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ADDITIONAL DIRECTORATE GENERAL OF ARMY EDUCATION (AE-2)
QUESTION PAPER FOR ADMISSION TO RASHTRIYA MILITARY SCHOOLS AT CHAIL,
AJMER, BELGAUM, BENGALURU AND DHOLPUR FOR CLASS IX FOR
ACADEMIC SESSION 2022-23

PARTS	NO OF QUESTIONS	MAX MARKS	PAGE
PART-I			
SECTION-I : ENGLISH	50	50 MARKS	01 TO 08
SECTION-II : HINDI	20	20 MARKS	08 TO 10
SECTION-III : SOCIAL SCIENCE	30	30 MARKS	10 TO 13
PART-II			
SECTION-IV : MATHEMATICS	50	50 MARKS	13 TO 18
SECTION-V : SCIENCE	50	50 MARKS	18 TO 24

INSTRUCTIONS

1. Do not open this test booklet until you are asked to do so. Immediately after the commencement of the examination, you should check that this test booklet does not have any unprinted or torn or missing pages or questions etc. If so, get it replaced by a complete new test booklet.
2. You have to enter your roll number on the test booklet in the space provided above.
3. This test booklet contains 200 questions in five sections divided into Part-I & Part-II further subdivided into five sections as mentioned above. Each question 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 question. If more than one circle is shaded, it will be treated as wrong answer.
4. All questions are of objective type with multiple choice answers and carry equal marks. There is no negative marking.
5. Please use black/blue ball pen to completely darken the circles corresponding to the correct answer. You have to mark all your responses only on the separate OMR answer sheet provided. Before you proceed to mark the response to various questions of the test booklet in the answer sheet, you have to fill in some particulars in the OMR answer sheet as per instructions given in the answer sheet.
6. After you have completed filling in all your responses on the answer sheet and the examination has concluded, you should hand over only the OMR answer sheet to the invigilator. You are permitted to take away the test booklet with you.

ROLL NO _____

MAX TIME ALLOWED: 2H 30 MIN

PART-I

SECTION-I: ENGLISH

I. Read the passage given below and fill the correct option:

In the 16th century, an age of great marine and terrestrial exploration, Ferdinand Magellan led the first expedition to sail around the world. As a young Portuguese noble, he served the king of Portugal, but he became involved in the quagmire of political intrigue at court and lost the king's favor. After he was dismissed from service by the king of Portugal, he offered to serve the future Emperor Charles V of Spain.

A papal decree of 1493 had assigned all land in the New World west of 50 degrees W longitude to Spain and all the land east of that line to Portugal. Magellan offered to prove that the East Indies fell under Spanish authority. On September 20, 1519, Magellan set sail from Spain with five ships. More than a year later, one of these ships was exploring the topography of South America in search of a water route across the continent. This ship sank, but the remaining four ships searched along the southern peninsula of South America. Finally they found the passage they sought near 50 degrees S latitude. Magellan named this passage the Strait of All Saints, but today it is known as the Strait of Magellan.

One ship deserted while in this passage and returned to Spain, so fewer sailors were privileged to gaze at that first panorama of the Pacific Ocean. Those who remained crossed the meridian now known as the International Date Line in the early spring of 1521 after 98 days on the Pacific Ocean. During those long days at sea, many of Magellan's men died of starvation and disease.

Later, Magellan became involved in an insular conflict in the Philippines and was killed in a tribal battle. Only one ship and 17 sailors under the command of the Basque navigator Elcano survived to complete the westward journey to Spain and thus prove once and for all that the world is round, with no precipice at the edge.

1. The 16th century was an age of great marine and _____ exploration.
(a) Cosmic
(b) Land
(c) Mental
(d) Common Man
2. Magellan lost the favor of the king of Portugal when he became involved in a political _____.
(a) Entanglement
(b) Discussion
(c) Negotiation
(d) Problem

3. The Pope divided New World lands between Spain and Portugal according to their location on one side or the other of an imaginary geographical line 50 degrees west of Greenwich that extends in a _____ direction.

- (a) North South
- (b) Crosswise
- (c) Easterly
- (d) South East

4. One of Magellan's ships explored the _____ of South America for a passage across the continent.

- (a) Coastline
- (b) Mountain Range
- (c) Physical Features
- (d) Islands

5. Four of the ships sought a passage along a southern _____.

- (a) Coast
- (b) Inland
- (c) Body of land with water on three sides
- (d) Border

II. Find the correctly spelt word.

6. (a) Ocurance (b) Occurance
(c) Occuramnce (d) Occurrence

7. (a) Aggressive (b) Agressive
(c) Agrissive (d) Aggrissive

8. (a) Muscullature (b) Musculauter
(c) Mucuulature (d) Musculature

9. (a) Acidentalley (b) Accidentally
(c) Accidantelly (d) Acidintally

10. (a) Embarrass (b) Embaras
(c) Embbaras (d) Emberass

III. In the following questions, a sentence has been given in Direct/ Indirect speech. Out of the four alternatives suggested, select the one which best expresses the same sentence in Direct/ Indirect speech.

11. "If you don't keep quiet I shall shoot you," she said to her in a calm voice.
 (a) She warned her calmly that she would shoot her if she didn't keep quiet.
(b) She said calmly that I shall shoot you if you don't keep quiet.
(c) She warned her calmly to shoot if she didn't keep quiet.
(d) Calmly she warned her that be quiet or else she will have to shoot her.

12. The spectators said, "Bravo! Well played Virat."
(a) The spectators called Virat bravo because he played well.
(b) The spectators said that Virat played well and applauded him.
(c) The spectators encouraged Virat saying he played well.
(d) The spectators applauded Virat, saying that he played well.
13. The traveller enquired the potter if he could tell him the way to the nearest inn.
(a) The traveller said to the potter, "Where is the nearest inn?"
(b) The traveller said to the potter, "Can you tell me the way to the nearest inn?"
(c) The traveller said to the potter, "Which is the way to nearest inn?"
(d) The traveller said to the potter, "Can you tell me where is the nearest inn?"
14. I said to my father, "Let us go to some restaurant for a change."
(a) I asked my father to go to some restaurant for a change.
(b) I asked my father if he would go to some restaurant for a change.
(c) I permitted my father to go to some restaurant for a change.
(d) I suggested to my father that we should go to some restaurant for a change.
15. Sonya said, "Oh! I were a child again!
(a) Sonya exclaimed with wonder that she were a child again.
(b) Sonya wondered that were she a child again.
(c) Sonya strongly wished that she had been a child again.
(d) Sonya prayed that she were a child again.

IV. A sentence has been given in Active voice. Choose the correct option which expresses the same sense in Passive voice.

16. Have the box broken.
(a) Break the box.
(b) Get someone to break the box.
(c) Have the broken box.
(d) They have broken the box.
17. The teacher taught a poem.
(a) A poem was taught by the teacher.
(b) A poem was being taught by the teacher.
(c) A poem is being taught by the teacher.
(d) The poem was taught by the teacher.
18. Who broke the window?
(a) By whom had the window broken?
(b) By whom was the window broken?
(c) By whom was the window being broken?
(d) Whose window was broken?

19. A stone struck me on the head.
(a) My head was struck by a stone.
(b) I had been struck by a stone on the head.
 (c) I was struck on the head by a stone.
(d) I am struck by a stone on the head.

20. People claim to have seen the suspect in several cities.
 (a) The suspect is claimed to have been seen in several cities.
(b) The suspect was seen by people in several cities.
(c) The suspect has been the people in several cities.
(d) The suspect is being seen in several cities.

V. In the following questions choose the word which best expresses the meaning of the given word.

21. EFFIGY
(a) Proxy
(c) Boldness
(b) Profundity
(d) Dummy
22. HOMOGENEOUS
(a) Heterogeneous
(c) Scrambled
(b) Motley
(d) Similar
23. ANTITHESIS
 (a) Contradictory
(c) Affinity
(b) Harmony
(d) Analogy
24. HAPHAZARD
 (a) Unplanned
(c) Disappointment
(b) Excellent
(d) Despair
25. PRUDENT
(a) Short sighted
(c) Inconsiderate
(b) Wise
(d) Injudicious

VI. Direction: Select the most appropriate determiner to fill in the blanks:

26. Is there _____ ice cream left in the bowl?
(a) Few
(b) Some
(c) Any
(d) Many
27. I need _____ money.
(a) Many
(b) Several
(c) Some
(d) Any
28. We have not had _____ rain this monsoon.
 (a) Much
(b) Some
(c) A little
(d) More

29. _____ people think it is a difficult proposition.
(a) Much (b) ~~Several~~ (c) Less (d) None of these

30. He has _____ knowledge of the language.
(a) Lot (b) Many (c) ~~Little~~ (d) Few

VII. Select the correct term.

31. Person who does not believe in the existence of God.
(a) Theist (b) Heretic (c) ~~Atheist~~ (d) Fanatic

32. A disease which spreads by contact.
(a) Incurable (b) Infectious (c) ~~Contagious~~ (d) Fatal

33. A man who has lost his wife
(a) Widow (b) Martyr (c) ~~Widower~~ (d) Bachelor

34. A doctor who treats skin diseases.
(a) Ophthalmologist (b) Pediatrician (c) Cardiologist (d) ~~Dermatologist~~

35. A lady who remains unmarried.
(a) ~~Spinster~~ (b) Artist (c) Misanthrope (d) Bachelor

VIII. Choose the Antonym of the following words.

36. Optimist
(a) Confiscate (b) ~~Pessimist~~ (c) Prosecute (d) Beacon

37. Commoner
(a) Foul (b) Tidy (c) Distract (d) ~~Noble~~

38. Chaotic
(a) Safe (b) Disorganized (c) ~~Calm & orderly~~ (d) Pale

39. Ally
(a) West (b) Bottom (c) ~~Enemy~~ (d) Decline

40. Vacant
(a) Thin (b) ~~Occupied~~ (c) Bottom (d) Distort

IX. Complete each Idiom

41. Once in a blue _____ we met each other.
(a) ~~Moon~~ (b) Sun (c) Stars (d) Sea

42. He has been jobless for several months and it is his wife who keeps the
_____ boiling.
(a) Water (b) ~~Pot~~ (c) Food (d) Milk

43. The principal took him to _____
(a) Work (b) Play (c) ~~Task~~ (d) Office

43. The principal took him to _____
 (a) Work (b) Play (c) Task (d) Office
44. A fair weather friend always tries to fish in _____ waters of his friends.
 (a) Troubled (b) Calm (c) Boiling (d) Disturbed
45. The thief was caught _____ handed.
 (a) Blue (b) Orange (c) Pale (d) Red

X. Read the following Poem carefully and answer the questions that follow:

LAW OF THE JUNGLE

I have heard
 There is a law of the jungle
 I have heard when the lion has eaten his fill
 He never attacks
 He goes to lie under dense shady trees
 And when the rough gusts
 Shake branches of trees
 The mynah leaving her own young
 Covers the frail crow's eggs
 With her protective wings.

I have heard
 When any bird-young falls out of the nest
 The entire jungle wakes to rescue.
 I have heard
 When the weaver bird's nest reflects on the lake
 The silvery fishes adopt it as neighbour.
 And if a rough storm breaks the foot-bridge.
 Then on a wooden plank
 Squirrel, snake, goat and cheetah walk in a file.

I have heard
 There is a law of the jungle O God ! All Powerful ! All Seeing ! All Wise !
 In this my city Proclaim a law,
 Even the law of the jungle
 (Translated from the Urdu by Syeda Hameed)

46. The lines ...*when the lion has eaten his fill! He never attacks*' mean that.
 (a) The lion becomes lazy on full stomach
 (b) The lion kills only to survive
 (c) The lion does not attack an easy prey
 (d) The lion likes to sleep under the shady tree

47. When the Weaver-bird's nest hangs from a branch above a lake—
 (a) The nest is destroyed
 (b) The silvery fish of the lake attack it
 (c) The silvery fish are friendly to it
 (d) The nest falls to the lake
48. In case of a natural calamity, all the animals.
 (a) Run helter-skelter
 (b) Create confusion
 (c) Protect/safeguard one another
 (d) Take cover in other's home
49. 'Proclaim a law' means
 (a) Make an announcement of a new law
 (b) Break the law
 (c) Change the law
 (d) Destroy the city law
50. The poet prays to God for
 (a) Turning the city into a jungle
 (b) Making people more sympathetic and understanding
 (c) Killing all animals
 (d) Letting animals rule man

SECTION-II: HINDI

51. 'अंतर्यामी' शब्द में से उपसर्ग और मूल शब्द अलग कीजिए—
 (a) अंतः+यामी
 (b) अंतर्+यामी
 (c) अंतर्या+मी
 (d) अंत+यामी
52. 'वह लड़की चतुर है।' रेखांकित में कौनसा विशेषण भेद आता है ?
 (a) गुणवाचक
 (b) संख्यावाचक
 (c) परिमाणवाचक
 (d) सार्वनामिक
53. 'मृगलोचन' समस्तपद में कौन-सा समास है?
 (a) द्वंद्व समास
 (b) कर्मधारय समास
 (c) द्विगु समास
 (d) अव्ययीभाव समास
54. सही वर्तनी पहचानिए—
 (a) औदयोगिक
 (b) औदयोगिक
 (c) औदयोगिक
 (d) औदयोगिक

55. "वह आप ही आ गया" में सर्वनाम भेद बताइए—
 (a) निश्चयवाचक
 (b) प्रश्नवाचक

55. "वह आप ही आ गया" में सर्वनाम भेद बताइए—
 (a) निश्चयवाचक (b) प्रश्नवाचक
 (c) संबंधवाचक (d) निजवाचक
56. श, ष, स, ह व्यंजन वर्ग को क्या कहते हैं ?
 (a) ऊष्म (b) स्पर्श
 (c) अंतःस्थ (d) संयुक्त
57. 'सोहन दौड़ रहा है' — रेखांकित क्रिया का भेद है—
 (a) अकर्मक (b) सकर्मक
 (c) द्विकर्मक (d) प्रेरणार्थक
58. 'जुग-जुग जियो' में वाक्य का प्रकार है—
 (a) विधानवाचक (b) संकेतवाचक
 (c) इच्छावाचक (d) आज्ञावाचक
59. 'तात' शब्द के लिए कौनसा शब्दार्थ अनुपयुक्त है—
 (a) गरम (b) पिता
 (c) भाई (d) पूज्य
60. उत्पत्ति के आधार पर शब्द के कितने भेद होते हैं?
 (a) तीन (b) चार
 (c) पाँच (d) छः
61. निम्नलिखित में कौन-सा भेद संज्ञा से संबंधित नहीं है?
 (a) जातिवाचक (b) व्यक्तिवाचक
 (c) गुणवाचक (d) भाववाचक
62. 'तपस्वी' शब्द का स्त्रीलिंग रूप होगा—
 (a) तपस्विनी (b) तपस्वनी
 (c) तपस्वैनी (d) तपसी
63. हवाई जहाज उड़ चुका था — रेखांकित अंश का क्रिया भेद कौन-सा है?
 (a) सामान्य क्रिया (b) संयुक्त क्रिया
 (c) प्रेरणार्थक क्रिया (d) नाम धातु क्रिया

64. 'यथाशक्ति' का समास विग्रह होगा—
 (a) यथा और शक्ति (b) यथा जैसी शक्ति
 (c) शक्ति के अनुसार (d) यथा में शक्ति
65. रचना के आधार पर शब्द के भेद होते हैं:
 (a) 2 (b) 3
 (c) 4 (d) 5
66. दो ध्वनियों के मेल को कहते हैं:
 (a) वर्ण (b) वाक्य
 (c) शब्द (d) संधि
67. निम्नांकित में दीर्घ संधि का उदाहरण है:
 (a) रमेश (b) पुराकाश
 (c) नवौशधि (d) रवीश
68. 'खून पसीना एक करना' मुहावरे का अर्थ है:
 (a) अपनी इच्छा से कार्य करना (b) खून और पानी मिला देना
 (c) बहुत परिश्रम करना (d) बहुत परिश्रम न करना
69. क्रिया विशेषण के भेद हैं:
 (a) 3 (b) 4
 (c) 5 (d) 6
70. अश्व का तदमव रूप है:
 (a) घोटक (b) हय
 (c) घोड़ा (d) घोड़ी

SECTION-III: SOCIAL SCIENCE

71. Which among the following exercised the most profound influence in the framing of the Indian Constitution?
 (a) British Constitution
 (b) US Constitution
 (c) Irish Constitution
 (d) The Government of India Act 1935
72. Edward Lutyens and _____ designed New Delhi and its buildings.
 (a) James Mill (b) William Adams
 (c) Herbert Baker (d) Ripon

73. What is Right to Equality?
 (a) Fundamental Right
 (c) Directive Principle of State Policy
 (b) Judicial decision
 (d) Marginalisation
74. The battle of Tarain (1191 AD) was fought between Muhammad Ghori and _____
 (a) Rana Sangha
 (c) Prithviraj Chauhan
 (b) Rana Pratap
 (d) Rana Hammirdeva
75. Rows of trees planted in the coastal regions to check wind movement is _____
 (a) Mulching
 (c) Intercropping
 (b) Terrace Farming
 (d) Shelter belts
76. Which country is known as sugar bowl of the world?
 (a) Cuba
 (c) India
 (b) Brazil
 (d) USA
77. All adult citizens of a country have the right to vote. This is known as:-
 (a) Fundamental Right
 (c) Universal Adult Franchise
 (b) Marginalisation
 (d) Directive Principle
78. What is known as "Golden Fibre"?
 (a) Jute
 (c) Wheat
 (b) Maize
 (d) Millets
79. Who wrote Vande Mataram?
 (a) Rabindranath Tagore
 (b) Bankim Chandra Chatterjee
 (c) Sarat Chandra Chattopadhyay
 (d) None of these
80. Battlefield of Plassey is situated at-
 (a) Punjab
 (c) West Bengal
 (b) Haryana
 (d) Rajasthan
81. In reference to Maratha administration 'Peshwa' refers-
 (a) Prime minister
 (c) Home minister
 (b) Revenue minister
 (d) Foreign minister
82. Which one of the following offices is held during the pleasures of the President of India?
 (a) Vice President
 (c) Chief Justice of India
 (b) Governor of a State
 (d) Chairman of UPSC

83. The "great bath" has been discovered in-
 (a) Mohenjo-Daro
 (c) Harappa
 (b) Lothal
 (d) Kalibangan

- (a) Mohenjo-Daro
(c) Harappa
- (d) Kalibangan
84. Who is chairman of Rajya Sabha?
(a) Prime minister of India
(c) President of India
- (b) Vice president of India
(d) None of these
85. Who is the constitutional head of the state governments?
(a) Chief minister of the state
(b) High court judge
(c) Governor
(d) Health minister of the state
86. The President of India can be removed from his office by the-
(a) Prime minister
(c) Lok Sabha
- (b) Chief justice of India
(d) Parliament
87. The layer of atmosphere which provides ideal condition for flying of Jet Airplane is-
(a) Troposphere
(c) Ionosphere
- (b) Stratosphere
(d) Exosphere
88. The meaning of word Bantai during medieval period was?
(a) Religion Tax
(c) Wealth Tax
(d) Property Tax
- (b) System of calculating revenue
89. The Presidential government operates on the principle of _____
(a) Division of powers between centre and state
(b) Centralization of Powers
(c) Balance of Powers
(d) Separation of Powers
90. Which one of the following is not coal variety?
(a) Bituminous
(c) Lignite
- (b) Peat
(d) Dolomite
91. In which of the following continents is Tanzania situated?
(a) Europe
(c) Africa
- (b) Asia
(d) South America
92. Finance Bill of Indian Government is presented in _____
(a) Upper House
(c) Lower House
- (b) Legislative Council
(d) Legislative Assembly

93. Who published "A History of British India"?
 (a) William Hawkings
 (c) Warren Hastings
 (b) James Mill
 (d) James Rennel
94. Which one of the Chola Kings conquered Ceylon?
 (a) Aditya I
 (c) Rajendra I
 (b) Rajadhiraj
 (d) Itsing
95. Which continent is the largest producer of iron?
 (a) Asia
 (c) North America
 (b) Europe
 (d) Australia
96. Cultivation of grapes is called-
 (a) Sericulture
 (c) Floriculture
 (b) Viticulture
 (d) Horticulture
97. As per the UN criteria, a city qualifies as a mega city when its population is a minimum of _____.
 (a) 5 million
 (c) 10 million
 (b) 15 million
 (d) 12 million
98. Which British commander was defeated by the Santhals in 1855?
 (a) Captain Nek Feville
 (c) Major Burroughs
 (b) Lieutenant Bastain
 (d) Colonel White
99. During winter North-Western part of India gets rainfall from _____.
 (a) Thunderstorm
 (c) Western Disturbances
 (b) Retreating monsoon
 (d) Tropical Cyclones
100. Which planet is known as earth's twin?
 (a) Venus
 (c) Uranus
 (b) Mars
 (d) Neptune

PART-II

SECTION-IV: MATHEMATICS

101. 3 lambs finish eating turnips in 8 days. In how many days will 2 lambs finish them?
 (a) 6
 (b) 8
 (c) 10
 (d) 12
102. The common factor of $2a^2b^4c^2$, $8a^4b^3c^4$ and $6a^3b^4c^2$ is
 (a) $2a^2b^3c^2$
 (b) $6a^2b^3c^2$
 (c) $8a^2b^3c^2$
 (d) $a^4b^4c^4$

103. The value of $0.645 \times 0.645 + 2 \times 0.645 \times 0.355 + 0.355 \times 0.355$ is
 (a) 1
 (b) 0
 (c) -1
 (d) 2

104. If $x^2 - x - 42 = (x + k)(x + 6)$, then $k =$

(a) 1 (b) 0 (c) -1

104. If $x^2 - x - 42 = (x + k)(x + 6)$, then $k =$

(a) 6 (b) -6 (c) 7 (d) -7

105. Which of the following is obtained by subtracting $x^2 - y^2$ from $y^2 - x^2$?

(a) $-2(x^2 - y^2)$ (b) $-2(x^2 + y^2)$ (c) $2(x^2 + y^2)$ (d) $2(x^2 - y^2)$

106. Which of the following is a perfect cube?

(a) 10000 (b) 243 (c) 1728 (d) 270000

107. If a circle having a diameter 10 cm has a chord of 8 cm, then the distance of the chord from the centre is

(a) 5 cm (b) 6 cm (c) 3 cm (d) 4 cm

108. $(x - 2)$ is not a factor of this polynomial

(a) $(x^2 - 4x + 4)$ (b) $(x^2 - 4x)$
(c) $(x^2 - 4)$ (d) $(x^2 - 5x + 6)$

109. If 'x' and 'y' are in an inverse variation then which of the following is correct?

(a) $x - y = \text{constant}$ (b) $x + y = \text{constant}$
(c) $xy = \text{constant}$ (d) $\frac{x}{y} = \text{constant}$

110. The multiplicative identity for rational numbers is

(a) -1 (b) 1
(c) 0 (d) none of these

111. The largest numbers of the three consecutive numbers is $x + 1$. Then the smallest numbers is

(a) $x + 1$ (b) $x - 1$ (c) x (d) $x - 1$

112. How many sides does a regular polygon have if the measure of an exterior angle is 24° ?

(a) 6 (b) 9 (c) 15 (d) 12

113. In a regular polygon of n sides, the measure of each internal angle is

(a) $360^\circ/n$ (b) $(\frac{2n-4}{n}) 90^\circ$
(c) $n 90^\circ$ (d) $2n$ right angles.

114. If 'X' can finish a work in 'n' days then part of work finished in 1 day is:

(a) $1 - n$ (b) $\frac{1}{n}$
(c) $n - 1$ (d) none of these

115. Which of the following is equal to $x^3 - 225x$

(a) $x(1 - 15x)(1 + 15x)$ (b) $x(x - 15)(x + 15)$
(c) $x(1 - 15x)(1 - 15x)$ (d) $x(x - 15)(x - 15)$

116. How many natural numbers lie between 8^2 and 9^2 ?

(a) 16 (b) 17

116. How many natural numbers lie between 8^2 and 9^2 ?
(a) 16 (b) 17 (c) 18 (d) 19
117. Find the smallest number by which the number 108 must be multiplied to obtain a perfect cube.
(a) 2 (b) 3 (c) 4 (d) 5
118. Saroj purchased a fan for Rs 1000 and sold it for Rs 1200. What is her profit?
(a) Rs 1000 (b) Rs 1200
(c) Rs 200 (d) Rs 800
119. Which of the following is equal to 1 kilolitre?
(a) 1000 millilitres (b) 100 dm^3
(c) 1 dm^3 (d) 1000 dm^3
120. Two identical cubes each of total surface area of 6 cm^2 are joined end to end. Which of the following is the total surface area of the cuboid so formed?
(a) 12 cm^2 (b) 18 cm^2 (c) 10 cm^2 (d) 8 cm^2
121. Two consecutive even numbers are such that half of the larger number exceeds one-fourth of the smaller number by 5. Then the larger number is
(a) 16 (b) 18 (c) 32 (d) 34
122. From a well-shuffled deck of 52 cards, one card is drawn at random. What is the probability that the drawn card is a queen?
(a) $1/7$ (b) $1/52$ (c) $1/13$ (d) $1/26$
123. If the sum of two consecutive numbers is 71 and one number is x , then the other number is-
(a) 34 (b) 35 (c) 36 (d) 37
124. How old will I be after 10 years, if my age before 10 years was ' x ' years?
(a) $x + 20$ (b) $x - 20$ (c) $x + 10$ (d) $x - 10$
125. Which least number should 648 be multiplied to get a perfect cube?
(a) 3 (b) 2 (c) 9 (d) 18

126. A car takes 2 hours to reach a destination by travelling at 60 km/hr. How long will it take while travelling at 80 km / hr?
- (a) 1 Hr 30 min (b) 1 Hr 40 min
 (c) 2 Hr 40 min (d) None of the above
127. Find the single discount equivalent to two successive discounts of 20% and 10%
- (a) 25% (b) 30% (c) 28% (d) 10%
128. If the difference of squares of two consecutive numbers is 15 and greater of them is x, then the smaller number is:
- (a) 16 (b) 14 (c) 8 (d) 7
129. Which of the parallelograms has all sides equal and diagonals bisect each other at right angle?
- (a) rectangle (b) trapezium
 (c) rhombus (d) none of these
130. A shopkeeper purchased 2 refrigerators for Rs 9800 and Rs 8200 respectively. He sold them for Rs 16920. Loss% is
- (a) 2% (b) 4% (c) 5% (d) 6%
131. The area of a rhombus is 60 cm^2 , One diagonal is 10 cm. The other diagonal is
- (a) 6 cm (b) 12 cm (c) 3 cm (d) 24 cm.
132. 503600 is equal to
- (a) 5.036×10^5 (b) 5.036×10^6
 (c) 5.036×10^4 (d) 5.036×10^7
133. Marked price of an article is 10% more than the CP. If discount of 10% is allowed then which of the following is right?
- (a) 1% gain (b) 1% loss
 (c) no gain no loss (d) 1.1% loss
134. The number of outcomes when a die is thrown is
- (a) 4 (b) 2 (c) 1 (d) 6
135. Factors of $xy - ab + xa - yb$
- (a) $(x - b)(y + a)$ (b) $(x - b)(y - a)$
 (c) $(x + b)(y + a)$ (d) $(x + b)(y - a)$
136. Avinash bought an electric iron for Rs. 1000 and sold it at a gain of 10%. He sold another electric iron at 5% loss which was bought for Rs. 1500. On the transaction, he has a
- (a) profit of Rs. 75 (b) loss of Rs. 75
 (c) profit of Rs. 25 (d) loss of Rs. 25
137. Which of the following is the probability of a sure event?
- (a) 0 (b) 1
 (c) 2 (d) none of these

138. Which of the following is equal to $(100 - 99^0) \times 100$?
 (a) 10000
 (c) 9900 (b) 100
 (d) 99000
139. By joining the points $(-3, 2)$, $(-3, -3)$, $(-3, 4)$
 (a) A straight line parallel to y-axis
 (b) A straight line parallel to x-axis
 (c) A triangle
 (d) A straight line passing through the origin
140. A four-digit number $aabb$ is divisible by 55. Then, possible value(s) of b is/are
 (a) 0 and 2
 (c) 0 and 5 (b) 2 and 5
 (d) 7
141. If 213×27 is divisible by 9, then the value of x is ____
 (a) 2 (b) 4 (c) 3 (d) 5
142. Which of the following is the value of 'm' in $\frac{5^m}{5^{-3}} = 5^3$?
 (a) -3 (b) -2 (c) 3 (d) 2
143. The simplification of $\left(\frac{3}{5}a - \frac{5}{3}b\right)^2 - ab$ is
 (a) $\frac{9}{25}a^2 + \frac{25}{9}b^2 - 3ab$
 (b) $\frac{9}{25}a^2 - \frac{25}{9}b^2 + ab$
 (c) $\frac{9}{25}a^2 - \frac{25}{9}b^2 - 3ab$
 (d) $\frac{9}{25}a^2 + \frac{25}{9}b^2 + ab$
144. The point $(-3, -3)$ is
 (a) nearer to x-axis
 (c) near to origin
 (b) nearer to y-axis
 (d) equidistant from x & y-axis
145. If two quantities p and q vary inversely with each other, then
 (a) Quotient $\frac{p}{q}$ remains constant
 (b) Sum $(p + q)$ remains constant
 (c) Product $(p \times q)$ remains constant
 (d) Difference $(p - q)$ remains constant
146. If the length of each edge of a cube is tripled, what will be the change in its volume?
 (a) 3 times
 (b) 27 times
 (c) 9 times
 (d) 6 times

147. By joining $(-1, -1)$, $(0, 0)$ and $(3, 3)$, we get
 (a) a triangle
 (b) a curved line
 (c) a straight line passing through origin

- (a) a triangle
(b) a curved line
 (c) a straight line passing through origin
(d) a straight line not passing through origin.
148. Which of the following points lies on y-axis?
(a) $(-4, 0)$ (b) $(4, 0)$
 (c) $(0, -4)$ (d) $(-4, 4)$
149. Which of the following lies between 0 and -1?
(a) 0 (b) -3
 (c) $-2/3$ (d) $4/3$
150. The ages of A and B are in the ratio 5 : 7. Four years from now the ratio of their ages will be 3 : 4. Then the present age of B is
(a) 20 years (b) 28 years
(c) 15 years (d) 21 years

SECTION-V: SCIENCE

151. Which of the following statements is incorrect?
(a) Friction acts on a ball rolling along the ground.
(b) Friction acts on a boat moving on water.
 (c) Friction acts on a bicycle moving on a smooth road.
(d) Friction does not act on a ball moving through air.
152. An object is vibrating at 50 hertz. What is its time period?
 (a) 0.02 s (b) 2 s
(c) 0.2 s (d) 20.0 s
153. When electric current is passed through a conducting solution, there is a change of colour of the solution. This indicates
 (a) the chemical effect of current. (b) the heating effect of current.
(c) the magnetic effect of current. (d) the lightning effect of current.
154. Which of the following statements is correct regarding rods and cones in the human eye?
(a) Cones are sensitive to dim light. (b) Cones are sensitive to bright light.
 (c) Rods are sensitive to bright light. (d) Rods can sense colour.
155. Pathogenic micro-organisms present in host cells are killed by medicines called
(a) pain killer (b) antibodies
 (c) antibiotics (d) vaccines

156. The two micro-organisms which live in symbiotic association in lichens are
(a) fungus and protozoa
(c) bacteria and protozoa
(b) alga and bacteria
(d) alga and fungus
157. Which one of the following term is not a part of the nucleus?
(a) ribosome
(c) chromosome
(b) nucleolus
(d) gene
158. Given below are events that lead to pregnancy and development of embryo.
(i) Fertilization of egg
(ii) Maturation of egg
(iii) Release of egg
(iv) Embedding of embryo in thickened uterine wall.

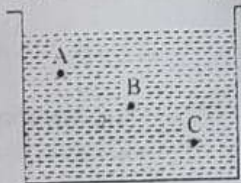
Which of the following options gives the correct order of sequence in which they occur?

- (a) i, ii, iii, iv
(b) ii, i, iii, iv
(c) i, iv, ii, iii
(d) ii, iii, i, iv.
159. Which of the following is not a green house gas?
(a) nitrogen gas
(c) methane gas
(b) water vapour
(d) carbon dioxide
160. Part of the eye which controls the light entering is called
(a) iris
(c) lens
(b) cornea
(d) retina
161. Streptomycin and Terramycin are the antibiotic obtained from:
(a) Bacteria
(c) Algae
(b) Fungus
(d) Protozoa
162. The following element is used for vulcanization of rubber:
(a) Sulphur
(c) Phosphorous
(b) Iodine
(d) Potassium
163. Metal A dipped in a salt of metal B displaces B from the solution. This shows that:
(a) A is more reactive than B
(c) Both A and B are equally reactive
(b) B is more reactive than A
(d) None of these
164. The organization that maintains Red Data Book is:
(a) IUCN
(c) WWF
(b) UNESCO
(d) WHO

165. The organelle that transports substances from one part of the cell to other
 (a) Endoplasmic reticulum (b) Mitochondria
(c) Golgi bodies (d) Vacuole
166. Cells that lack a well-defined nucleus surrounded by a nuclear membrane are called:
(a) Objective (b) Eukaryotic
(c) Prokaryotic (d) None of these
167. Nuclei of each human cell contains _____ of chromosomes
(a) 25 pairs (b) 20 pairs
 (c) 23 pairs (d) 22 pairs
168. Oviparous organisms give out:
 (a) Fertilized egg (b) Unfertilized egg
(c) Embryo (d) Baby
169. The special shape of the body due to which it experiences least fluid friction is called:
 (a) Streamlined (b) Oblong
(c) Cuboidal (d) Spherical
170. Loudness of sound is proportional to the
 (a) Amplitude of the vibration (b) Frequency
(c) Square root of amplitude (d) Square of amplitude
171. Sound waves travel slowest in:
(a) Solids (b) Liquids
 (c) Gases (d) Vacuum
172. If the gap in an electric circuit is filled with a liquid, the current in the circuit:
(a) Always flows
(b) Never flows
 (c) Flows in some cases and not in others
(d) Flows only in case of distilled water
173. An electric pen is being used to get red coloured writing. The materials used are:
(a) Sodium Chloride and turmeric (b) Potassium iodide and starch
(c) Sodium chloride and starch (d) Potassium iodide and turmeric
174. On increasing the angle between two reflecting surface, the number of Images
(a) Increases (b) Decreases
(c) Does not change (d) Remains constant
175. The impression of an image on retina persists for
(a) $1/10^{\text{th}}$ of a second (b) $1/15^{\text{th}}$ of a second
 (c) $1/16^{\text{th}}$ of a second (d) 1 second

176. Bacilli are the bacteria that are
 (a) Rod-shaped
 (b) Comma-shaped
 (c) Curved-shaped
 (d) Spiral
177. Polycarbonate is used to make
 (a) Compact discs
 (b) Straws
 (c) Bottles
 (d) Jars
178. In the sun, light and heat are produced by
 (a) Chemical reactions
 (b) Nuclear reactions
 (c) Burning reactions
 (d) Bunsen burner
179. The liquid material in the nucleus is
 (a) Chromosomes
 (b) Bacteria
 (c) Nucleoplasm
 (d) Nucleolus
180. If, I am 13 year old , I have gone around the sun _____ times.
 (a) never gone round the sun
 (b) 13
 (c) 26
 (d) shall go round the sun when I shall be 15
181. Kilogram weight is equal to
 (a) 98 N
 (b) 9.8 N
 (c) 0.98 N
 (d) 0.098 N

182. A container is filled with water as shown in the given figure. Which of the following statements is correct about pressure of water?



- (a) Pressure at A > Pressure at B > Pressure at C
 (b) Pressure at A = Pressure at B = Pressure at C
 (c) Pressure at A < Pressure at B > Pressure at C
 (d) Pressure at A < Pressure at B < Pressure at C

183. A brick is kept in three different ways on a table as shown in given figure. The pressure exerted by the brick on the table will be



A



B



C

- (a) Maximum in position A
(c) Maximum in position C

- (b) Maximum in position B
(d) Equal in all cases

184. A pendulum oscillates 20 times in 4 seconds. Find its time period.

- (a) 0.05 sec
 (c) 0.2 sec

- (b) 0.001 sec
(d) 0.1 sec

185. If two plane mirrors are inclined at an angle of 40° , number of images formed will be

(a) 7

(b) 8

(c) 9

(d) 5

186. Two mirrors A and B are placed at right angles to each other. A ray of light incident on mirror A at an angle of 25° falls on mirror B after reflection. The angle of reflection for the ray reflected from mirror B would be

(a) 25°

(b) 50°

(c) 65°

(d) 115°

187. A spring balance is used for measuring

(a) Mass

(b) Weight

(c) Pressure

(d) Speed

188. When the hammer strikes the gong of an electric bell, which of the following force is responsible for the movement of hammer?

(a) Gravitational force alone

(b) Magnetic force alone

(c) Electrostatic force alone

(d) Frictional force alone

189. Name the type of mirror used as a back view mirror

(a) plane mirror

(b) convex mirror

(c) concave mirror

(d) any of these

190. which of the following is not a luminous object

(a) sun

(b) candle

(c) moon

(d) tube light

191. To make a kaleidoscope we require

(a) three plane mirrors

(b) four plane mirrors

(c) three glass sheets

(d) four glass sheets

192. When electrodes are immersed in water and electricity passed, the bubble formed on the negative terminal is actually ----- gas.

(a) oxygen

(c) hydrogen

(b) nitrogen

(d) carbondioxide

193. The voice box is also called as

(a) mouth

(c) larynx

(b) tongue

193. The voice box is also called as
(a) mouth
 (c) larynx
(b) tongue
(d) stomach
194. The liquid material in the nucleus is
(a) chromosome
 (c) nucleoplasm
(b) bacteria
(d) nucleolus
195. Which of the following cannot be recycled?
(a) Toys
(c) Carry Bags
 (b) Cooker Handles
(d) Plastic Chairs
196. The amount of energy produced on complete combustion of 1 kg of a fuel is called?
 (a) calorific value
(c) heat value
(b) significant value
(d) internal energy
197. Which zone represents the partial combustion in candle
(a) Outer zone
(c) Inner zone
 (b) Middle zone
(d) Lower zone
198. The hearing range of human ear is
 (a) 20 Hz to 20,000 Hz
(c) more than 20,000 Hz
(b) less than 20 Hz
(d) 20 Hz to 25,000 Hz
199. A natural gas stored under high pressure is called
 (a) CNG
(c) KLG
(b) LPG
(d) PNP
200. The frequency of subsonic sound is
 (a) more than 20 HZ
(c) less than 20 HZ
(b) 100 HZ
(d) more than 20,000 HZ
