



School Integrated Program

Class – VII

ENTRANCE TEST CUM SCHOLARSHIP (SAMPLE PAPER-2)

[Time: 3 Hours]

[Max Marks: 450]

A. General:

1. This booklet is your Question Paper containing 150 questions.
2. Blank Papers, Clipboards, Log Tables, slide rules, calculators, cellular phones, pagers and electronic gadgets in any form are not allowed to be carried inside the examination hall.
3. The answer sheet, a machine-readable optical mark recognition sheet (OMR Sheet), is provided separately.
4. DO NOT TAMPER WITH / MULTIPLE THE OMR OR THE BOOKLET.
5. Please fill your roll number correctly in the OMR sheet (answer sheet).
6. Both Question Paper and OMR Answer Sheet will be submitted after completion of this examination.

B. Question Paper Format:

1. The Question Paper consists of five parts (Part I: MAT, Part II: Physics, Part III: Chemistry, Part IV: Biology, Part V: Mathematics).
2. Each Question carries +3 marks for correct answer and -1 mark for incorrect answer.

MAT

Directions : (Q. Nos. 1-2) in the following questions, there is an address which has been reproduced against (a), (b), (c) and (d), three of which have some mistakes or the other. The one without any mistake is your answer.

1. Mr. Ramachandran, 1068/90, A.F.O., Bangalore (Karnataka)
(a) Mr. Ramachandren, 1068/90, A.F.O. Bangalore (karnataka)
(b) Mr. Ramachandran, 106/8/90, A.F.O. Bangalor (Karnataka)
(c) Mr. Ramachandran, 1086/90, A.F.O. Banglore (Karnataka)
(d) Mr. Ramachandran, 1068/90, A.F.O. Bangalore (Karnataka)
2. Tarasankar Rastogi, A-22, Indrant Road, Sundargarh 436065
(a) Tarasankar Rastogi, A-22, Indrani Road, Sundargarh 436065
(b) Tarashankar Rastogi, A-22, Indrant Road, Sundargarh 436065
(c) Tarasankar Rastogi, A-22, Indrant Road, Sundarragarh 436065
(d) Tarasankar Rastogi, A-22, Indrant Road, Sundargarh 436065

Directions: (Q. Nos. 3-4). From amongst the given alternatives, select the one in which the set of numbers is most like the set of numbers given below:

3. (7, 12, 22, 37)
(a) 2, 7, 12, 32 (b) 3, 8, 18, 33 (c) 4, 8, 19, 34 (d) 8, 13, 22, 38
4. (10, 12, 15)
(a) (21, 23, 27) (b) (30, 32, 36) (c) (60, 62, 66) (d) (68, 70, 73)

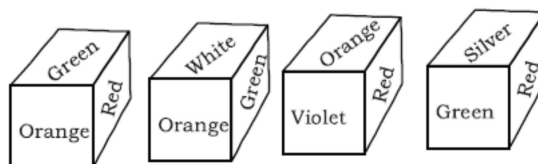
Directions : (Q. Nos. 5-7) Which set of letters when sequentially placed at the gaps in the given letter series shall complete it?

5. h_eg_fegh_eghfe_
(a) gffh (b) hhgg (c) ffgh (d) fhfg
6. p_qsp__sprq_prqs
(a) srqs (b) rrqs (c) rqqS (d) rrrq
7. _011121_11121_111_
(a) 1002 (b) 1102 (c) 1012 (d) 1211
8. If ' PUNCTUATION' is coded as 'QVODUVBUJPO' and 'SING' as 'TJOH', then how is 'PARLIAMENT' coded?
(a) QBSMJKNFMU (b) QBSMJBNFOU (c) QTBSMJOFU (d) QASTMJNFOU
9. A man walked 10 km towards South from his house. Then he turned right and walked 6 km. He again turned right and walked 10 km. Thereafter, he turned right and walked 6 km. How far was he from the starting point?
(a) 2 km (b) 0 km (c) 3 km (d) 4 km

Directions : (Q. Nos. 10-14). Find the odd word/letter/numbers from the given responses.

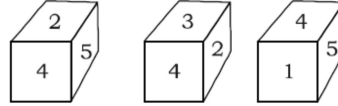
10. (a) Yearly (b) Quickly (c) Weekly (d) Monthly

11. (a) EPH (b) FOI (c) HSK (d) KWO
12. (a) ECDBA (b) OMNLK (c) WUVTS (d) SRTQP
13. (a) DH (b) FJ (c) HL (d) PR
14. (a) 10-60 (b) 30-90 (c) 40-240 (d) 20-120
15. If $C = 3$, $CEP = 24$, then what will be the value of HUX?
 (a) 47 (b) 49 (c) 51 (d) 53
16. The letters of the given word have been coded in a particular way. Using those, find out the word for the given questions mark
 FEAST ?
 NOCWR WCNO
 (a) FESA (b) SAFE (c) SFAE (d) EFAS
17. If GECA means 8642, then HFBD means
 (a) 9735 (b) 7953 (c) 7935 (d) 5379
18. A word given in Capital Letters is followed by four answer words. Out of these only one can be formed by using the letters of the given words. Find out that word.
 ENVIRONMENT
 (a) ENTERTAIN (b) ENTRANCE (c) EMINENT (d) MOVEMENT
19. A man said to a lady, "Your mother's husband's sister is my aunt". How is the lady related to man?
 (a) Sister (b) Mother (c) Daughter (d) Grand daughter
20. A father increases pocket money of his son by 20%. If son gets Rs.300 after increase, find his pocket money before increases.
 (a) Rs. 250 (b) Rs. 240 (c) Rs. 200 (d) Rs. 230
21. A is B's brother, C is A's mother, D is C's father, B is D's granddaughter. How is B related to F who is A's son?
 (a) Aunt (b) Cousin (c) Niece (d) Grand aunt
22. The total age of a mother and her daughter is 60 years. The difference between their ages is 30 years. Find out the age of the mother.
 (a) 40 years (b) 45 years (c) 50 years (d) 55 years
23. Nisha is taller than Suja. Nina is taller than Nisha, Nila is taller than Nina. Mishan is the tallest of all. If they stand according to their height, who will be in the middle?
 (a) Nisha (b) Nina (c) Suja (d) Nila
24. If a cube is made using the given arrangements, which colour will be opposite the colour Green?



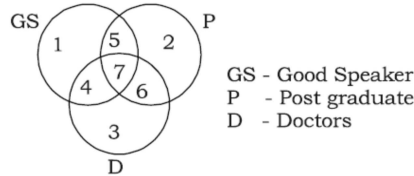
- (a) Orange (b) Red (c) Silver (d) Violet

25. Which number will appear at the bottom face in the last cube?



- (a) 3 (b) 4 (c) 6 (d) 1

26. From the following Venn diagram identify the number of persons who are either good speaker or post graduates or doctors?



- (a) 6 (b) 7 (c) 15 (d) 22

27. The day before the day before yesterday is three days after Saturday. What is it today?

- (a) Thursday (b) Friday (c) Tuesday (d) Wednesday

28. Which one of the given responses would be a meaningful order of the following?

- (1) Adult (2) Child (3) Infant
(4) Boy (5) Adolescent
(a) 1, 3, 4, 5, 2 (b) 3, 2, 4, 5, 1 (c) 2, 3, 5, 4, 1 (d) 2, 3, 4, 1, 5

Directions : In the following question (Q-29) you have to identify the correct response from the given premises stated according to following symbols.

29. If $> = \div$, $\vee = \times$, $< = +$, $\wedge = -$, $\div = =$, $\times = <$, $- = >$

- (a) $6 < 2 > 3 \wedge 8 \vee 4 \div 13$ (b) $6 \wedge 2 < 3 > 8 < 4 - 13$
(c) $6 \vee 2 < 3 \wedge 8 > 4 \times 13$ (d) $6 > 2 \vee 3 < 8 \wedge 4 \div 13$

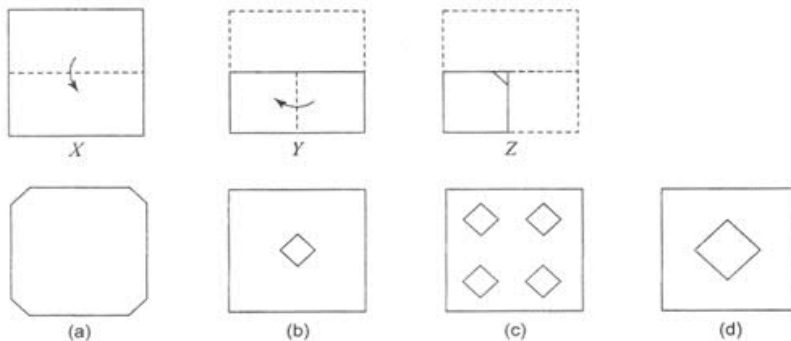
30. Find the missing number from the given responses.

6	15	20
8	4	5
3	5	20
51	65	?

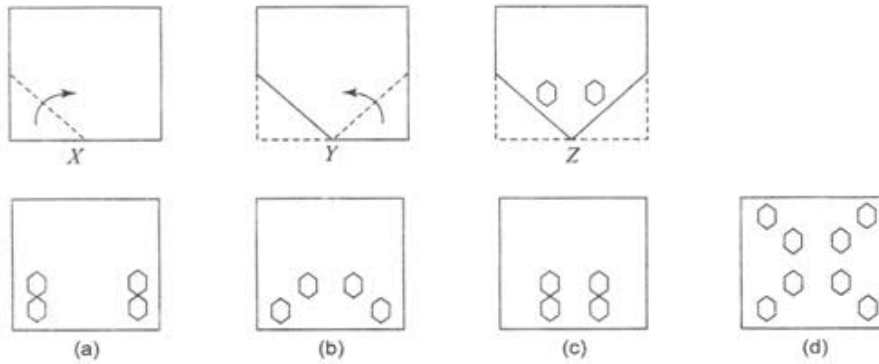
- (a) 56 (b) 120 (c) 51 (d) 12

Directions: (Q. Nos. 31-32) choose a figure out of (a), (b), (c) and (d) which would most closely resemble the unfolded form of figure Z.

31.



32.



33. If B becomes A and P becomes O, what will K become in the English alphabet?
 (a) L (b) J (c) H (d) N
34. From the given details, estimate the number of people affected by Tuberculosis in particular locality in the year 1994.
- | 1994 | 1995 | 1996 | 1997 | 1998 |
|------|------|------|------|------|
| ? | 92 | 113 | 141 | 176 |
- (a) 99 (b) 85 (c) 71 (d) 78
35. Nithya is Sam's sister. Mogan is Sam's Father. Selvan is Rajan's Son. Rajan is Mogan's brother. How is Nithya related to Selvan?
 (a) Daughter (b) Sister (c) Cousin (d) Wife
36. In a certain code language, GRAPE is written as 27354 and FOUR is written 1687. How is GROUP written in that code?
 (a) 27384 (b) 27684 (c) 27685 (d) 27658
37. Two squads of soldiers A and B, facing East and West respectively received the following commands - Left turn, About turn, Right turn, Left turn. Which directions would the squads A and B face at the end?
 (a) East, West (b) West, East (c) North, South (d) South, North
38. Find out a set of numbers amongst the alternatives given which is most unlike the set given.
 3, 7, 100
 (a) 11, 12, 365 (b) 13, 17, 900 (c) 1, 2, 9 (d) 6, 7, 169
39. If A denotes +, B denotes -, C denotes \times and D denotes \div , then which of the following statements is true?
 (a) $9C9B9D9A9 = 17$ (b) $3A3B3C3A3D3 = 4$ (c) $8B6D2A4C3 = 15$ (d) $8A8B8C8 = -48$
40. Anand, David, Karim and Mano are fans of games. Each has a different favourite game among hockey, chess, cricket and football. David does not watch cricket and hockey matches. Anand does not like hockey, chess and cricket. Mano does not watch cricket. Which is the favourite game of Karim?
 (a) Chess (b) Cricket (c) Football (d) Hockey

Directions: (Q. Nos. 41-45) Read the following information carefully and answer the questions.

At a party A, B, C, D and E are sitting in a circle. The group comprises a professor, an industrialist and a businessman. The businessman is sitting in between the industrialist and his wife D. A, the professor is married to E, who is the sister of B. The industrialist is seated to the right of C. Both the ladies are unemployed.

41. What is A to B?
(a) Brother (b) Uncle
(c) Brother-in-law (d) Cannot be determined
42. A is sitting to the right of
(a) the industrialist (b) his wife
(c) D (d) Cannot be determined
43. Who is the industrialist?
(a) D (b) A
(c) B (d) Cannot be determined
44. Who is unmarried in the group?
(a) Professor (b) Industrialist
(c) Businessman (d) Cannot be determined
45. Who among them must be graduate ?
(a) B (b) A
(c) C (d) None of these

Directions: (Q. Nos. 46-47) Study the number series given below and answer the questions that follow.

7 8 9 7 6 5 3 4 2 8 9 7 2 4 5 9 2 9 7 6 4 7

46. How many 7's are preceded by 9 and followed by 6 ?
(a) Two (b) Three (c) Four (d) Five
47. Which figures have equal frequency ?
(a) 253 (b) 245 (c) 375 (d) 865

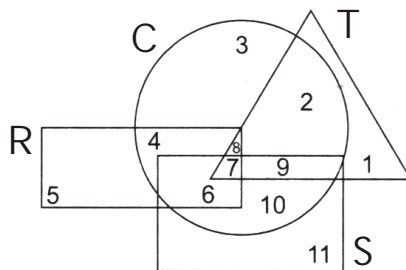
Directions: (Q. Nos. 48-53) Read the following information carefully and answer the questions.

Asha and Charu are good in Mathematics and Athletics. Deepa and Asha are good in Athletics and Studies, Charu and Beena are good in General Knowledge and Mathematics. Deepa, Beena and Ela are good in Studies and General Knowledge. Ela and Deepa are good in Studies and Art.

48. Who is good in Studies, General Knowledge, Athletics and Art?
(a) Asha (b) Beena (c) Charu (d) Deepa
49. Who is good in Studies, General Knowledge and Mathematics?
(a) Asha (b) Beena (c) Charu (d) Ela
50. Who is good in Studies, Mathematics and Athletics?
(a) Asha (b) Beena (c) Charu (d) Deepa

51. Who is good in Athletics General Knowledge and Mathematics?
 (a) Asha (b) Beena (c) Charu (d) Deepa
52. Who is good in Studies, General Knowledge and Art but not in Athletics ?
 (a) Asha (b) Beena (c) Charu (d) Ela
53. Who is not good in only one area?
 (a) Deepa (b) Asha (c) Charu (d) Beena
54. If 25th December of 2008 is Thursday, what will be the day on 1st January of 2010?
 (a) Friday (b) Saturday (c) Sunday (d) Monday
55. Film actor-director Raj Kapoor died on 2nd June 1988. What day of week was it?
 (a) Monday (b) Wednesday (c) Thursday (d) Saturday
56. Find the day of the week on August 15, 1947?
 (a) Tuesday (b) Wednesday (c) Thursday (d) Friday
57. The reflex angle between the hands of a clock at 10 : 25 is
 (a) 180° (b) $192\frac{1}{2}^\circ$ (c) 195° (d) $197\frac{1}{2}^\circ$
58. A watch which gains 5 seconds in 3 min was set right at 7 a.m. In the afternoon of the same day, when the watch indicated quarter past 4 O'clock, the true time is
 (a) $59\frac{7}{12}$ min past 3 (b) 4 pm
 (c) $58\frac{7}{11}$ min past 3 (d) None of these

Directions: (Q. Nos. 59-60) In the following figure, rectangle, square, circle and triangle represent the regions of wheat, gram, maize and rice cultivation respectively. On the basis of the figure, answer the following questions.



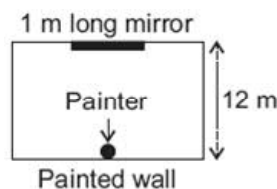
59. Which of the area is cultivated for wheat and maize only ?
 (a) 8 (b) 6 (c) 5 (d) 4
60. Which of the area is cultivated for maize only?
 (a) 10 (b) 2 (c) 3 (d) 4

PHYSICS

61. The gravitational force between 1 kg of lead and Earth is _____ the gravitational force between 1 kg of marshmallow and Earth. The lead and the marshmallow are both located on the Earth's surface.
 (a) greater than (b) less than (c) the same as (d) none of the above

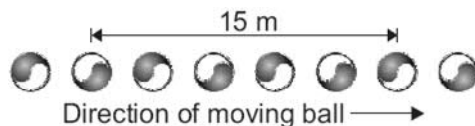
62. Which example uses a wedge as a simple machine?
 (a) stairs (b) axe (c) doorknob (d) screw
63. A material through which thermal energy flows easily.
 (a) Thermal Contraction (b) Temperature
 (c) Thermal Conductor (d) Convection Current
64. Speed tells how fast an object travels. Velocity is the speed of the object and
 (a) the amount of time the object has been moving.
 (b) the direction the object is moving.
 (c) how far the object has travelled.
 (d) the starting point of the object.
65. The temperature at which a substance changes from a liquid to a gas.
 (a) melting point (b) boiling point (c) mixture point (d) fusion point
66. At what temperature, in degrees Celsius, does water boil?
 (a) 212 (b) 100 (c) 0 (d) 110
67. The temperature at which a substance changes from a solid to a liquid.
 (a) boiling point (b) melting point (c) pure substance (d) None of the above
68. What is the transfer of thermal energy from one material to another by electromagnetic waves?
 (a) Convection Current (b) Temperature
 (c) Radiation (d) Heat
69. Which of the following best explains the scenario below?
 On a summer morning, John walks barefoot across his paved driveway with no problem. However, later that afternoon he steps barefoot onto the same driveway and must quickly run off because the bottoms of his feet feel like they are burning.
 (a) As the temperature increased during the day, the particles in the pavement moved slower and the thermal energy increased.
 (b) As the temperature increased during the day, the particles in the pavement moved slower and the thermal energy decreased.
 (c) As the temperature increased during the day, the particles in the pavement moved faster and the thermal energy increased.
 (d) As the temperature increased during the day, the particles in the pavement moved faster and the thermal energy decreased.
70. If an object's mass is 200 grams, what is the weight of this object?
 (a) 4.95 N (b) 180.16 N (c) 1.96 N (d) None of the above
71. What is the highest point on a wave?
 (a) trough (b) wave (c) crest (d) bones
72. What is the distance between two consecutive crests or troughs called?
 (a) wavelength (b) amplitude (c) speed (d) frequency
73. A 12 kg rock falls from rest off a cliff and hits the ground in 1.5 s. Without considering air resistance, what is the rock's velocity just before it hits the ground? (Take $g = 10 \text{ m/s}^2$)
 (a) 18 m/s (b) 14.7 m/s (c) 11.25 m/s (d) 8 m/s

74. _____ & _____ made reading glasses and built the first compound microscope.
 (a) Hans & Zachary Hannsen (b) Zans & Zacharias Fannsen
 (c) Hans & Zacharias Jannsen (d) Hans & Zacharas Jannsen
75. If an apple looks green, what color of light does it reflect?
 (a) Red (b) Green (c) Blue (d) None of the above
76. If one bulb fails and all the others turn off, you are dealing with a
 (a) series circuit (b) parallel circuit
 (c) combination circuit (d) None of the above
77. Marco and Janice are playing tug of war. Marco is pulling at a force of 10 Newtons South. Janice is pulling with a force of 12 Newtons North. Predict the outcome of this tug of war battle.
 (a) 2 Newtons of force, North, Janice is winning
 (b) 2 Newtons of force, South, Marco is winning
 (c) 22 Newtons of force, North, Janice is winning
 (d) 22 Newtons of force, South, Marco is winning
78. _____ is the average kinetic energy of the individual particles of a substance.
 (a) Matter (b) Heat (c) Energy (d) Temperature
79. A boy felt like the sound level in his room was too high. He turned the knob of his music system to make it quieter. What physical property of the sound changed due to this and how did it change?
 (a) The frequency increased (b) The amplitude increased
 (c) The amplitude decreased (d) The frequency decreased
80. A 12 kg rock falls from rest off a cliff and hits the ground in 1.5 s. What is the rock's momentum just before it hits the ground? (Take $g = 10 \text{ m/s}^2$)
 (a) $8 \text{ kg} \times \text{m/s}$ (b) $18 \text{ kg} \times \text{m/s}$ (c) $96 \text{ kg} \times \text{m/s}$ (d) $135 \text{ kg} \times \text{m/s}$
81. Matter is pulled to the ground by
 (a) space (b) gravity (c) air (d) soil
82. The strength of the force of gravity depends on
 (a) the masses of the objects and their speeds
 (b) the masses of the objects and the distance between them
 (c) the weight of the objects and their speeds
 (d) the masses of the objects and their weights
83. The force pushing on a surface divided by the area of that surface.
 (a) pressure (b) gravity (c) inertia (d) None of the above
84. A painter leans his back against a painted wall while looking into a 1 m long mirror at the opposite end of a rectangular room as shown in the given figure. How much of the painted wall can he see through the given mirror?



- (a) 1 m (b) 2 m (c) 6 m (d) 12 m

85. The temperature at which no more energy can be removed from matter is called
 (a) Absolute zero (b) Boiling point (c) 32°F (d) 32°C
86. The given diagram shows a series of images of a moving ball captured by a camera.



The ball was moving at a constant velocity and the images were taken at a constant rate of 10 per second. What is the speed of the ball?

- (a) 30 ms⁻¹ (b) 20 ms⁻¹ (c) 45 ms⁻¹ (d) 15 ms⁻¹

CHEMISTRY

87. Acids are found in many common chemicals, including foods. Acids taste:
 (a) sour (b) soapy (c) sweet (d) salty
88. Morning dew is an example of which portion of the water cycle?
 (a) Transpiration (b) Condensation (c) Evaporation (d) Precipitation
89. Animals fibres are made up of
 (a) cellulose (b) protein (c) nylon (d) rayon
90. Removal of wool from a sheep is known as
 (a) rearing (b) sorting (c) shearing (d) scouring
91. Chemical X is present in the human stomach. However, presence of excess of it causes indigestion, which requires the in take of Mg(OH)₂ to undo the effect of X. What is X?
 (a) HCl (b) H₂SO₄ (c) NaOH (d) KOH
92. What is the colour of phenolphthalein in solution of hydrochloric acid.
 (a) Yellow (b) Orange red (c) Pink (d) Colourless
93. Which of the following is not a strong acid?
 (a) Acetic acid (b) Nitric acid (c) Sulphuric acid (d) Hydrochloric acid
94. Vitamin C is also known as
 (a) oxalic acid (b) ascorbic acid (c) tartaric acid (d) lactic acid
95. When an ant bites, it injects the (i)_____ acid into the skin. The effect of the acid can be neutralised by rubbing moist (ii)_____.
 (a) (i) formic; (ii) baking soda (b) (i) acetic; (ii) washing soda
 (c) (i) tartaric; (ii) lime (d) (i) oxalic; (ii) common salt
96. Which of the following options represents correct sequence of steps involved in processing fibres into wool
 (a) shearing, scouring, sorting (b) sorting, shearing, scouring
 (c) scouring, sorting, shearing (d) sorting, scouring, shearing
97. The process of taking out threads from the cocoon for use as silk is called _____
 (a) reeling the silk (b) sorting the silk (c) scowing the silk (d) extracting the silk

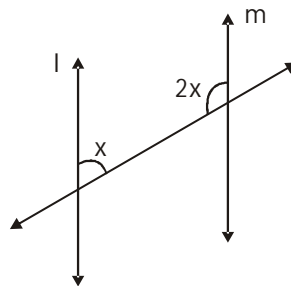
98. At places the groundwater is stored between layers of hard rock below the water table. This is known as _____
 (a) aquifer (b) water label (c) aquificales (d) infiltration
99. Which of the following is not a reason behind depletion of water table?
 (a) Increasing Industries (b) Agricultural Activities
 (c) Increasing Population (d) Increasing sea level
100. Chemical name of 'oil of vitriol' is _____.
 (a) Nitric acid (b) Acetic acid (c) Sulphuric acid (d) Sodium hydroxide
101. The correct way of making a solution of acid in water is to
 (a) add water to acid (b) add acid to water
 (c) mix acid and water simultaneously (d) add water to acid in a shallow container
102. Products of a neutralisation reaction are always
 (a) an acid and a base (b) an acid and a salt (c) a salt and water (d) a salt and a base
103. Turmeric is a material indicator. On adding its paste to acid and base separately, which colours would be observed?
 (a) Yellow in both acid and base (b) Yellow in acid and red in base
 (c) Pink in acid and yellow in base (d) Red in acid and blue in base
104. When the soil is too basic, plants do not grow well in it. To improve its quality what must be added to the soil?
 (a) organic matter (b) quick lime (c) slaked lime (d) calamine solution
105. Which of the following set of substances contain acids?
 (a) grapes, lime water (b) vinegar, soap
 (c) curd, milk of magneisa (d) curd, vinegar
106. Which of the following does not show water shortage?
 (a) Taps running dry
 (b) Long queues for getting water
 (c) Marches and protests for demand of water
 (d) A family gets three buckets of water per person per day
107. On which of the following days is world water day observed?
 (a) 22 march (b) 14 november (c) 2 october (d) 21 december
108. Which of the following is not a type of silk?
 (a) Mulberry silk (b) Tussar silk (c) Muga silk (d) Moth silk
109. Silkworms secrete fibre made of
 (a) fat (b) cellulose (c) protein (d) nylon
110. Vegetable fibres are made up of:
 (a) Cellulose (b) Protein (c) Nylon (d) Rayon

BIOLOGY

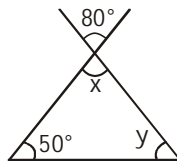
111. Which of the following organisms feed on dead and decaying matter?
(a) Cuscuta (b) Fungi (c) Green plants (d) Both (a) and (b)
112. The finger like projections in the inner wall of the small intestine are called:
(a) vessels (b) villi (c) ulcers (d) none of these
113. Complete digestion of food takes place in:
(a) mouth (b) small intestine (c) stomach (d) large intestine
114. The minimum temperature of the day occurs:
(a) during morning time (b) during afternoon time
(c) at night (d) both (a) and (b)
115. A place receives very little rainfall and the temperature is high throughout the year. The climate of that place will be _____ and _____.
(a) hot, dry (b) hot, humid (c) cold, dry (d) cold, humid
116. During inhalation:
(a) only diaphragm contracts (b) diaphragm and intercostal muscles contract
(c) diaphragm and intercostal muscles relax (d) none of these
117. Breathing rate of aquatic organisms is _____ than that of terrestrial organisms.
(a) more (b) less (c) same (d) extremely less
118. The balanced chemical equation of photosynthesis is:
(a) $6\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{sunlight}} \text{C}_6\text{H}_{12}\text{O}_6 + 12\text{H}_2\text{O} + \text{O}_2$
(b) $6\text{CO}_2 + 12\text{H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{sunlight}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 + 6\text{H}_2\text{O}$
(c) $\text{CO}_2 + \text{H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{sunlight}} \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2 + \text{H}_2\text{O}$
(d) $12\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{sunlight}} 12\text{C}_6\text{H}_{12}\text{O}_6 + 12\text{O}_2 + 12\text{H}_2\text{O}$
119. Which of the following is not an adaptation in elephants?
(a) They have trunks which they use as nose and for lifting the food.
(b) They have very long ears.
(c) They have long tail, strong claws.
(d) None of these
120. The air entering the human body gets filtered by:
(a) fine hair and mucus in the nostrils (b) mucus in the lungs
(c) chemicals present in the trachea (d) both (a) and (b)

MATHEMATICS

121. In a class test containing 15 questions, 3 marks are given for every correct answer and (-1) mark for every incorrect answer. Raman attempted all the questions but only 9 of his answers are correct. What is his total score?
 (a) 27 (b) 21 (c) 19 (d) 6
122. Which of the following statements is false.
 (i) The product of two integers can be zero.
 (ii) The product of two negative integers is positive.
 (iii) The product of three negative integers is positive.
 (iv) The product of a positive integer and a negative integers can't be zero
 (a) (i) (b) (ii) (c) (iii) (d) (iv)
123. A wire is broken into two pieces. If the wire is $3\frac{3}{4}$ m long and one piece is $1\frac{1}{2}$ m long, then the length of the other piece is
 (a) 2.5 m (b) 1.5 m (c) 2.25 m (d) 3 m
124. There were only two candidates who participated in an election, one contestant got 62% votes and was elected by a margin of 144 votes. The total number of votes were
 (a) 500 (b) 600 (c) 700 (d) 800
125. Find the value of x in the following figure if $l \parallel m$.

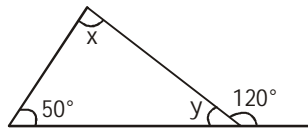


- (a) 30° (b) 60° (c) 65° (d) 50°
126. A 15 m long ladder reached a window 12 m high from the ground on placing it against a wall at a distance 'a' meter from the wall. Find 'a'
 (a) 6 m (b) 13 m (c) 12 m (d) 9 m
127. In the figure, the value of $x - y =$



- (a) 30° (b) 20° (c) 50° (d) none of these
128. The diagonals of a rhombus measure 16 cm and 30 cm. Perimeter of the rhombus is
 (a) 80 cm (b) 68 cm (c) 60 cm (d) Data not sufficient

129. Find $\frac{3x-30^\circ}{y}$ in the following figure:

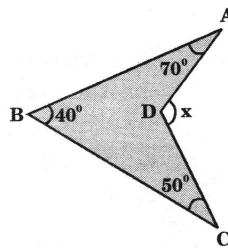


- (a) 2 (b) $\frac{6}{5}$ (c) 3 (d) 1

130. The length of two sides of a triangle are 1.3 m and 0.4 m. If third side is an integer then semi perimeter of the triangle is:

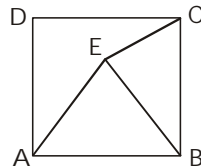
- (a) 2.7 m (b) 1 m (c) 3 m (d) 1.35 m

131. In the given diagram, find the value of x.



- (a) 60° (b) 80° (c) 160° (d) 180°

132. In the given figure, ABCD is a square and ABE is an equilateral triangle, then $\angle BEC =$

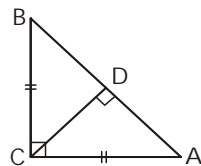


- (a) 50° (b) 60° (c) 30° (d) 75°

133. The angles of a triangle are in the ratio 1 : 2 : 3 then the sum of two smaller angles is

- (a) 60° (b) 120° (c) 90° (d) 100°

134. In the given figure, $\triangle ABC$ is right-angled at C. If $CB = AC = 5$ cm then $CD =$




- (a) 5 cm (b) $5\sqrt{2}$ cm (c) $\frac{5\sqrt{2}}{2}$ cm (d) $\frac{5}{2\sqrt{2}}$ cm

135. Find m so that $\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{2}{9}\right)^{2m-1}$.

- (a) 1 (b) -1 (c) 0 (d) 2

136. If $27^{x+1} = 9^{x+3} = 3^y$ then $|x - y| =$

- (a) 1 (b) 9 (c) -9 (d) 12

137. The value of $\frac{1}{1+x^{-m}} + \frac{1}{1+x^m}$ is
 (a) 0 (b) x^m (c) 1 (d) x^{-m}
138. A rectangle has a length of 6 cm and diagonal 10 cm, find width of the rectangle.
 (a) 6 cm (b) 8 cm (c) 10 cm (d) 5 cm
139. In the given figure two circles have same centre. The radius of the larger circle is 20 cm and radius of the smaller circle is 10 cm. The area of shaded region is (take $\pi = 3.14$)
 (a) 900 cm² (b) 861 cm²
 (c) 912 cm² (d) 942 cm²
- 
140. If $x = 2$ and $y = 3$ then $\frac{1}{x^y} + \frac{1}{y^x} =$
 (a) 72 (b) $\frac{17}{72}$ (c) $\frac{31}{108}$ (d) None of these
141. The value of $\frac{x(x+1)(2x+1)}{6}$ at $x = 2$ is
 (a) 6 (b) 5 (c) 4 (d) 3
142. If $\frac{2}{3}$ of a number is 20 less than the original number, then the number is
 (a) 60 (b) 40 (c) 80 (d) 120
143. If the sum of four consecutive odd numbers is 40, then the smallest number is
 (a) 7 (b) 9 (c) 11 (d) 13
144. If an angle is four times its complement, what is the measure of the angle?
 (a) 18° (b) 15° (c) 72° (d) 75°
145. One side of a triangle is 10 cm long and another side is 7 cm. If the third side is a positive integer then the possible number of such triangles is
 (a) 10 (b) 15 (c) 9 (d) 13
146. Find the median of the data 7, 9, 11, 13, 15, 17, 19.
 (a) 11 (b) 13 (c) 15 (d) None of these
147. Teena reads 0.125 of a book every day. In how many days will she finish reading the book?
 (a) 4 (b) 8 (c) 10 (d) none of these
148. What is the area of a square if its perimeter is 64 cm?
 (a) 64 cm² (b) 256 cm² (c) 512 cm² (d) none of these
149. The area of the biggest possible circle cut out from a square sheet of paper of side 14 cm is
 (Take $\pi = \frac{22}{7}$)
 (a) 28 cm² (b) 154 cm² (c) 616 cm² (d) 308 cm²
150. $x^n + x^m$ is equal to
 (a) x^{mn} (b) $x^{m/n}$ (c) x^{m+n} (d) none of these

ROUGH WORK
