaters and hot air generators.

Various categories of industries such as cement, thermal power plant, fertilizers, nitric acid, lime kiln, ceramic, glass, foundry, reheating furnaces, calcium carbide, aluminium, boiler-based industries, etc.

### 29. Option (a) is correct.

**Explanation:** The carbon captured by the world's ocean and coastal ecosystems is known as Blue Carbon. Coastal ecosystems such as mangroves, tidal marshes and seagrass meadows sequester and store more carbon per unit area than terrestrial forests. Mangroves, tidal marshes and seagrass meadows are examples of a coastal ecosystem.

Coastal ecosystems are now being recognised for their role in mitigating climate change.

Climate change adaptation, coastal protection and food security for many coastal communities are some other benefits of the coastal ecosystems.

Conserving and restoring terrestrial forests and more recently peatlands, has been recognised as an important component of climate change mitigation.

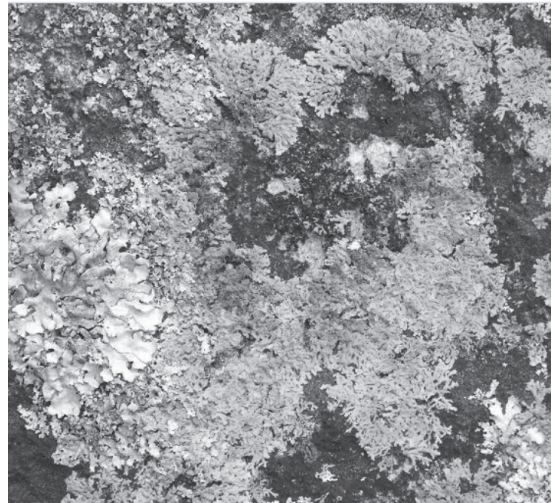
### 30. Option (c) is correct.

**Explanation:**



**Figure: Fern**

Fern is a member of a group of vascular plants (plants with xylem and phloem) that grow in soil.



**Figure: Lichens**

Lichens are generally found on substrates like rock, tree bark, soil, houses, tombstones, cars, old farm equipment, etc. Thus, lichen can be found on surfaces without soil.



**Figure: Moss**

Mosses are non-flowering plants having stems and leaves, but they don't have true roots. They produce spores and often grow from trees, absorbing water and nutrients from the atmosphere, but with proper care it can also grow indoors.



**Figure: Mushroom**

A mushroom is the fleshy, spore-bearing fruiting body of a fungus, typically grows above ground, on soil, etc.

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

*Explanation:* The RBI's Governor is appointed by the Government of India in line with the Reserve Bank of India Act.

The Reserve Bank of India was established on April 1, 1935, under the Reserve Bank of India Act, 1934.

It is not a constitutional body. Hence, nothing is mentioned in the Constitution of India that gives the Central Government the right to issue directions to the RBI in the public interest, but the Central Government after consultation with the Governor of the Bank may from time to time give such directions to the Bank as it may consider it necessary in the public interest.

The Governor of RBI draws his powers from Section 7(3) of the RBI Act.

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

*Explanation:* Applicability of the Employees' Provident Funds and Miscellaneous Provisions Act, 1952:

- According to the Minimum Wages (Central) Rules, 1950, all casual workers are entitled to regular working hours and overtime payment ((not less than twice the normal rates of wages).
- In the case of employment in agriculture, at one and a half times the ordinary rate of wages.
- The Code on Wages, 2019, the Government may specify the industry or other establishment, the employer of which shall pay wages only by cheque or by crediting the wages in the employee's bank account.

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

*Explanation:* A widespread drop in economic activity that lasts more than a few months and is reflected in real GDP, real income, employment, industrial production and wholesale-retail sales is known as an economic recession.

The money supply in the economy must be increased in order to tackle the economic

recession. There are some ways to boost the money supply in the economy:

**The Expansionary Monetary Policy** will increase the supply of money in the market.

High Expenditure on Public Projects increases the money supply and will be helpful in bringing the country out of economic recession.

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

*Explanation:* The Law of Demand states that other things being equal, there is a negative relation between demand for a commodity and its price. It means if the price of a commodity increases, then demand falls, and if the price decreases then demand rises, other factors remaining the same.

The demand for a good usually increases if there is an increase in the price of its substitutes.

Goods which are consumed together are called complementary goods and generally, the demand and price move in the opposite direction.

The demands for some goods which move in the opposite direction of the income of the consumer, are called inferior goods.

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

*Explanation:* The Urban Co-operative Banks (UCB) are regulated and supervised by State Registrars of Co-operative Societies (RCS) in case of single-state co-operative banks and Central Registrar of Co-operative Societies (CRCS) in case of multi-state co-operative banks and by the RBI.

The banking related functions such as the issue of licenses to start new banks/branches, matters relating to interest rates, loan policies, investments and prudential exposure norms are regulated and supervised by the Reserve Bank under the provisions of the Banking Regulation Act, 1949 after an amendment in 1966.

The UCBs could raise share capital by issue of equity to persons within their area of operation enrolled as members. It can also raise capital through additional equity shares to the existing members.

The RBI may also seek a board-approved proposal for merging the UCB with another

bank or converting itself into a credit society if CAR falls below 9%.

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

*Explanation:* The actions of the United States Federal Reserve or hike in the interest rate by them will lead not only to an outflow of funds from equities into US treasury bonds, but also to an outflow of funds from emerging economies to the US that impacts Indian Government Bond Yields in a negative manner.

The actions of the RBI, and inflation and short-term interest rates also influence the yield of government bonds.

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

*Explanation:* The Foreign Direct Investment is a financial investment made by a company based in another country that owns a controlling stake in a company in another country.

There are three routes through which FDI flows into India.

- (1) Automatic route FDI
- (2) Government route FDI
- (3) Foreign Currency Convertible Bond
  - The Foreign Currency Convertible Bonds (FCCBs) are convertible into equity shares over a period of time as provided in the instrument, therefore they are covered under FDI policy.
  - Foreign Institutional Investor (FII) can invest up to a maximum of 10 percent of the total paid-up capital. If the investment is in the convertible debenture, then it is counted as FDI subject to certain limitations.
  - Indian companies can raise money abroad through the issue of American Depository Receipt (ADR)/Global Depository Receipts (GDRs). In accordance with the Scheme for the issue of Foreign Currency Convertible Bonds and Ordinary Shares (through Depository Receipt Mechanism) Scheme, 1993 and guidelines issued by the Government of India.
  - Non-resident external deposits are not treated as FDI as banks can route these deposits for loans.

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

*Explanation:* The deliberate reduction in the value of a country's currency against another currency is known as currency devaluation. A country pursues a policy of devaluation in order to boost its exports. Its products and services become cheaper and improve the competitiveness in the foreign markets, but it will decrease the foreign value of the domestic currency.

Devaluation also increases the debt burden of foreign-denominated loans when priced in the home currency and may not improve the trade balance in the long run as the import can be expensive.

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

*Explanation:* In India, money that is illegitimately owned is known as Black Money. It includes all funds earned through illegal activity and otherwise legal income that is not recorded for tax purposes.

Taxation is the primary source of income for the government, and the loss of revenue to the State Exchequer due to tax evasion is the main cause of worry to the Government of India.

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

*Explanation:* A situation where total expenditure exceeds the total revenue is known as the budget deficit.

Deficit financing refers to the generation of funds in order to come out with a budget deficit.

Deficit financing can be done in three ways:

Borrowing from internal sources like RBI, other banks, issuing bonds, etc.

Borrowing from External sources like WB, IMF, etc.

Borrowing from the public by issuing bonds at a lower interest rate.

Printing new currency notes increases the flow of money in the economy, that leads to an increase in demand and the danger of inflation becomes large.

So, creating more money will have the most inflationary effect.

41. Option (c) is correct.

*Explanation:*



**Figure: Lemongrass**

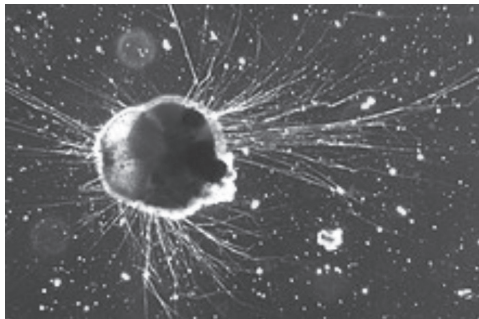
A tall herb that is abundantly found in tropical and sub-tropical areas of Asia, Africa and Australia is known as Lemongrass. It is an excellent natural mosquito repellent. Due to the intense odour of lemongrass oil, around 95% of mosquitos from a specific range of species are either killed or completely repelled.

42. Option (b) is correct.

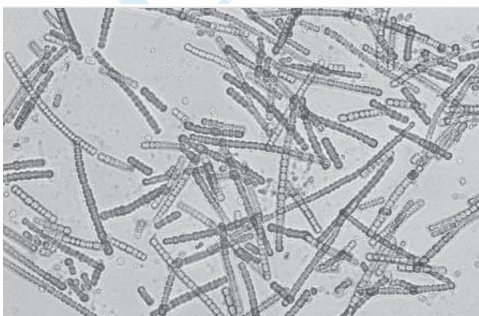
*Explanation:*



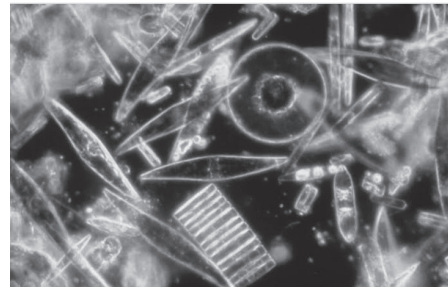
**Figure: Copepods**



**Figure: Foraminifera**



**Figure: Cyanobacteria**



**Figure: Diatoms**

Copepods are a group of small crustaceans found in nearly every freshwater and saltwater habitat. They are major primary consumers in the World Ocean.

Cyanobacteria, also called blue-green algae, are microscopic organisms and the said to be the primary producer as they produce food for higher levels of organisms.

Diatoms are a major group of algae and one of the major primary producers, specifically microalgae, found in the oceans, waterways and soils of the world.

Foraminifera are single-celled organisms that are found in most marine environments. Foraminifera are heterotrophic organisms which consume smaller organisms and organic matter.

43. Option (d) is correct.

*Explanation:*



**Figure: Hedgehogs**

Hedgehogs are small mammals with short limbs and a body-blow to the ground and have thousands of stiff, sharp spines that cover the animal's back and sides. Being frightened or annoyed, hedgehogs will roll into a ball to protect themselves.



**Figure: Marmot**



A marmot is a herbivore and a rodent of medium size with brown fur on its head and back as well as yellow fur on its belly.



**Figure: Pangolin**

Pangolins are the only mammals wholly-covered in scales. If touched or grabbed, they roll up completely into a ball to protect themselves.

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

*Explanation:*

The New York Declaration on Forests is a voluntary and non-legally binding political declaration first endorsed at the United Nations Secretary-General's Climate Summit in 2014. It was endorsed by the governments, companies and civil societies.

The New York declaration pledged to halve the rate of deforestation by 2020. It also pledged to end deforestation by 2030 and to restore hundreds of millions of acres of degraded land.

It currently has over 200 endorsers including, national governments, sub-national governments, multinational companies, indigenous peoples and local community organizations, non-government organizations and financial institutions. These included the EU member states, Canada, Japan, Kenya and Ethiopia.

India was not the signatory at the time of its inception.

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

*Explanation:* Magnetite particles can act as pollutants and lead to neurodegenerative problems. Magnetic particles can penetrate and damage the blood-brain-barrier and lead to the early development of Alzheimer's disease.

Whenever any magnetic component is used in appliances, they generate magnetic flux which produces magnetic particles.

The automotive industry uses ceramic or ferrite magnets to make vehicles safer. The automotive industry uses ceramic or ferrite magnets to make vehicles safer. One of the most impressive uses is in the Anti-lock Braking System (ABS) of vehicles. This kind of use of magnets in motor vehicles can generate magnetic particles.

Engines of motor vehicles can generate magnetic particles as they use high powered magnets which generate magnetic flux.

The use of coal in power plants is a major source of combustion-associated magnetite fine particles.

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

*Explanation:* A subdivision of suspension-feeding animals is known as filter feeders. They feed by straining suspended matter and food particles from water.

These animals capture the particles of sizes as small as 4 micrometers on their gills. The Gills of these animals act as a filter which is self-cleaning.

Clams, Krill, sponges, Oyster, Baleen Whales and many fish (including some sharks) use this method. There are some birds, such as Flamingos and certain species of duck, are also filter feeders.

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

*Explanation:* Phosphorus is found mostly in the form of phosphate ions. It can be found in sedimentary rocks. The rocks weather down over long time periods, and the phosphorus they contain slowly leaches into surface water and soils.

Volcanic ash, aerosols and mineral dust. Unlike carbon, nitrogen and sulphur, phosphorus has no real gas phase.

Carbon and Nitrogen cycles are the gaseous cycles. Here, the main reservoir of nutrients is the atmosphere or the hydrosphere. In the sulphur cycle, nutrient is released by weathering of rocks, erosional runoff and decomposition of organic matter. The sulphur cycle is mostly sedimentary, but two of its compounds, hydrogen sulphide ( $H_2S$ ) and sulphur dioxide ( $SO_2$ ), add a gaseous component to its normal sedimentary cycle.

48. Option (c) is correct.

*Explanation:*



**Figure: Earthworm**



**Figure: Jellyfish**



**Figure: Seahorse**



**Figure: Millipedes**



**Figure: Woodlice**

Detritivores (also known as detritivores, detritophages, detritus feeders, or detritus eaters) are heterotrophs that obtain nutrients by consuming detritus (decomposing plant and animal parts as well as feces). There are many kinds of invertebrates, vertebrates and plants that carry out coprophagy. By doing so, all these detritivores contribute to decomposition and the nutrient cycles. The terms detritivore and decomposer are often used interchangeably, but they describe different organisms. Detritivores are usually arthropods and help in the process of remineralization. Detritivores perform the first stage of remineralization by fragmenting the dead plant matter, allowing decomposers to perform the second stage of remineralization. Detritivores are often invertebrate insects such as mites, beetles, butterflies and flies; molluscs such as slugs and snails; or soil-dwelling earthworms, millipedes and woodlice, and microorganisms such as bacteria and fungi.

Jellyfish and Seahorse are carnivorous.

49. Option (a) is correct.

*Explanation:* The Common Carbon Metric allows emissions from buildings around the world to be consistently assessed and compared.

The Common Carbon Metric is a protocol developed by the United Nations Environment

Program's Sustainable Buildings & Climate Initiative (UNEP-SBCI) for measuring energy use & reporting GHG emissions from Building Operations.

It does not include value-based interpretation of the measurements such as weighing or benchmarking.

Its purpose is to support greenhouse gas (GHG) emissions reductions through accurate measurement of energy efficiency improvements in building operations.

The carbon footprint of an entity is the total amount of greenhouse gas generated by that entity.

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

**Explanation:** Symbiosis is a close ecological relationship between the individuals of two (or more) different species.

There are five main symbiotic relationships:

1. Mutualism
2. Commensalism
3. Predation
4. Parasitism
5. Competition

The symbiotic association between the invertebrate phylum *Cnidaria* (*Coelenterate*) and the *unicellular dinoflagellate algae*, called *zooxanthellae*, is very common and symbolises mutualistic interaction.

Mycorrhizae is a symbiotic relationships that is formed between fungi and plants. The fungi provide increased water and nutrient absorption capabilities while the plant provides carbohydrates formed from photosynthesis.

Termites have a mutualistic relationship with protozoa. Protozoa live in the insect's gut. The termite benefits from the protozoa to digest cellulose while the protozoa obtains energy from termite's food (cellulose from the wood it chews and eats).

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

**Explanation:** The Directive Principles of State Policy (DPSPs) are constituted under Part IV of the Indian Constitution from Articles 36 to 51. These are the ideals that are meant for promoting social and economic democracy.

As per Article 39, the State shall in particular, direct its policies towards securing:

- (a) the right to an adequate means of livelihood

- (b) the operation of the economic system does not result in the concentration of wealth or equal pay for equal work for both men and women.

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

**Explanation:** In the original constitution the Right to Property was the fundamental right under Articles 31 and Article 19 (1)(f). Later through the 44<sup>th</sup> Constitutional Amendment Act of 1978, the Right to Property was made a legal right under Article 300-A in Part XII of the Indian Constitution.

Article 300-A states that no person shall be deprived of his/her property save by authority of law.

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

**Explanation:** The Constitutional status of India on 26th January, 1950 was a Sovereign, Democratic, and Republic, but later in 1976, the words Socialist and Secular were added to the Preamble by the 42<sup>nd</sup> Constitutional Amendment Act.

The date November 26, 1949 is mentioned in the preamble as the preamble was adopted on that day.

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

**Explanation:** A Constitutional government seeks to limit and regulate the exercise of political power by the government. A Constitutional government is by definition limited government. It means that government is conducted according to rules and principles, which are binding on all political actors.

A Constitutional government help to constrain the unfettered exercise of power by separating or dividing it. A Constitutional government provides a framework in which the government can be both responsible and representative managing conflicts, protecting the rights, promoting participation and maintaining the security of the citizens.

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

**Explanation:** Ho is an Austro-Asiatic language spoken by people belonging to the Ho tribes. It is mainly spoken in the Singhbhum district of Bihar and Mayurbhanj and Koenjhar districts of Odisha and some parts of West Bengal and Bangladesh.

Halbi is an Indo-Aryan language spoken in some parts of Madhya Pradesh (Bastar district), Maharashtra, Odisha and Andhra Pradesh.

Kui is a South-Eastern Dravidian language spoken by the Kandhas in Odisha. It is written in the Odia script.

Odisha's tribal language is mainly divided into 3 main language families. They are: (a) Austro-Asiatic (Munda) (b) Dravida (c) Indo-Aryan.

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

*Explanation:*



The Bharat Ratna is the highest civilian award of the Republic of India. It was instituted on 2<sup>nd</sup> January 1954. It is conferred in recognition of "exceptional service/performance of the highest order", without distinction of race, occupation, position, or sex. The award was originally limited to achievements in the arts, literature, science and public services, but the government expanded the criteria to include "any field of human endeavour" in December 2011. The Prime Minister of India can make recommendations for the Bharat Ratna to the President. A maximum of three nominees can be awarded per year.

Article 18(1) of the Indian Constitution prohibits the State to confer titles on anybody whether a citizen or a non-citizen except for military and academic distinctions. The Bharat Ratna and Padma Awards are not titles under the Article 18(1) of the Constitution of India.

The Padma Awards were suspended during the years 1978, 1979 and 1993 to 1997 while the Bharat Ratna, along with other personal civil honours, was briefly suspended from July 1977 to January 1980 and from August 1992 to December 1995.

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

*Explanation:* The Arbor Day Foundation and the Food and Agriculture Organisation (FAO) recognised the Hyderabad city as a '2020 Tree City of the World'.

Hyderabad was selected in response to its commitment to growing and maintaining

urban forestry through the Haritha Haram programme and Urban Forest Parks.

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

*Explanation:* The Laureus World Sports Awards is an annual award ceremony honouring individuals and teams from the world of sports along with sporting achievements throughout the year. It was established in 1999 by Laureus Sport for Good Foundation founding patrons Daimler and Richemont.

American golfer Tiger Woods was the first winner of this award.

The Men's Football Team (6 times) players so far are the most number of times winners of this award.

Roger Federer has received it 5 times, followed by Usain Bolt (4 times) and Novak Djokovic (4 times).

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

*Explanation:* The 2020 Summer Olympics held from 23 July to 8 August 2021 in the city of Tokyo, Japan.

The official motto for Olympics 2020 was "United by Emotion".

The Rio Olympics 2016 official slogan was "A New World."

There were 46 sports contested at the Tokyo 2020 Olympics including Rugby, Sport Climbing, Fencing, Football, Skateboarding, Handball, Surfing, Karate, and Baseball among others.

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

*Explanation:* The ICC World Test Championship, which started on 1 August 2019, is a league competition for Test cricket run by the International Cricket Council (ICC) as the first ICC World Test Championship.

The finalists were decided by the percentage of points earned.

New Zealand was the first team to qualify for the inaugural final and was ahead of England due to its ratings.

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

*Explanation:* The 'State of the World Cities 2010/2011: Bridging the Urban divide recommends giving every resident the "right to the city" in which they live. The right to the city is a right to change ourselves by changing the city and far more than the individual liberty to access urban resources.

The Right to the City is defined as a common good essential to a full and decent life.

It gives every occupant the right to reclaim public spaces and public participation.

It provides access to public services in unauthorized colonies depending on the State's discretion and influence on the political participation of the people.

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

**Explanation: Police Custody:** When following the receipt of an information/complaint/report by police about a crime, an officer of police arrests the suspect involved in the crime reported, to prevent him/her from committing the offensive acts further. The officer brings that suspect to police station, it's called Police Custody.

The police officer in charge of the case may interrogate the suspect during this detention, but this detention should not be longer than 24 hours.

The suspect is required to produce before the appropriate judge within 24 hours (excluding travelling time from the place of arrest)

**Judicial Custody:**

- Judicial Custody means an accused is in the custody of the concerned Magistrate (in jail).
- The Magistrate can either release the accused on bail or can either send the accused to judicial custody or to police custody.
- The police officer in charge of the case is not allowed to interrogate the suspect during the judicial Custody, but it is up to the court to allow the interrogations, if the court thinks it necessary.

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

**Explanation:** A system of releasing a prisoner with the suspension of the sentence is called Parole.

The release is conditional subject to behaviour and requires reporting to the authorities periodically for a given set of times.

Parole is not a right of a prisoner. It is given for a specific reason, such as a death in the family or a wedding of a blood relative.

The rules made under Prison Act, 1894 and Prison Act, 1900, govern the grant of parole.

'Prisons' comes under the State List of the Seventh Schedule of the Constitution.

The State governments have their own guidelines to facilitate decision-making to determine whether parole needs to be granted or not.

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

**Explanation:** The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of

Forest Rights) Act, 2006, also referred to as the Forest Rights Act (FRA), 2006, recognizes the rights of the forest-dwelling tribal communities and other traditional forest dwellers to forest resources.

The Ministry of Tribal Affairs is the nodal agency to ensure the effective implementation of the Act.

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

**Explanation:** Article 14 of the Indian Constitution states that the State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.

Therefore, Article 14 acts as a shield against any arbitrary or discriminatory state action.

Article 28 deals with the right to freedom of religion.

Article 32 deals with the constitutional remedies and the right to move the Supreme Court if a fundamental right is violated.

Article 44 under the Directive Principles of State Policy states that the "State shall endeavour to secure for the citizens a uniform civil code throughout the territory of India".

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

**Explanation:** Federalism is a system of government to accommodate two sets of politics, one at the centre or national level and the second at the regional or provincial level.

The federal features of the Constitution of India are given below:

- (1) Written Constitution
- (2) Bicameralism
- (3) Division of Powers
- (4) Supremacy of the Constitution
- (5) Independent Judiciary
- (6) Rigid Constitution

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

**Explanation:** A 'State' can be defined as a politically organized society of people within a definite territory, having its own government with the power to enforce obedience and free from external control.

Some of the definitions of the concept of State are as follows:

"The State is the politically organized people of a definite territory" -Bluntschli

A state is "a territorial society divided into governments and subjects, whether individuals or associations of individuals, whose relationships are determined by the exercise of this supreme coercive power." Laski

68. Option (c) is correct.

**Explanation: Article 128:** The Chief Justice of India may at any time, with the consent of the President, request any retired Judge of the Supreme Court or of the Federal Court or retired Judge of a High Court and is duly qualified for appointment as a Judge of the Supreme Court to sit and act as a Judge of the Supreme Court.

As per Article 215, every High Court shall be a court of record. It shall also have all the powers of such a court including the power to punish for contempt of itself. A High Court in India has the power to review its own judgement (Pottakalathil Ramakrishnan V. Thahsildar, Tirur & others.)

69. Option (a) is correct.

**Explanation:** The term 'Domicile' means a permanent home. Article 9 of the Indian Constitution states that if any person voluntarily acquired the citizenship of a foreign State will no longer be a citizen of India. So, there is single citizenship and one domicile in India.

Article 58 deals with the eligibility for election as President and signifies nowhere that citizenship should be by birth or naturalization. Similarly, in the case of the Prime Minister (Head of Government) and the member of either Rajya Sabha or Lok Sabha.

The Provisions related to the termination of Citizenship are mentioned in the Indian Citizenship Act, 1955.

70. Option (d) is correct.

**Explanation:**

- Liberal democracy is a representative form of government that operates under the following principles:
- Elections between multiple and distinct political parties,
- Separation of powers into different branches of government,
- Rule of law protected by an independent judiciary and
- Equal protection of human rights, civil rights, civil liberty and political freedom for all people.

A Committed Judiciary, i.e., a judiciary committed to the policies of the government will never go against the government policies. Centralization of power leads to authoritarian tendencies, impacting liberty.

An elected government is the representative of the people. It is expected to ensure liberty. But this is not the best safeguard to ensure liberty.

The Separation of power checks the abuse of power by other organs. So, this helps in checking the authoritarian tendencies. This is the best safeguard of liberty.

71. Option (c) is correct.

**Explanation:** The savanna landscape is typified by tall grass and short trees.

The savannah grasslands are also called as 'bush-veld'.

The savannah grasslands have deciduous trees, shedding their leaves in the cool, dry season to prevent excessive loss of water through transpiration, e.g., acacias.

The development of forests in such areas is kept in check due to certain conditions including:

**Fire:** The burning of grassland leads to wildfires.

**Grazing Herbivores:** Overgrazing by animals leads to desertification and removal of vegetation cover.

**Seasonal Rainfall:** There is very little rain in the dry season. In the wet season vegetation grows, including lush green grasses and wooded areas.

72. Option (b) is correct.

**Explanation:**

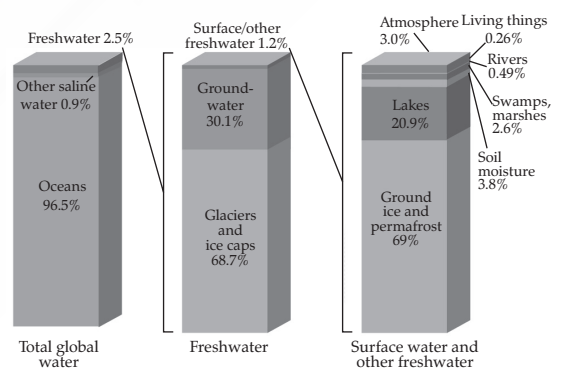


Figure: Where is Earth's Water?

Approx. 71% of the Earth's surface is covered by water.

But, only a small fraction of the total water available on the earth is useful for human consumption.

97% of the water on the Earth is either salty or unable to drink and Approx. 3% of the total water is freshwater.

Out of the total freshwater, the majority (approx. 68-69%) goes into ice caps and glaciers, i.e., around 2-2.2% of the total water.

The remaining unfrozen freshwater is found mainly as groundwater.

The surface water that includes lakes, rivers, ground ice, etc. is about 1.2-1.5% of the total freshwater.

73. Option (b) is correct.

*Explanation:*



Figure: Moringa (drumstick tree)



Figure: Tamarind (*Tamarindus indica*)

Moringa (*Moringa oleifera*) belongs to the Moringaceae family. It is a handsome softwood tree, native to India. It occurs in the sub-Himalayan regions of the Northern India and is now grown world wide in the tropics and sub-tropics.

It has antifungal, antiviral, antidepressant and anti-inflammatory properties.

It can be evergreen or semi-deciduous, and is extensively being grown in semiarid regions in India.

Tamarind (*Tamarindus indica*) is a hardwood tree, native to Africa. It also grows in India, Pakistan and many other tropical regions.

Moreover, in India, most of the Tamarind is collected as the Minor Forest Produce with a Minimum Support Price. Tamarind is also actively exported from India. Biodiesel is derived from the tamarind seed through the transesterification process as a potential alternative feedstock for the diesel engine. Moringa seeds are also used to make bio-fuel. India is one of the leading exporter of tamarind and seeds of moringa.

74. Option (b) is correct.

*Explanation:*



*This map is not to scale and is for reference only.*

Figure: Soil pattern in India

Black soil or regur soil or black cotton soil is ideal for growing cotton. The volcanic rocks formed in the Deccan Plateau are the parent material for most of the black soil.

In general, black soil valleys are very fertile while those in the uplands are of low fertility.

A small proportion of titaniferous magnetite or iron and black constituents of the parent rock is the main reason behind its black colour. It is highly retentive of moisture and swells greatly.

75. Option (c) is correct.

*Explanation:* Recombinant Vector Vaccines are similar to DNA vaccines except the weakened or attenuated germ is used to carry DNA to

the cells to stimulate immunity. Similar to live, attenuated vaccines, recombinant vector vaccines are similar to the actual disease.

Genetic engineering is applied in the development of Recombinant Vector Vaccines. Genetic engineering involves techniques to alter the chemistry of genetic material (DNA and RNA), to introduce these into host organisms and thus change the phenotype of the host organism.

Recombinant vaccines are made of a viral or bacterial vectors. They are used as channels for entry into host organisms.

Viral vector-based vaccines use the body's own cells to produce them.

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

**Explanation:** The technological development nearly allows complete replacement of the cytoplasm of egg/embryo, eliminating the transmission of undesired defective mitochondria for patients with inherited mitochondrial diseases, which is called mitochondrial replacement therapy (MRT).

This therapy can be done either before or after in vitro fertilization of the egg, two mitochondrial replacement techniques have been done, maternal spindle transfer and pronuclear transfer.

Mitochondrial diseases are chronic (long-term), genetic, often inherited disorders that occur when mitochondria fail to produce enough energy for the body to function properly. As the mitochondrial genome is inherited exclusively from the mother, the child inherits mitochondrial diseases entirely from the mother.

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

**Explanation:** Bollgard I and Bollgard II are technologies to produce genetically modified crop plants, for example, BT cotton.

Bollgard I Bt cotton (single-gene technology) is India's first biotech crop technology approved for commercialization in India in 2002, followed by Bollgard II –double-gene technology in mid-2006, by the Genetic Engineering Approval Committee (GEAC), the Indian regulatory body for biotech crops.

Bollgard cotton provides in-built protection to cotton against destructive American *Bollworm Heliothis Armigera* infestations and contains an insecticidal protein from a naturally occurring soil microorganism, *Bacillus thuringiensis* (Bt). Bollgard II technology contains a superior double-gene technology - Cry1Ac and Cry 2Ab which provides protection against bollworms and *Spodoptera caterpillar*, leading to better boll

retention, maximum yield, lower pesticides costs and protection against insect resistance.

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

**Explanation:** According to the Charles law: pressure (P), volume (V) and temperature (T) is equal to a constant K i.e.,  $PVT = K$ .

The temperature is dependent on pressure and volume. Pressure in the cooker depends on the area of the hole in the lid. If the hole in the lid is bigger, the pressure inside the cooker will be lesser and hence temperature will be affected.

The weight of the lid has a direct connection to maintain enough pressure in the cooker, and can be linked with the temperature inside the cooker.

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

**Explanation:** Some bacteria can be grown in artificial medium, but some cannot.

Fungi can be grown in an artificial medium, but, viruses need a living host to grow on an artificial nutrient medium, and require a living host cell for replication. Infected host cells (eukaryotic or prokaryotic) can be cultured and grown and then the growth medium can be harvested as a source of virus.

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

**Explanation:** Adenoviruses (members of the family Adenoviridae) are medium-sized (90–100 nm), nonenveloped (without an outer lipid bilayer) viruses with an *icosahedral nucleocapsid* containing a double-stranded DNA genome. Their name derives from their initial isolation from human adenoids in 1953.

A retrovirus inserts a copy of its RNA *genome* into the DNA of a host cell that it invades, thus changing the genome of that cell.

Adenoviruses are common viruses that cause a range of illnesses. They can cause cold-like symptoms, fever, sore throat, bronchitis, pneumonia, diarrhoea and pink eye (conjunctivitis). Whereas, retroviruses can cause several human diseases such as some forms of cancer and AIDS.

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

**Explanation:** Permaculture is a totally integrated design system that is modelled on nature. Permaculture farming promotes multi-cropping and integrated farming systems, whereas chemical farming is more suitable for monoculture cropping due to the use of crop specific inputs like irrigation, chemical fertiliser and harvesting method.

Chemical farming makes the soil less fertile and can lead to serious problems like soil salinisation.



Permaculture tries to take into account local conditions like arid climate, which helps in developing a suitable system to ensure sustainable production. The intense use of chemical fertilizers and irrigation in conventional chemical farming make the soil less fertile over time, thus restricting its practice in semi-arid regions.

Mulching involves spreading a layer of material on the ground around plants to protect their roots from heat, cold, or drought or to keep the fruit clean. The material used for covering is called 'mulch'. It is an important component of permaculture farming (unlike conventional chemical farming) for promoting maximum efficiency.

82. Option (b) is correct.

**Explanation:** Palm oil is derived from the mesocarp (reddish pulp) of the fruit of the oil palms. It is edible vegetable oil, and its tree is native to Africa.

Malaysia and Indonesia represent 85% of the world's palm oil supply.

It is used in cosmetics for its moisturising and texturising properties

It makes perfumes and deodorants more effective and helps the fragrance lasts longer. It is considered as an alternative and promising feedstock to further diversified the biodiesel production in the global market. It contains various phytonutrients. These phytonutrients can be separated out prior to biodiesel production.

83. Option (d) is correct.

**Explanation:**

The Indus river originates from the northern slopes of the Kailash range in Tibet near Lake



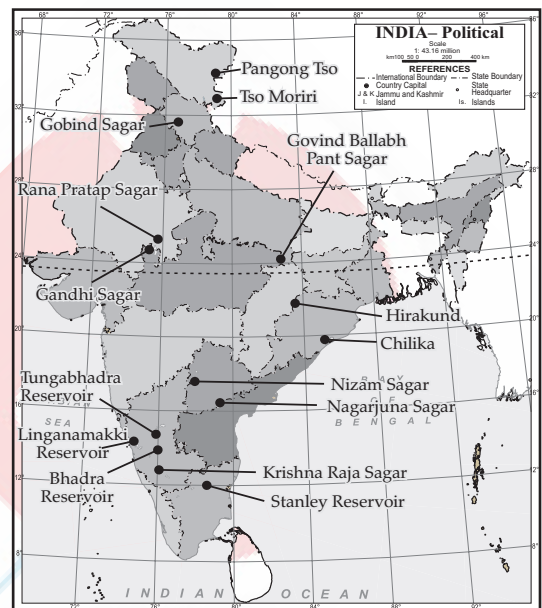
This map is not to scale and is for reference only.

Figure: Indus river system

Manasarovar. It follows a north-westerly course and enters Indian territory in Jammu and Kashmir. Jhelum, Chenab, Ravi, Beas and Sutlej are the main tributaries of the Indus in India. Jhelum and Ravi join Chenab, Beas joins Sutlej and then Sutlej and Chenab join to form Panjnad. The Panjnad forms 10 miles north of Uch Sharif in Muzaffar Garh district of Pakistan. It runs southwest for approximately 44 miles and joins the Indus River at Mithankot.

84. Option (d) is correct.

**Explanation:**



This map is not to scale and is for reference only.

Figure: Important lakes in India

**Important Salt Water/Saline Lakes in India**

Lake	Location	Significance
Sambhar Lake	Rajasthan	<ul style="list-style-type: none"> <li>It is India's largest inland salt lake.</li> </ul>
Lonar Lake	Maharashtra	<ul style="list-style-type: none"> <li>It is also known as Lonar Crater.</li> </ul>
Chilika Lake	Odisha	<ul style="list-style-type: none"> <li>Chilika Lagoon is Asia's and the world's biggest lagoon.</li> <li>It was declared as the first Ramsar Convention wetland of international importance in India in 1981.</li> </ul>

Pulicat Lake	Andhra Pradesh-Tamil Nadu state border	<ul style="list-style-type: none"> <li>It is mostly found in the state of Andhra Pradesh.</li> </ul>
Pangong Tso Lake	Ladakh	<ul style="list-style-type: none"> <li>It is situated at a height of approximately 4,200 metres (13,800 feet) above sea level.</li> </ul>
Pachpadra Lake	Rajasthan	<ul style="list-style-type: none"> <li>It is located in the Barmer region of Rajasthan, is another salt water lake in the state.</li> </ul>

A landlocked body of water that has a concentration of salt and other dissolved minerals significantly higher than most lakes is known as salt lake or saline lake. Didwana, Kuchaman, Sargol and Khatu are salt lakes situated in the state of Rajasthan.

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

**Explanation:** The Eastern Ghats are a discontinuous range of mountains along India's eastern coast. It passes through Odisha. Andhra Pradesh to Tamil Nadu in the south passing some parts of Karnataka as well as Telangana.

Rivers originating on the Eastern Ghats include:

- Vamsadhara River
- Palar River
- Nagavali River
- Champavathi River
- Gosthani River, etc.
- The Brahmani river, also known as South Koel, rises near Nagri village in Ranchi district of Jharkhand.

The Nagavali river originates in the Eastern Ghats near Lakhbahal, located in the Kalahandi district of Odisha. Langulya is another name for Nagavali River.

The Subarnarekha river originates in the Chota Nagpur Plateau near Nagri village in Ranchi district of Jharkhand.

The Vamsadhara originates in the Eastern Ghats of Orissa and falls into the Bay of Bengal near Kalingapatnam.

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

**Explanation:** The Global Ocean Commission was an international initiative between 2013 and 2016. It was started to raise awareness,

promote action to address the degradation of the ocean and help restore it to full health and productivity.

The International Seabed Authority (ISA) (a UN body) regulates the exploration and exploitation of marine non-living resources of oceans in international waters.

India was the first country to receive the status of a 'Pioneer Investor' in 1987. An area of about 1.5 lakh sq. km in the Central Indian Ocean Basin (CIOB) for nodule exploration was given to India. India's exclusive rights to explore polymetallic nodules was extended in 2017 for five years.

Rare earth minerals are present on the seafloor in international waters.

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

**Explanation: Sugarcane:**

**Temperature:** Between 21-27°C (hot and humid climate)

**Rainfall:** Around 75-100 cm.

**Soil Type:** Deep rich loamy soil.

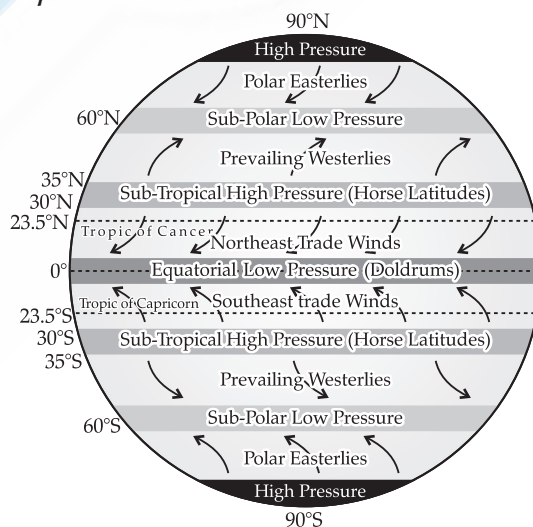
Uttar Pradesh is the leading producer of sugarcane in India.

Brazil is the largest producer of sugarcane, followed by India.

It is an important cash crop cultivated in India. It is the least water efficient crop.

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

**Explanation:**



**Figure: Major Pressure Belt and Wind System**

The Northeast trade winds transport warm water to the westward side of the ocean in the Northern hemisphere of the tropical zone. So, in tropical zones, the western section of ocean is warmer due to trade winds.

The Westerlies play an important role in carrying the warm, equatorial waters and winds to the western coasts of continents. (The western coast of continents is basically the eastern section of the Oceans in the temperate zone).

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

**Explanation:** The Climate-Smart Village project in India is led by the Climate Change, Agriculture and Food Security (CCAFS). The CCAFS started piloting the Climate-Smart Village in 2012 in Africa (Burkina Faso, Ghana, Mali, Niger, Senegal, Kenya, Ethiopia, Tanzania and Uganda) and South Asia (Bangladesh, India and Nepal).

The Climate Change, Agriculture and Food Security (CCFAS) is carried out under the CGIAR (formerly the Consultative Group for International Agricultural Research). The Headquarters of CGIAR is in Montpellier, France. The CGIAR is a global partnership that unites international organizations engaged in research about food security.

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a CGIAR Research Center.

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

**Explanation:**



*This map is not to scale and is for reference only.*

**Figure: Distribution of tropical rainforest in world**

The tropical rainforest is comprised of 6 % of the earth's land surface. It is distributed between 10 degrees north and 10 degrees south latitudes.

The following are the main characteristics of the tropical rainforest biome:

**Climate:**

According to Koeppen's classification, it is categorized as "Af".

Temperature; 20 to 25 degrees centigrade.

**Precipitation:** Highest on the earth.

**Soil:** Acidic

**Flora and fauna:**

Multi-layered canopy tall and large tree.

Colourful full birds, insects and animals exist.

In tropical rainforest biomes, generally, the atmosphere remains hot and moist. The dead plant material creates the perfect conditions in which bacteria and other microorganisms can thrive. It leads to the rapid decomposition of leaf litter material.

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

**Explanation:** Water is known as the "universal solvent". It dissolves more substances than any other liquid present on the earth because of its chemical composition and physical attributes. It is important for every living thing on the earth to survive. It means that wherever water goes, it takes along valuable chemicals, minerals and nutrients.

Water molecules are dipolar in nature having oxygen and hydrogen atoms-one side (*hydrogen*) has a positive electrical charge and the other side (*oxygen*) has a negative charge. This dipolar property of water molecules allows it to become attracted to many other different types of molecules.

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

**Explanation:** Sodium vapour lights are omnidirectional. (being in all directions) that produce light in 360 degrees. Whereas, LEDs are extremely energy efficient and they emit light directionally (over 180 degrees versus 360 degrees).

In terms of, lifespan, sodium lamps are drastically inferior to LEDs. LED can have a lifespan greater than 100,000 hours, i.e., more than 4 times than sodium lamps.

Sodium lamps emit poorer colour rendering than other types of lamps, and only give monochromatic yellow light and so inhibit colour vision at night. LEDs offer the entire spectrum of visible light colours without using the traditional colour filters.

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

**Explanation:** ACE2, an enzyme on the surface of human cells, acts as the receptor that enables SARS-

CoV-2 to launch its attack. The spike protein of the virus binds to the receptor, then it fuses with the cell surface and releases its genetic material into the cell. The corona virus that causes SARS, called SARS-CoV, uses the same ACE2 receptor to invade a cell. It is an enzyme that generates small proteins. It generates protein by cutting up the larger protein angiotensinogen -which then goes on to regulate functions in the cell.

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

**Explanation:** Bisphenol A (BPA) is a chemical produced for the production of polycarbonate plastics and epoxy resins. Polycarbonate plastics can be used in food and drinks packaging, e.g., water and infant bottles, compact discs, impact-resistant safety equipment and medical devices.

BPA is also found in epoxy resins. Epoxy resins act as a protective lining on the inside of some metal-based food and beverage cans. BPA can also be found in breast milk.

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

**Explanation:** Triclosan is a lipophilic compound with antimicrobial properties. It is an ingredient which is added to many consumer products intended to prevent bacterial contamination. It is used to increase the shelf life of consumer products. It is added to some antibacterial soaps and body washes, toothpaste and some cosmetics. It also can be found in clothing, kitchenware, furniture and toys. Triclosan can cause neurotoxin effects and damage the neurons.

The US have imposed a partial ban on its use while India lacks any such regulation so far.

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

**Explanation:** A light-year is the distance that light travels in a vacuum in one year. According to Einstein, the only thing absolute in this universe is the speed of light. Astronomical distances are measured in light years because familiar units like kilometers and miles are small for describing the vastness of the universe while the speed of light is finite and constant with a value of approximately.

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

**Explanation:** India has constitutional sovereignty, and the authority and jurisdiction of Parliament are limited. The Judiciary can declare any law or ordinance null and void, if it violates one or more of the constitutional provisions.

Article 145 (3) of the Indian Constitution states that cases that involve a substantial question of law as to the interpretation of the constitution should be heard by at least five judges.

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

**Explanation:** The Gopaldaswamy Iyengar Committee submitted a 'Report on Reorganisation of the Machinery of Government' in 1950. This report has not mentioned setting up a minister and a secretary for administrative reforms.

Constituted in 1966, the first Administrative Reforms Commission (ARC) presented a report on Personnel Administration in 1969. The ARC suggested setting up a separate Department of Personnel, to be directly under the control of the Prime Minister. The DoPT was established in 1970 following this report and works under the Ministry Of Personnel, Public Grievances And Pensions.

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

**Explanation:** The Supreme Court described privacy and its importance in the landmark decision of K. S. Puttaswamy v. Union of India in 2017.

The right to privacy is protected under Article 21 (right to life and personal liberty) and as a part of the freedoms guaranteed by Part III of the Constitution.

The Supreme Court in Puttaswamy's judgement hold that the right to privacy is protected under Article 21 of the Constitution of India.

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

**Explanation:** The Representation of the People Act, 1951 was amended in 1996. It restricted from 'three' to 'two' the number of seats one candidate could contest in Lok Sabha and Assembly elections.

Key Provisions of the Act are:

- It regulates the actual conduct of elections and by-elections.
- It provides administrative machinery for conducting elections.
- It deals with the registration of political parties.
- It specifies the qualifications and disqualifications for membership of the Houses.
- It provides provisions to curb corrupt practices and other offences.
- It lays down the procedure for settling doubts and disputes arising out of elections, etc.

If a candidate contests from more than one seat and wins more than one, the candidate has to retain only one, other remains vacant for by-election. Holding by-election against the resultant vacancy results in an unavoidable financial burden on the public exchequer, government manpower and other resources.

Shri Devi Lal contested from three Lok Sabha seats, which are Sikar, Rohtak and Ferozepur seats in the election of 1991.