



School Integrated Program

Class – VII

ENTRANCE TEST CUM SCHOLARSHIP (SAMPLE PAPER-1)

[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. 1–9): In each of the following questions, select the related word/letters/number from the given alternatives.

1. 23 : 13 :: 54 : ?
(a) 40 (b) 41 (c) 44 (d) 39
2. Seismometer : Earthquakes :: Thermometer : ?
(a) Mercury (b) Temperature (c) Fever (d) Doctor
3. Play : Actor :: Concert : ?
(a) Percussion (b) Symphony (c) Musician (d) Piano
4. DLIP : FNKR :: JROV : ?
(a) MURY (b) LTQX (c) NVSZ (d) KSPW
5. YAWC : UESG :: QIOK : ?
(a) MMKO (b) ROME (c) MINC (d) MIKE
6. 17 : 24 :: 153 : ?
(a) 213 (b) 216 (c) 118 (d) 198
7. $\frac{M}{AC} : \frac{N}{AD} :: \frac{O}{AE} : ?$
(a) $\frac{P}{AF}$ (b) $\frac{Q}{AB}$ (c) $\frac{P}{AC}$ (d) $\frac{R}{AD}$
8. ABE : 8 :: KLO : ?
(a) 37 (b) 39 (c) 38 (d) 36
9. ADBC : EHFG :: ILJK : ?
(a) MOPN (b) MPNO (c) ORPQ (d) MPON

Directions (Q. 10–14) : In each of the following questions, select the one which is different from the other three alternatives.

10. (a) Duck (b) Avoid (c) Dodge (d) Flee
11. (a) 36 (b) 96 (c) 16 (d) 80
12. (a) 41, 4 (b) 83, 6 (c) 74, 7 (d) 96, 9
13. (a) LNOR (b) TRPS (c) CEFI (d) GIJM
14. (a) Heat (b) Light (c) Bulb (d) Electricity
15. Which one of the given responses would be a meaningful order of the following colours?
1. Indigo 2. Red 3. Violet 4. Blue
5. Green 6. Yellow 7. Orange
(a) 3, 1, 4, 5, 2, 6, 7 (b) 3, 1, 4, 5, 6, 2, 7 (c) 1, 5, 6, 7, 3, 4, 2 (d) 3, 1, 4, 5, 6, 7, 2
16. Arrange the following words as per order in the English dictionary:
1. Caricature 2. Cardinal 3. Carnivore 4. Cartoon 5. Category
(a) 2, 1, 3, 4, 5 (b) 4, 5, 1, 3, 2 (c) 1, 2, 3, 4, 5 (d) 2, 1, 3, 5, 4
17. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
R_S_PM_KSB_MRK_
(a) KRKSP (b) KBRPS (c) RKSPM (d) BPSMP

18. In the following series, how many HIG occur in such a way that 'I' is in the middle and 'H' and 'G' are adjacent to it on both sides?
GGHIIHGGJKLMGIHIG
(a) 3 (b) 2 (c) 5 (d) 1

Directions (Q. 19–22) : In each of the following questions, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

19. 2, 2, 4, 6, ?, 10, 8, 14, 10
(a) 6 (b) 5 (c) 8 (d) 7
20. ELFA, GLHA, ILJA, ?, MLNA
(a) ILMA (b) KLLA (c) QLPA (d) KLMA
21. 3, 8, 18, 35, ?, 98
(a) 61 (b) 71 (c) 41 (d) 51
22. 975, 864, 753, 642,....?...?
(a) 431 (b) 314 (c) 531 (d) 532
23. L, M, N and O are brothers. L is darker than O, N is the fairest of all. M is fairer than O. Who is the darkest of all ?
(a) N (b) O (c) L (d) M
24. Anjali says, "He is the only son of the father of my sister's brother." How is that person related to Anjali?
(a) Uncle (b) Cousin (c) Brother (d) Father
25. From the given alternative words, select the word which **can** be formed using the letters of the word "FUNDAMENTAL".
(a) TAME (b) FUNDS (c) TENT (d) NOSE
26. From the given alternative words, select the word which **cannot** be formed using the letters of the word "THERMODYNAMICS".
(a) MATHEMATICS (b) MOTHER (c) MODERN (d) DYNAMO
27. Joan's age is 42 years and Kelvin's age is 26 years. How many years ago was Kelvin's age half of Joan's age?
(a) 6 years (b) 4 years (c) 10 years (d) 8 years
28. In a certain code, 'RATIONAL' is written as 'RTANIOLA'. How would 'TRIBAL' be written in the same code ?
(a) TIRLBA (b) TIRABL (c) TRIALB (d) TIRALB
29. If 'INDUS' is coded as '03865' and 'TENNIS' is coded as '243305', then what will be the code for 'STUDENT' ?
(a) 5628342 (b) 5648324 (c) 5268432 (d) 5642832
30. Given below are capital letters in the first line and symbols in the second line. Symbols and letters are codes for each other. Choose the correct code for the word "HEIGHT".
- | | | | | | | | | | | | | | | |
|---|---|---|---|---|-----|-----|---|---|---|---|---|---|---|---|
| A | C | E | G | H | I | O | N | P | R | T | S | B | D | M |
| + | - | ÷ | × | = | () | [] | ≠ | | # | | > | < | | |
- (a) = × (÷ = || (b) = × (× = || (c) = ÷ (× || = (d) = ÷ (× = ||
31. In a school, the bell is rung once after each half an hour. The school starts at 8 : 00 am and closes at 1 : 30 pm. The bell is rung 3 times continuously, at the time of beginning, at the time of lunch break, at 10 : 00 am, at 10 : 30 am and at the end. How many times is the bell rung every day?
(a) 21 (b) 22 (c) 19 (d) 20

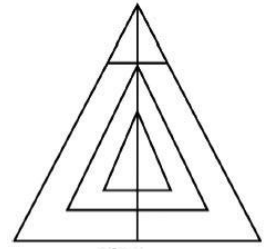
32. Select the correct combination of mathematical signs to replace * signs and to balance the following equation: $(\sqrt{121} * 9) * 5 * 4 * 16$
- (a) $- + \times =$ (b) $+ \div \times =$ (c) $= + \times \div$ (d) $- \times + =$
33. If ‘-’ stands for ‘division’, ‘+’ stands for ‘multiplication’, ‘÷’ stands for ‘subtraction’, ‘×’ stands for ‘addition’, then which one of the following equations is correct?
- (a) $36 \times 4 - 12 + 5 \div 3 = 420$ (b) $52 \div 4 + 5 \times 8 - 2 = 36$
(c) $36 - 12 \times 6 \div 3 + 4 = 60$ (d) $43 \times 7 \div 5 + 4 - 8 = 25$
34. Some equations are solved on the basis of a certain system. Find the correct answer for the unsolved equation on that basis.
 $5 \odot 3 = -7; 3 \odot 7 = -11; 7 \odot 11 = ?$
- (a) -59 (b) 77 (c) -15 (d) 18

Directions (Q. 35–37) : In each of the following questions, select the missing number from the given responses.

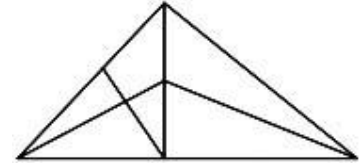
35. 8 4 7
 6 9 9
 48 36 ?
 16 12 21
(a) 24 (b) 16 (c) 42 (d) 63
36. 3 8 7
 9 6 3
 2 ? 12
(a) 4 (b) 3 (c) 7 (d) 6
37. 2 4 3 2
 9 7 6 5
 ? 33 27 21
(a) 77 (b) 35 (c) 69 (d) 80
38. Pointing to a lady, a man said, “The son of her brother is the brother of my wife.” How is the lady related to the man?
(a) Mother’s sister (b) Grandmother (c) Mother-in-law (d) Sister of father-in law
39. A man is facing South. He turns 135° in the anticlockwise direction and then 180° in the clockwise direction. Which direction is he facing now?
(a) South – East (b) South – West (c) North – East (d) North – West
40. Raju cycled 10 km South from his house, turned right and went 5 km and again turned right and cycled 10 km and then turned left and cycled 10 km. How many kilometres will he have to cycle back to reach his house ?
(a) 10 km (b) 5 km (c) 20 km (d) 15 km
41. K is a place which is located 2 km away in the north-west direction from the capital P. R is another place that is located 2 km away in the south-west direction from K. M is another place that is located 2 km away in the north-west direction from R. T is yet another place that is located 2 km away in the south-west direction from M. In which direction is T located in relation to P?
(a) South-west (b) North-west (c) West (d) North

42. "If a person is rich, he has a lot of influence." What inference can you draw from the above statement?
 (a) Kamala is rich, so she has a lot of influence.
 (b) Poor people cannot have influence.
 (c) Ram has a lot of influence, so he is rich.
 (d) Govind is not rich, so he does not have a lot of influence.

43. How many triangles are there in the given figure?
 (a) 11 (b) 12 or more
 (c) 9 (d) 10



44. How many triangles are there in the given figure?
 (a) 11 (b) 13 or more
 (c) 9 (d) None of these

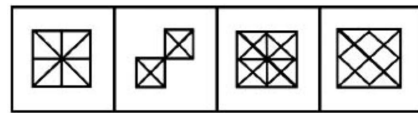


45. Among the four answer figures, which one can be formed from the cut out pieces given below in the question figure?

Question Figure

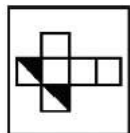


Answer Figures

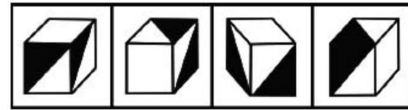


46. Choose the cube which will be formed on folding the given question figure.

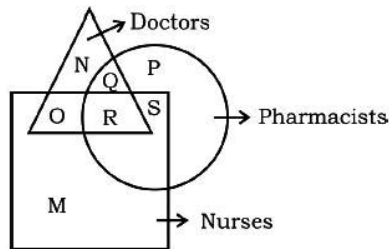
Question Figure



Answer Figures



47. In the given figure, which letter represents those Nurses who are Doctors as well as Pharmacists?



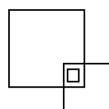
- (a) R (b) S (c) P (d) Q

Directions (Q. 48 & 49): In the following questions, identify the diagram that best represents the relationship among the classes given below:

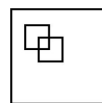
48. Duck, Penguin, Bird



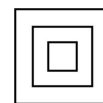
(a)



(b)

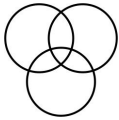


(c)



(d)

49. Profit, Dividend, Bonus



(a)



(b)



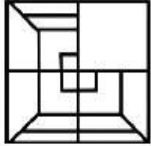
(c)



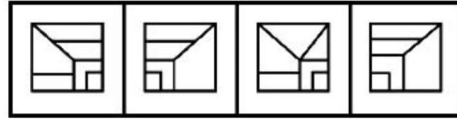
(d)

Directions (Q. 50 & 51) : In each of the following questions, which answer figure will complete the pattern in the question figure?

50. **Question Figure**

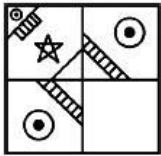


Answer Figures

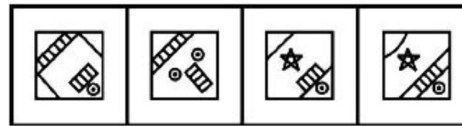


(a) (b) (c) (d)

51. **Question Figure**



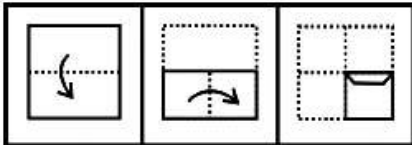
Answer Figures



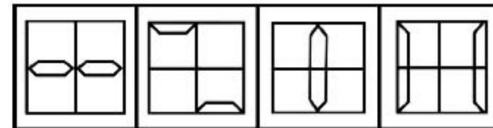
(a) (b) (c) (d)

52. A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

Question Figures



Answer Figures



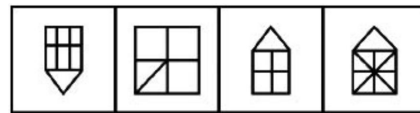
(a) (b) (c) (d)

53. From the given answer figures, select the one in which the question figure is hidden/embedded.

Question Figure



Answer Figures



(a) (b) (c) (d)

54. If a mirror is placed on the line MN, then which of the answer figures is the right image of the given question figure ?

Question Figure



Answers Figures



(a) (b) (c) (d)

55. Arrange the following words according to the dictionary:

1. Inventory 2. Involuntary 3. Invisible 4. Invariable 5. Investigate

- (a) 4, 2, 5, 3, 1 (b) 4, 5, 1, 3, 2 (c) 2, 5, 4, 1, 3 (d) 4, 1, 5, 3, 2

56. M is the son of P. Q is the grand-daughter of O, who is the husband of P. How is M related to O?

- (a) Son (b) Daughter (c) Mother (d) Father

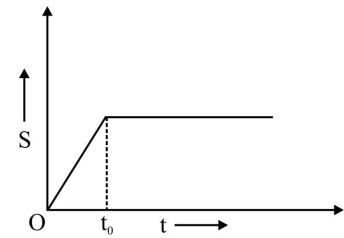
57. In a row of boys, Srinath is 7th from the left and Venkat is 12th from the right. If they interchange their positions, Srinath becomes 22nd from the left. How many boys are there in the row?
 (a) 19 (b) 31 (c) 33 (d) 34
58. A bus leaves Delhi with half the number of women as men. In Meerut, ten men get down and five women get in. Now there are equal number of men and women. How many passengers boarded the bus initially at Delhi?
 (a) 36 (b) 45 (c) 15 (d) 30
59. If the day before yesterday was Sunday, what day will it be three days after the day after tomorrow?
 (a) Sunday (b) Monday (c) Wednesday (d) Saturday
60. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
 a_b_a__n_bb_abbn
 (a) abnabb (b) bnbban (c) bnbbna (d) babban

PHYSICS

61. S.I unit of temperature is:
 (a) Kelvin (b) Celsius (c) Fahrenheit (d) Reaumer
62. 1 calorie = _____.
 (a) 1.8 J (b) 2.4 J (c) 4.2 J (d) 5.1 J
63. Temperature is a _____ quantity.
 (a) Vector (b) Scalar (c) Both (a) and (b) (d) Neither of (a) and (b)
64. Thermometer works on the principle of:
 (a) Substances expands on heating (b) Substances contracts on heating
 (c) Substances have no effect on heating (d) None of these
65. The following one determines the direction of flow of heat:
 (a) Temperature (b) Thermometer (c) Altimeter (d) Ammeter
66. Unit(s) of heat energy is:
 (a) Joule (b) Calorie (c) Kelvin (d) Both (a) and (b)
67. A horse runs a distance of 1200m in 3 min and 20 s. The speed of the horse is _____.
 (a) 60 ms^{-1} (b) 65 ms^{-1} (c) 40 ms^{-1} (d) 6 ms^{-1}
68. When a body covers first one third distance with speed 1 m/s, the second one third distance with speed 2 m/s and the last one third distance with speed 3 m/s then average speed is _____.
 (a) 2 m/s (b) 1.79 m/s (c) 2.66 m/s (d) 1.64 m/s
69. An image that cannot be obtained on a screen is:
 (a) Real image (b) Bright image (c) Faint image (d) Virtual image
70. A ray of light incident on a shining surface bend back into the same medium. The phenomenon is called:
 (a) Refraction (b) Reflection (c) Dispersion (d) Diffraction
71. A man is standing at a distance of 1 m from a plane mirror. He moves 1 m away from the mirror. The separation between him and his image is:
 (a) 1 m (b) 2 m (c) 3 m (d) 4 m

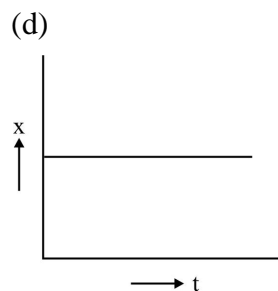
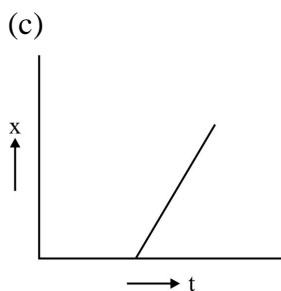
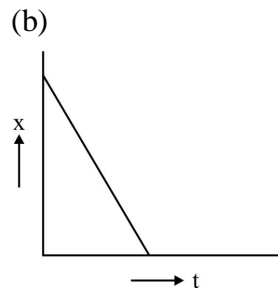
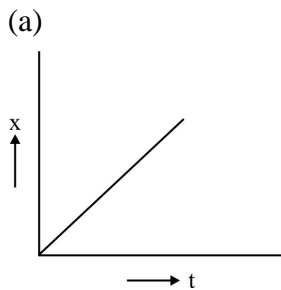
72. Displacement is:
 (a) Vector quantity (b) Scalar quantity
 (c) Either vector quantity or scalar quantity (d) Neither vector quantity nor scalar quantity
73. The train 'A' travelled a distance of 120 km in 3 hr where as another train 'B' travelled a distance of 180 km in 4 hr. Which train travelled faster?
 (a) Train A (b) Train B
 (c) Both are equally faster (d) None of these
74. A cyclist moves from a certain point X and completes one revolution around a circular path of radius 'r'. The distance travelled and magnitude of displacement of the cyclist are respectively.
 (a) $2r, \pi r$ (b) $\frac{\pi r}{2}, 2\pi$ (c) $2\pi r, \text{zero}$ (d) $r, 2r$

75. Figure shows the displacement (s) - time (t) graph of a particle moving on the X-axis.



Which of the option is correct?

- (a) The particle is at rest
 (b) The velocity of particle increases up to time t_0 and then becomes constant.
 (c) The speed of particle increases up to time t_0 and then becomes constant
 (d) The particle moves at a constant velocity up to a time t_0 , and then stops.
76. Which of the following cannot be the distance time graph?



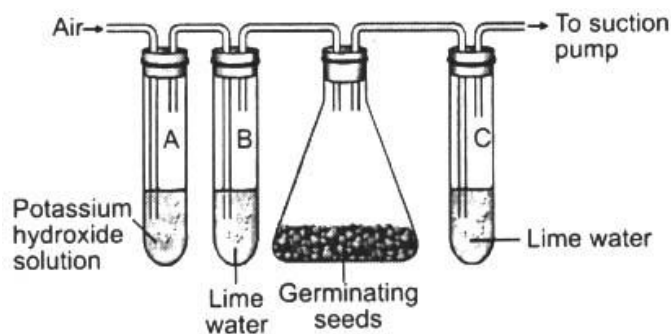
77. A car covers 30 km at a uniform speed of 60 km/hr and the next 30 km at a uniform speed of 40 km/hr. The total time taken is:
 (a) 30 min (b) 45 min (c) 75 min (d) 120 min
78. When the bob is in the central position the force are:
 (a) Balanced (b) Unbalanced
 (c) Sometimes balanced and sometimes unbalanced (d) None of the above

79. The time period of a simple pendulum is 0.2 sec. What is its frequency of oscillation?
 (a) 0.2 Hz (b) 0.02 Hz (c) 5 Hz (d) 50 Hz
80. Mirror used for focusing light is:
 (a) Concave (b) Convex (c) Plane (d) None
81. The plane mirror form the:
 (a) Virtual and laterally inverted image (b) Virtual and laterally erect image
 (c) Real and laterally inverted image (d) Real and laterally erect image
82. Incident angle of a ray of light is 30° . The angle between the incident ray and the reflected ray is:
 (a) 30° (b) 60° (c) 90° (d) 15°
83. A letter \perp written on a white paper is placed in front of a plane mirror. The image of this letter in the plane mirror will appear as:
 (a) \perp (b) \lrcorner (c) \lfloor (d) \ulcorner
84. The speed of light in vacuum is:
 (a) $3 \times 10^8 \text{ cms}^{-1}$ (b) $3 \times 10^8 \text{ mms}^{-1}$ (c) $3 \times 10^8 \text{ ms}^{-1}$ (d) $3 \times 10^8 \text{ kms}^{-1}$
85. A concave lens always forms:
 (a) Virtual image (b) Erect image
 (c) Diminished image (d) All of the above
86. The splitting of white light into several colours on passing through a glass prism is called:
 (a) Refraction (b) Reflection (c) Interference (d) Dispersion

CHEMISTRY

87. Which of the following process is NOT a part of wool extraction?
 (a) Shearing (b) Scouring (c) Sorting (d) Reeling
88. Animal Fibres are made up of:
 (a) Cellulose (b) Protein (c) Nylon (d) Rayon
89. Vegetable fibres are made up of:
 (a) Cellulose (b) Protein (c) Nylon (d) Rayon
90. The fleece are combed to remove _____.
 (a) Burrs (b) Dust
 (c) Low quality hair (d) None of these
91. Which of the following statements is NOT true?
 (a) Workers in wool industry generally suffer from sorters disease.
 (b) Bakhrwal is an Indian breed of sheep.
 (c) Rayon is a natural fibre.
 (d) Shearing is usually done in summer season.
92. Which of the following is NOT a vegetable fibre?
 (a) Flax (b) Silk (c) Hemp (d) Jute

93. Which of the following will not help in conservation of water?
 (a) Drip irrigation
 (b) Planting more trees
 (c) Water treatment plant
 (d) Cutting trees to check water loss due to transpiration
94. Which of the following is the reason for depletion of water table?
 (a) Planting more trees
 (b) Heavy rainfall
 (c) Industrialization
 (d) Rainwater harvesting
95. Tube wells and springs are the examples of:
 (a) Surface water
 (b) Underground water
 (c) Potable water
 (d) All of these
96. Which one of the following is not responsible for water shortage?
 (a) Rapid growth of industries
 (b) Increasing population
 (c) Heavy rainfall
 (d) Mismanagement of water resources
97. The process of seeping of water into the ground is called _____.
 (a) Evaporation
 (b) Infiltration
 (c) Transpiration
 (d) None of these
98. Which of the following is traditional way to conserve water?
 (a) Tube wells
 (b) Bawls
 (c) Rainwater harvesting
 (d) None of these
99. X is present in the stomach. However, presence of excess of it causes indigestion, which requires the intake of milk of magnesia to undo the effect of X. What is X?
 (a) HCl
 (b) H_2SO_4
 (c) NaOH
 (d) KOH
100. Which one of the following is true for all chemical reactions?
 (a) There is a change in volume
 (b) Heat is evolved
 (c) Chemical bonds are broken or formed
 (d) There is a change in mass
101. Study the given set up of an experiment. You will observe that:
 (a) Lime water in test tube B turns milky
 (b) Lime water in test tube C turns milky
 (c) Potassium hydroxide solution in test tube A turns red
 (d) Temperature in the flask will go down.



102. Sodium hydroxide is found in:
 (a) Lemon
 (b) Soap
 (c) Oil of Vitriol
 (d) Table salt
103. Which of the following colours is given by phenolphthalein in a basic salt solution?
 (a) Yellow
 (b) Pink
 (c) Orange red
 (d) Colourless
104. Chemical name of Oil of Vitriol is _____.
 (a) Nitric acid
 (b) Acetic
 (c) Sulphuric acid
 (d) Sodium Hydroxide

105. Which of the following is used in match industry?
 (a) Sodium chloride (b) Sodium bicarbonate
 (c) Sodium carbonate (d) Potassium chlorate
106. The word acid comes from the Latin word 'acere' which means:
 (a) Sweet (b) Salty (c) Sour (d) Neutral
107. The most commonly used natural indicator 'Litmus' is extracted from:
 (a) Lichens (b) Turmeric (c) Beet Root (d) China rose
108. Special type of substances used to test whether a substance is acidic/basic are known as:
 (a) Indicators (b) Acids (c) Bases (d) Salt
109. Substances which are bitter in taste, feel soapy on touching are known as:
 (a) Acids (b) Bases (c) Indicators (d) Neutral solution
110. Which of the following is a strong acid?
 (a) Acetic acid (b) Nitric acid (c) Lactic acid (d) Citric acid

BIOLOGY

111. Pitcher is an example of:
 (a) Insectivorous plant (b) Algae
 (c) Fungi (d) Leguminous plant
112. During exhalation, the size of the chest cavity:
 (a) Increases (b) Remains the same
 (c) Get out of the lungs (d) Decreases
113. A carnivore with stripes on its body moves very fast while catching its prey. It is likely to be found in:
 (a) Polar regions (b) Deserts (c) Oceans (d) Tropical rainforests
114. Some organisms live together and share shelter and nutrients. This is called:
 (a) Predation (b) Heterotrophs
 (c) Symbiosis (d) Autotrophs
115. The vascular tissue for the transport of water and minerals in the plant is called:
 (a) Xylem (b) Phloem (c) Bundle (d) Plasma
116. During heavy exercise, we get cramps in the legs due to the accumulation of:
 (a) Water (b) Carbon dioxide (c) Lactic acid (d) Alcohol
117. The instrument used to measure rainfall is called:
 (a) Barometer (b) Rain Gauge
 (c) Thermometer (d) Maximum minimum thermometer
118. How does the polar bear keep itself warm in cold weather?
 (a) It has two thick layers of fur. (b) It has a coat of wool.
 (c) It covers its body with a woollen coat. (d) It sits by the side of the fire.
119. The small openings in the body of a cockroach are called:
 (a) Holes (b) Spiracles (c) Tracks (d) Pores
120. The process of digestion taking place in grass-eating animals is called:
 (a) Egestion (b) Rumination (c) Assimilation (d) Absorption

MATHEMATICS

121. Which of the following does not represent pair of integer (a, b) such that $a \div b = 2$?

- (a) $(-6, -3)$ (b) $(-2, 1)$ (c) $(-10, -5)$ (d) $(8, 4)$

122. If $x : y = 5 : 2$ then $(8x + 9y) : (8x + 2y)$ is:

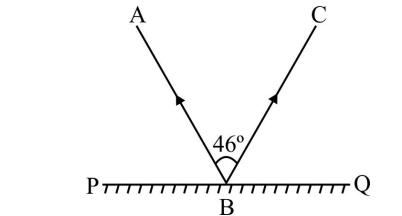
- (a) $22 : 29$ (b) $26 : 61$ (c) $29 : 22$ (d) $61 : 26$

123. Which integer should be added to -5 to get 4?

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

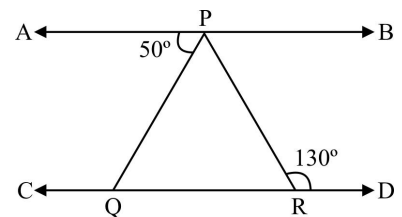
124. In the given figure PQ is a mirror, AB is the incident ray and BC is the reflected ray. $\angle ABC = 46^\circ$ then $\angle ABP$ is equal to:

- (a) 44° (b) 67°
(c) 13° (d) 62°



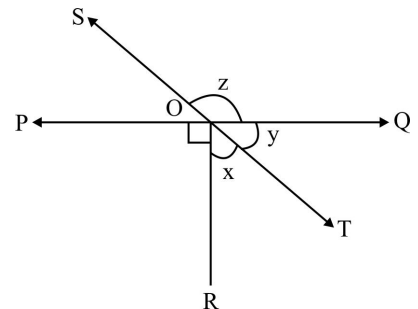
125. $AB \parallel CD$, $\angle APQ = 50^\circ$ and $\angle PRD = 130^\circ$ then $\angle QPR$ is:

- (a) 130° (b) 50°
(c) 80° (d) 30°



126. In fig. line PQ and ST intersect at O if $\angle POR = 90^\circ$ and $x : y = 3 : 2$, then z is equal to:

- (a) 126° (b) 144°
(c) 136° (d) 154°



127. If two supplementary angles are in the ratio 1: 2 then the bigger angle is:

- (a) 120° (b) 125° (c) 110° (d) 90°

128. The points P, Q R and S lie on a straight line. The ratio of the length of PQ to the length of QR is 3 : 4 and the ratio of the length of PR to the length of RS is 2 : 1. Find the ratio of the length of QR to the length of PS.

- (a) 7 : 19 (b) 10 : 21 (c) 21 : 8 (d) 8 : 21

129. Sonu's grandmother is 80 years old and sonu is 20 years old. How many years ago was his grandmother 7 times as old as sonu?

- (a) 8 years (b) 10 years (c) 12 years (d) 15 years

130. The sum of two rational numbers is -7 . If one of the numbers is $-\frac{15}{19}$, the other number is:

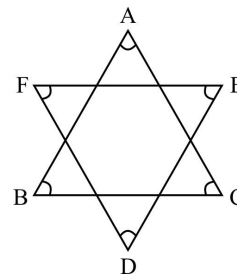
- (a) $-\frac{21}{10}$ (b) $-\frac{57}{16}$ (c) $\frac{7}{9}$ (d) $-\frac{118}{19}$

131. In a school, only 2 out of 5 students can participate in a quiz. What is the chance that a student picked at random makes it to the competition?

- (a) 20% (b) 40% (c) 50% (d) 30%

132. What should be added to $\left(\frac{1}{2} + \frac{1}{3} + \frac{1}{5}\right)$ to get 3?
- (a) $\frac{58}{30}$ (b) $\frac{59}{32}$ (c) $\frac{59}{30}$ (d) $\frac{59}{95}$
133. Let x, y, z be three observation. The mean of these observations is:
- (a) $\frac{x \times y \times z}{3}$ (b) $\frac{x + y + z}{3}$ (c) $\frac{x - y - z}{3}$ (d) $\frac{x \times y + z}{3}$
134. In $\triangle ABC$, $\angle C = \angle A$ and $BC = 6$ cm and $AC = 5$ cm then the length of AB is:
- (a) 6 cm (b) 5 cm (c) 3 cm (d) 2.5 cm
135. If one angle of a triangle is equal to the sum of other two angles, then the triangle is:
- (a) an isosceles triangle (b) an obtuse angle
(c) an equilateral triangle (d) a right angle triangle.
136. From the following which condition is not possible for the congruence of two triangle?
- (a) ASA (b) AAS (c) AAA (d) SSS
137. The sum of two consecutive multiples of 6 is 66. Find the multiple.
- (a) 32, 34 (b) 34, 42 (c) 30, 30 (d) none of these
138. If I add three-eighth to one eighth of a number, I get zero, the number is:
- (a) 0 (b) 3 (c) -3 (d) none of these
139. A number increased by 20 and then reduced by 15 becomes 10 then the number is:
- (a) 2 (b) 5 (c) 6 (d) 7
140. The result of adding the difference of 3.003 and 2.05 to their sum will be:
- (a) 6.006 (b) 60.06 (c) 600.6 (d) 0.6060
141. The number 'x' equals one fourth of its own reciprocal, then, the value of 'x' is equal to:
- (a) $\frac{1}{2}$ (b) $\frac{1}{4}$ (c) 2 (d) 4
142. What is the median of the following data 37, 31, 42, 43, 46, 25, 39, 45, 32?
- (a) 35 (b) 39 (c) 5 (d) 8
143. A man goes 24 m due East and then 10 m due North. How far is he from his initial position?
- (a) 25 m (b) 25.5 m (c) 26 m (d) 27 m
144. Which of the following values are equal?
- (P) 1^4 (Q) 4^0 (R) 0^4 (S) 4^1
(a) P and Q (b) Q and R (c) P and R (d) P and S

145. The value of $\angle A + \angle B + \angle C + \angle D + \angle E + \angle F$ is:
- (a) 190° (b) 540°
(c) 360° (d) 180°



146. If the distance travelled by a car in one hour is 210 km, then find the distance (in metres) travelled by the same car with the same speed in 60 seconds.
(a) 4500 (b) 3160 (c) 3500 (d) 4230
147. In ΔPQR if $\angle P = 60^\circ$ and $\angle Q = 40^\circ$, then the exterior angle formed by producing QR is equal to:
(a) 60° (b) 120° (c) 100° (d) 80°
148. Which of the following does not have an integer solution?
(a) $5y - 3 = -18$ (b) $3x - 9 = 0$ (c) $3z + 8 = 3 + z$ (d) $9y + 8 = 4y - 7$
149. Which of the following rational number is equal to its reciprocal?
(a) 0 (b) 2 (c) 1 (d) $\frac{1}{2}$
150. The range of the data 21, 6, 17, 18, 12, 8, 4, 13 is:
(a) 17 (b) 12 (c) 8 (d) 15