

1. What does the idiom "break the ice" mean?

A) To build a wall	B) <input checked="" type="checkbox"/> To start a conversation
C) To cause a disruption	D) To make a mistake

2. What does the idiom "hit the nail on the head" mean?

A) To criticize someone harshly	B) To miss the target
C) To hit something hard	D) <input checked="" type="checkbox"/> To be exactly right or accurate

3. Select the most appropriate synonym of the underlined word.
The speaker's argument was compelling enough to persuade the audience.

A) <input checked="" type="checkbox"/> Convincing	B) Boring
C) Criticizing	D) Harsh

4. Select the most appropriate synonym of the underlined word
His explanation was ambiguous, leaving the audience confused.

A) Direct	B) Clear
C) <input checked="" type="checkbox"/> Uncertain	D) Precise

5. Rearrange the parts of the sentence in correct order.
P. often determines the success of collective efforts
Q. effective leadership
R. by aligning individual goals
S. with a shared vision and purpose

A) <input checked="" type="checkbox"/> QPRS	B) QRPS
C) PQRS	D) PSQR

6. Rearrange the parts of the sentence in correct order.
P. cannot be addressed through isolated actions
Q. complex environmental problems
R. that require coordinated global efforts
S. but demand long-term strategic planning

A) <input checked="" type="checkbox"/> QPSR	B) <input checked="" type="checkbox"/> QRPS
C) PQRS	D) PSQR

7. I am going to _____ concert tomorrow.

A) <input checked="" type="checkbox"/> A	B) On
C) An	D) None of the above

8. At _____ equator, sunrise occurs at the same time each day.

A) A	B) <input checked="" type="checkbox"/> The
C) An	D) None of the above

9. The doctor gave me a prescription _____ my cough.
 A) For B) To
 C) A D) With
10. My watch is _____ the table.
 A) In B) On
 C) For D) None of the above
11. Volume of a cuboid of length (l), width (b) and height (h) is
 A) lbh B) $lb + bh + hl$
 C) $2(l + b)h$ D) $2(lb + bh + hl)$
12. The area of a rhombus whose diagonals are of lengths 10 cm and 8.2 cm is
 A) 82 cm^2 B) 410 cm^2
 C) 41 cm^2 D) 820 cm^2
13. A circular pond has a circumference of 22 km. What is its diameter?
 A) 15 km B) 1.5 km
 C) 0.7 km D) 7 km
14. The distance covered by a tire of 84 cm radius in 4 revolutions is
 A) 1056 cm B) 2112 cm
 C) 840 cm D) 1840 cm
15. The length of a field is increased by 50%, and its width is decreased by 40%.
 The percentage change in its area is
 A) 5% increase B) 15% increase
 C) 20% decrease D) 10% decrease
16. The linear equation $3x - 11y = 10$ has
 A) Unique solution B) Two solutions
 C) Infinitely many solutions D) No solutions
17. Point (3, 4) lies on the graph of the equation $3y = kx + 7$. The value of k is
 A) $4/5$ B) $5/3$
 C) $4/3$ D) $4/7$
18. The graph of linear equation $x + 2y = 2$, cuts the y-axis at
 A) (1, 0) B) (2, 0)
 C) (0, 1) D) (0, 2)
19. The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is Re. 1. The sum (in Rs.) is
 A) 625 B) 635
 C) 645 D) 655

20. The compound interest on Rs. 30,000 at 7% per annum is Rs. 4347. The period (in years) is
 A) 2.5 B) 2
 C) 5 D) 4
21. $\{ 720 \div 12 + 18 \times 4 \} \div 6 + 25\% \text{ of } 160 = ?$
 A) 88 B) 66
 C) 62 D) 72
22. $480 \div \{ 16 - 8 \times (3/4) \} + 35\% \text{ of } 200 - 18 = ?$
 A) 111 B) 121
 C) 100 D) 101
23. $-(-3)(-2 - 8 - 4) \div [3 \{ 5 + (-2)(-1) \}] = ?$
 A) 35 B) -34
 C) -41 D) -2
24. What's the probability of drawing a red card or a card with a face (king, queen, or jack) from a standard deck of 52 cards?
 A) 13/15 B) 1/4
 C) 29/52 D) 8/13
25. What is the probability of a sure event?
 A) 1 B) 0.5
 C) 0 D) 0.25
26. What is the probability of getting a number greater than 6 on dice?
 A) 1 B) 0.5
 C) 0 D) 0.25
27. By selling a bicycle for Rs. 2,850, a shopkeeper gains 14%. If the profit is reduced to 8%, then the selling price will be
 A) 2700 B) 2750
 C) 20750 D) 27000
28. A shopkeeper marks his goods 30% above his cost price but allows a discount of 10% at the time of sale. His gain is
 A) 20% B) 2.5%
 C) 15% D) 17%
29. If the selling price of 12 books is equivalent to the cost price of 18 copies, then calculate the profit percent.
 A) 44% B) 50%
 C) 55% D) 25%

47. Which of the following statements about non-conventional sources of energy and their improvements is correct?
- A) Commercial Solar panels can only convert 10-12% of sunlight into electricity.
 - B) Wind energy efficiency improves by using larger and more aerodynamically designed blades.
 - C) Tidal energy cannot be harnessed effectively due to the predictability of tides.
 - D) Geothermal energy output is independent of drilling technology and heat extraction methods.

48. Match Column-I with Column-II

Column - I	Column - II
i. Cesium	a. A non-metal that is lustrous
ii. Zinc	b. A metal that is brittle
iii. Iodine	c. A metal that has a low melting point
iv. Graphite	d. A non-metal that is a good conductor of electricity

Choose the correct option:

- A) i-c, ii-b, iii-a, iv-d
 - B) i-b, ii-c, iii-a, iv-d
 - C) i-b, ii-c, iii-d, iv-a
 - D) i-c, ii-b, iii-d, iv-a
49. Metals P, Q, and R have different positions in the activity series. Metal P reacts vigorously with water, metal Q reacts slowly with acids, and metal R does not react with water or acids. Their oxides are PO_2 , QO , and R_2O_3 , respectively. Considering their reactivity and the methods typically used for extraction, which of the following correctly matches the metal with its most suitable extraction method?
- A) P - Electrolysis of molten oxide; Q - Reduction by carbon; R - Reduction by carbon.
 - B) P - Reduction by carbon; Q - Electrolysis of molten oxide; R - Electrolysis of molten oxide.
 - C) P - Electrolysis of molten oxide; Q - Reduction by carbon; R - Native metal, no extraction needed.
 - D) P - Reduction by carbon; Q - Native metal, no extraction needed; R - Electrolysis of molten oxide.

50. Which of the following organisms exhibits parasitic nutrition?

- A) Nitrosomonas
- B) Amoeba
- C) Plasmodium
- D) Paramecium

- 51.** Which of the following statements about transportation of water, food and minerals in plants is NOT correct?
- The ascent of sap in tall trees primarily occurs due to transpiration pull, cohesion, and adhesion forces rather than root pressure alone.
 - Xylem transports water and dissolved minerals mainly in an upward direction, while phloem can transport food both upward and downward.
 - Phloem transport requires metabolic energy, whereas xylem transport is largely a passive process.
 - Minerals absorbed by roots move through phloem vessels to reach the leaves where they are utilized for photosynthesis.
- 52.** Which of the following statements about excretion in plants and animals is correct?
- Plants lack specialized excretory organs, so all metabolic wastes are removed exclusively through stomata by diffusion.
 - Plants assimilate ammonia into amino acids and can store waste in leaves, bark, and vacuoles.
 - In mammals, the primary nitrogenous waste is uric acid, which requires minimal water for excretion compared to ammonia.
 - Animals and plants both rely mainly on transpiration as their primary mechanism of excretion.
- 53.** A city is located near a river and an industrial area. Over time, scientists observed the following:
- Fish in the river showed bioaccumulation of a persistent chemical that caused neurological disorders in humans who consumed them.
 - The air contained high levels of a gas that reacts with water to form acid rain, damaging monuments and crops.
 - Soil had elevated heavy metal concentrations, leading to reduced fertility and toxicity in plants.
- On the basis of the given observations, pair each cause (i, ii, iii) with the corresponding pollutant (a, b, c) and answer the correct statement
- Mercury
 - Sulfur dioxide
 - Lead
- $i \rightarrow a, ii \rightarrow b, iii \rightarrow c$
 - $i \rightarrow a, ii \rightarrow c, iii \rightarrow b$
 - $i \rightarrow b, ii \rightarrow c, iii \rightarrow a$
 - $i \rightarrow c, ii \rightarrow b, iii \rightarrow a$
- 54.** Consider the following jumbled food chain:
Grasshopper, Grass, Hawk, Frog, Snake
If the energy content of the frog is x kJ, the energy available to the primary consumer is
- 10x kJ
 - x kJ
 - x/10 kJ
 - x/100 kJ

55. Which statement is TRUE regarding the relationship between ozone depletion and climate change?
- ✓ A) CFCs destroy ozone and contribute to global warming. ✓
 - B) Ozone depletion directly causes the greenhouse effect. ✓
 - C) Greenhouse gases directly destroy ozone molecules.
 - D) Reducing CO₂ emissions alone can fully restore the ozone layer.
56. Which of the following was NOT a character studied by Mendel in his experiments with *Pisum sativum*?
- A) Stem Height
 - B) Flower shape
 - C) Pod shape and colour
 - D) Seed shape and colour
57. Ali was breeding two *Pisum sativum* plants for plant height and seed shape. He noticed the following in the offspring:
 All plants were Tall
 Seed shape ratio: 3 (Round) : 1 (Wrinkled)
 How many possible combinations (unordered) of parental genotypes could produce this result?
- A) 1
 - B) 2
 - C) 3
 - D) 4
58. Raghav is trying to understand when plant cells are haploid (N) or diploid (2N) during sexual reproduction. Which of the following statements is correct?
- A) The microspore and megaspore are diploid (2N) cells that undergo meiosis, and the fertilized zygote remains haploid (N).
 - B) The microspore and megaspore are haploid (N) cells formed after meiosis, and fertilization restores the diploid (2N) number in the zygote.
 - C) The pollen and ovule mother cells are haploid (N) before meiosis and form diploid gametes after meiosis.
 - D) The pollen and ovule mother cells are diploid (2N), and meiosis produces haploid gametes, but fertilization does not restore the diploid number.
59. Raghav was confused about how plants reproduce asexually. His teacher explained methods like Budding and Fragmentation, but Raghav wasn't sure how to tell them apart. Which of the following best distinguishes the two processes?
- A) In budding, a small protrusion forms on the parent and may stay attached before detaching, while in fragmentation, the parent breaks into pieces, and each piece grows into a new organism.
 - B) In budding, offspring develop from specialized reproductive cells, whereas in fragmentation, the parent divides under environmental stress to form new organisms.
 - C) In budding, a small part of the parent detaches and grows into an independent organism, whereas in fragmentation, the parent splits into fragments that grow into independent organisms.
 - D) In budding, the offspring remain attached to the parent for a while, while in fragmentation, the parent breaks into two parts that grow into independent organisms.

60. Which of the following correctly matches the organism with its classification group?

- | | |
|------------|---------------|
| I. Rose | Monocotyledon |
| II. Frog | Amphibian |
| III. Mango | Gymnosperm |
| IV. Shark | Reptile |

Choose the correct match:

- | | |
|-------------------|---------------------|
| A) Only II | B) Only I and II |
| C) Only II and IV | D) All of the above |

61. Match the following books/texts with their respective authors

- | Books/Texts | Authors |
|-------------------------------|---------------------|
| i. Voice of India | a. R.C. Dutt |
| ii. Economic History of India | b. Dadabhai Naoroji |
| iii. Unhappy India | c. Rajendra Prasad |
| iv. India Divided | d. Lala Lajpat Rai |

Choose the correct match:

- A) i-a, ii-b, iii-d, iv-c
B) i-a, ii-b, iii-c, iv-d
C) i-b, ii-a, iii-d, iv-c
D) i-b, ii-a, iii-c, iv-d

62. Which of the following pairs are correctly matched?

- | Geographical Discoveries | Discoverers |
|--------------------------|---------------|
| I. Cape of Good Hope | Vasco De Gama |
| II. Solar System | Kepler |
| III. Australia | James Cook |

- A) I only
B) III only
C) I and III only
D) All of the above

63. Consider the following information regarding the International Monetary Fund (IMF) and identify the **INCORRECT** statements.

- I. Every member country has an equal voting power regardless of its financial contribution.
II. The IMF created Special Drawing Rights (SDR) as an international reserve asset in 1969.
III. Private entities and individuals can also hold Special Drawing Rights (SDR).

- | | |
|-------------------|--------------------|
| A) I only | B) II only |
| C) I and III only | D) II and III only |

64. Which of the following Space Missions are successfully conducted by ISRO to develop and demonstrate the technology needed for the docking and undocking of two small spacecraft in a low-Earth circular orbit?

- | | |
|---------------|--------------|
| A) Aditya L-1 | B) Gaganyaan |
| C) NISAR | D) SPADEX |

65. Which of the following personalities of Jammu and Kashmir was recently awarded Padma Shri (2026) for his/her social work?

- A) Omar Abdullah
B) Ghulam Nabi Azad
C) Rehman Rahi
D) Brij Lal Bhat

66. Following the 2019 Reorganization, while the legislative Assembly of Jammu and Kashmir can legislate on state matters, which of the following subjects are exclusively reserved for the Union government, unlike other states?

- A) Public order and Police
B) Education and Health
C) Local self-government
D) Agriculture and Industries

67. Which of the following rivers are tributaries of the river Chenab?

- I. Ujh river
II. Marusudar river
III. Niru river
IV. Ans river
V. Tawi river

Choose the correct option:

- A) I, II, IV and V only
B) II, IV and V only
C) II, III, IV and V only
D) All of the above

68. Match the following:

Kashmir Sultans	Major Contribution/Title
i. Shams-ud-din Shah Mir	a. Establishment of the Sultanate in Kashmir in 1339 CE
ii. Sikandar Butshikan	b. Construction of the magnificent Jama Masjid in Srinagar in 1394 AD
iii. Yusuf Shah Chak	c. The last Independent ruler of Kashmir

Choose the correct match:

- A) i-a, ii-c, iii-b
B) i-b, ii-c, iii-a
C) i-a, ii-b, iii-c
D) i-b, ii-a, iii-c

69. According to the Indian State of Forest Report, 2023, what is the 'Total Forest Cover' of the Union Territory of Jammu and Kashmir as a percentage of its total geographic area?

- A) 38.15%
B) 37.15%
C) 39.15%
D) 36.15%

77. Three boats, A, B and C, start from the same jetty and move in the same direction along a river. Their speeds in still water are 18 km/h, 24 km/h and 36 km/h, respectively. Boat B starts 1 hour after Boat A. If Boat B and Boat C overtake Boat A at the same time, how many hours after Boat B did Boat C start?
- A) 1 hour
B) 2 hours
C) 3 hours
D) Cannot be determined
78. Choose the correct inference from the statements
- Statements:**
- I. All scientists are researchers.
II. No researcher is a poet
- Conclusions:**
- I. No scientist is a poet.
II. Some researchers are definitely scientists.
- ✓ A) Only Conclusion I follows
B) Only Conclusion II follows
C) Both I and II follow
D) Neither I nor II follow
79. Find the correct answer
If SMART=96 and MIND=56, then PRO= ___?
- A) 55
B) 56
C) 57
D) 58
80. A company divides its total investment of Rs.12,00,000 among three projects A, B and C in the ratio 2 : 3 : 5. After one year:
Project A gives a return of 10% profit
Project B gives a return of 20% profit
Project C incurs a 10% loss
What is the overall percentage gain or loss of the company?
- A) 3% loss
B) 3% profit
C) 3.6% profit
D) 3.6% loss
81. Following the suppression of the revolt of 1857, what major constitutional change was adopted via the Government of India Act, 1858?
- A) Indians were allotted an equal representation in the Indian Legislative Assembly, similar to the Britishers.
B) The post of Governor of Bengal was transformed to Governor General of India.
C) The power of the East India Company was abolished, and power was transferred to the British Crown.
D) The Indian Executive Council was composed mainly of Indian leaders.

82. Which of the following administrative measures taken by Lord Lytton was a factor in the rise of Indian Nationalism?
- Ilbert Bill Controversy (1883)
 - Partition of Bengal (1905)
 - Formation of the Indian National Congress (1885)
 - Passing of the Vernacular Press Act (1878)
83. The 'Safety Valve theory' propounded by leaders like Lala Lajpat Rai in the context of the formation of the Indian National Congress suggests that-
- The British used Congress to directly recruit the Indians for World War-II.
 - The Congress was formed to protect small Indian Industries from British competition.
 - Congress was established as a platform to secure the religious interests and prevent communal disputes.
 - The congress was formed to provide a peaceful outlet for public discontent and prevent another revolt like 1857.
84. What was/were the primary political demands of the Moderates during the early phase of the Indian National Congress?
- To attain Purna Swaraj
 - To allow separate electorates for all marginalized groups
 - Expansion of Legislation Councils and greater representation of Indians in the Civil Services
 - Total boycott of British institutions like the Judiciary
85. Match the following in the context of the Swadeshi Movement-
- | Swadeshi Initiatives | Associated Leaders |
|------------------------------|-----------------------------|
| i. Bengal Chemicals Factory | a. V.O. Chidambaram Pilai |
| ii. Steam Navigation Company | b. Prafulla Chandra Ray |
| iii. Dawn Society | c. Ashwini Kumar Datta |
| iv. Swadesh Bandhab Samiti | d. Satish Chandra Mukherjee |
- Choose the correct option:**
- i-a, ii-c, iii-b, iv-d
 - i-b, ii-a, iii-d, iv-c
 - i-b, ii-a, iii-c, iv-d
 - i-a, ii-b, iii-c, iv-d
86. Arrange the following historical events in the correct Chronological order.
- Death of Bal Gangadhar Tilak
 - Formation of the Swaraj Party by C.R. Das and Motilal Nehru
 - Self-Respect Movement by E.V. Ramaswamy Naicker
 - Chauri Chaura incident during the Non-Cooperation Movement
- I-II-IV-III
 - IV-I-III-II
 - IV-I-II-III
 - I-IV-II-III

87. Why was the Shimla deputation (1906) prominent for the rise of the Muslim League in India?
- The deputation was granted the right to form Pakistan by Lord Minto
 - It convinced the Viceroy Minto to reunite Bengal after the partition.
 - Muslims were given the immediate majority of representation in the Executive Council by Lord Minto
 - The deputation received a positive assurance from Lord Minto regarding separate electorates
88. Who were the two primary brothers who founded the 'All India Khilafat Committee' in 1919?
- Mohammad Jinnah and Shaukat Ali
 - Mohammad Ali and Hasrat Mohani
 - Shaukat Ali and Aga Khan
 - Mohammad Ali and Shaukat Ali
89. In which of the following places was a 'Parallel Government' (Prati Sarkar) formed by Nana Patil during the Quit India Movement?
- Ballia (United provinces)
 - Tamluk (West Bengal)
 - Saurashtra (Gujarat)
 - Satara (Maharashtra)
90. On which of the following dates the 'Indian Independence Act-1947' was given the British Royal Assent, thereby giving legal effect to the Mountbatten Plan?
- June 3, 1947
 - June 5, 1947
 - July 18, 1947
 - August 15, 1947
91. Match the following-
- | Directive Principles | Constitutional Articles |
|---|--------------------------------|
| i. Organisation of village panchayats | a. Article 44 |
| ii. Uniform Civil Code for citizens | b. Article 40 |
| iii. Separation of the Judiciary from the Executive | c. Article 51 |
| iv. Promotion of International peace | d. Article 50 |
- Choose the correct match:**
- i-a, ii-c, iii-d, iv-b
 - i-b, ii-a, iii-c, iv-d
 - i-b, ii-a, iii-d, iv-c
 - i-a, ii-b, iii-c, iv-d
92. The Right to elementary education was made a Fundamental right under Article-2A through which of the following Constitutional Amendment Acts?
- 42nd Amendment Act
 - 44th Amendment Act
 - 86th Amendment Act
 - 97th Amendment Act

93. Consider the following statements about the Fundamental Duties (Part IV-A) and select the **INCORRECT** statements-
- I. These Duties were part of the original Constitution adopted in 1950.
 - ~~II.~~ These Duties can always be enforced through Writ jurisdiction in the court of law.
 - III. Promoting Scientific temper and spirit of enquiry is one of the Fundamental Duties.
- A) I only
 B) II only
 C) I and II only
 ✓D) All of the above
94. Which of the following statements are correct about Direct democracy and Indirect democracy?
- I. In Indirect democracy, people themselves vote on every legislation.
 - II. Recall, Initiative and Plebiscite are the instruments of Direct democracy.
 - ~~III.~~ Gram sabhas in the villages are the classic example of the functioning of Direct democracy in India.
 - IV. Direct democracy is also known as Representative democracy, where people elect their representative leaders to make laws.
- A) I and III only
 B) II and III only
 C) I, III and IV only
 D) All of the above
95. Which of the following pairs are correctly matched-
- | Provisions | Legal/Constitutional Sources |
|---|---|
| I. Conduct of elections of President and Vice President | Representation of the People Act, 1950 |
| II. Disqualifications for contesting elections | Representation of the People Act, 1951 |
| III. Lowering the voting age from 21 to 18 years | 61 st Constitutional Amendment Act, 1988 |
- A) I only
 B) I and II only
 C) II and III only
 ✓D) All of the above
96. Who has the final authority to issue symbols to the political parties and solve disputes between the factions of a party claiming the same symbol?
- A) Parliament of India
 - B) Supreme Court of India
 - C) Ministry of Law and Justice
 - ~~D)~~ Election Commission of India

102. A ship is sailing from the International Date Line on Wednesday, from East to West (from America to Russia). What will happen to the day or date on the ship?

A) Date will remain Wednesday (same day)
 B) Date will change to Tuesday (one day back)
 C) Date will change to Thursday (one day forward).
 D) Day remains the same, only the time changes.

103. On December 22nd, Winter Solstice in the Northern Hemisphere, which of the following statements stands true?

A) The sun never sets at Arctic Circle
 B) The sun never sets at the Antarctic Circle
 C) The sun stands directly over the Tropic of Cancer
 D) The Northern Hemisphere receives more insolation than the southern hemisphere.

104. As one ascends from Jammu plains (300 m) to the Himalayas (4000 m), what would be the correct ecological sequence of the forest types?

A) Tropical thorns- Himalayan moist temperate- sub-tropical pine- Alpine meadows
 B) Sub-tropical pine- Tropical thorns- Alpine meadows-Himalayan moist temperate
 C) Tropical thorns- Sub-tropical pine- Himalayan moist temperate-Alpine Meadows
 D) Alpine meadows-Himalayan moist temperate-Sub-tropical pine- Tropical thorns

105. The Forest Conservation (Amendment) Act, 2023, exempted which of the following projects from the prior approval of the Central government?

A) When forest land is diverted for constructing any strategic linear projects of national importance within 100 km of India's borders.
 B) When forest land is diverted for constructing any security-related infrastructure upto 10 hectares.
 C) Public utility projects as specified by the central government, not exceeding 5 hectares in a left-wing extremism-affected area
 D) All of the above

106. Match the following Wildlife sanctuaries with the districts they are located in

Wildlife Sanctuaries	Specific Districts
i. Hirapora sanctuary	a. Reasi
ii. Rajparian (Daksum) sanctuary	b. Shopian
iii. Trikuta sanctuary	c. Anantnag

Choose the correct match:

- A) i-a, ii-c, iii-b
 B) i-b, ii-a, iii-c
 C) i-b, ii-c, iii-a
 D) i-a, ii-b, iii-c

107. Which of the following pairs are correctly matched?

Dams	Rivers
I. Uri-II	Jhelum
II. Salal dam	Chenab
III. Pakul Dul dam	Marusudar
IV. Dulhasti dam	Ravi

A) I and II only
B) I and IV only
C) I, II and III only
D) All of the above

108. Which of the following is/are examples of In-situ rainwater harvesting?

- ~~A)~~ Farm ponds
B) Rooftop rainwater harvesting
C) Underground storage tanks for the storage of rainwater
D) Storing water in the soil profile through mulching or contour bunding

109. Identify the **INCORRECT** statements about tunnels in Jammu and Kashmir-

- I. Dr. Syama Prasad Mookerjee Tunnel is a 9 km long, twin-tube, all-weather road tunnel connecting Udhampur and Ramban.
II. Tunnel T50, a 12.77 km engineering feat connecting Khari and Sumber in Jammu & Kashmir, stands as one of India's longest transportation tunnels constructed under the Udhampur-Srinagar-Baramulla Rail Link (USBRL) project.
- ~~A)~~ I only
B) II only
C) Both I and II
D) Neither I nor II

110. The UNESCO World Heritage Sites 'Mountain Railways of India' recognises which of the following?

- A) Kalka-Shimla Railways
B) Nilgiri Mountain Railways
C) Darjeeling Himalayan Railways
D) All of the above

111. A computer uses 8-bit 2's complement representation. Which of the following operations will cause overflow?

- A) 01010101 + 00110011
B) 10011001 + 10101010
C) 01111111 + 00000001
D) 11110000 + 00010000

112. Which of the following statements is true regarding applications of Information Technology?

- A) E-governance eliminates the need for physical government offices.
B) E-commerce only involves buying physical goods through websites.
C) Telemedicine allows doctors to provide consultation using communication networks.
D) Online education requires students to be physically present in a digital classroom.

113. Match the following:

Column - I

- i. Firmware
- ii. Utility Software
- iii. Device Driver
- iv. Compiler

Column - II

- a. Translates high-level language into machine code
- b. Controls communication between operating system and hardware device
- c. Stored permanently in ROM to initialize hardware
- d. Performs system maintenance tasks like disk cleanup

Choose the correct option:

- A) i-c, ii-d, iii-b, iv-a
- B) i-b, ii-a, iii-c, iv-d
- C) i-d, ii-b, iii-a, iv-c
- D) i-a, ii-c, iii-d, iv-b

114. A student is using a computer with 8 GB RAM. He opens:

- A web browser with 25 tabs __
- A video editing software __
- A music player
- A code editor

After some time, the system becomes slow, but it does NOT crash. The hard disk activity light keeps blinking continuously even though he is not saving or opening files. Which of the following is the most accurate explanation?

- A) The operating system has stopped multitasking and is running programs one by one.
- B) The CPU cache memory is full, so the system is waiting for space to free up.
- C) The operating system is using virtual memory and swapping data between RAM and disk.
- D) The BIOS is reallocating hardware resources dynamically.

115. A government launches a system where:

- Citizens apply for documents online
- Applications are automatically verified using databases
- SMS/email updates are sent automatically
- Officials approve requests digitally
- Data is stored centrally and accessed across departments

Which of the following best explains the real contribution of Information Technology (IT) in this system?

- A) IT only replaces paper-based records with digital files.
- B) IT reduces manpower by completely eliminating human decision-making.
- C) IT integrates communication, data processing, storage, and automation
- D) IT mainly provides internet access so citizens can submit forms online.

116. A student uploads a PDF file to an online PDF-to-JPG converter website. After conversion, he downloads the JPG files but later notices:
- The images are blurred
 - File size is much larger than expected
 - Text cannot be copied anymore
- Which of the following is the most accurate reason?
- A) ✓ The PDF was converted into raster images.
- B) The website reduced internet speed.
- C) The browser changed the file extension.
- D) The file was uncompressed using ZIP format
117. Which of the following statements is true regarding KMZ files and geo-tagged photos?
- A) ✓ A KMZ file stores only image files with location names.
- B) Geo-tagging embeds latitude and longitude inside image metadata.
- C) KMZ files cannot contain coordinate information.
- D) ✓ Uploading a geo-tagged photo automatically creates a KMZ file.
118. Which of the following statements is correct regarding computer viruses and modern antivirus systems?
- A) A virus can execute automatically without user action once present in memory.
- B) Signature-based antivirus detects only previously identified malware patterns.
- C) Online registration guarantees protection against zero-day attacks.
- D) ✓ A firewall and antivirus perform exactly the same function.
119. Which of the following is incorrect regarding the use of modern computer applications in field operations of a Forest Department?
- A) Mobile apps are used for taking photographs of trees.
- B) GIS-enabled apps integrate GPS data, satellite imagery
- C) ✓ Forest apps replace the need for physical field inspections completely.
- D) Field applications work without network or data synchronization.
120. In an e-Office system, a confidential file is sent digitally from a section officer to a higher authority. The department wants to ensure that only the intended officer can read the file during transmission. Which of the following ensures confidentiality during transmission?
- A) Applying a digital signature to the document using a public key infrastructure
- B) ✓ Encrypting the file using the recipient's public key
- C) Adding a watermark to the document
- D) Scanning the file before sending it