



CLASS – VIII
SAMPLE PAPER

Concept Scholarship cum Admission Test

Time Limit: 1hr.

Maximum Marks: 160

INSTRUCTION:

- Paper consists of a Science and Mathematics part containing 40 questions.
- Each question has FOUR options. ONLY ONE of these four options is the correct answer.
- For each question, choose the option corresponding to the correct answer in OMR sheet.
- Answer to each question will be evaluated according to the following marking scheme:
 - Full marks: +4 for every correct answer.
 - Zero marks: 0 if none of the options is chosen. (i.e., the answer is unanswered)
 - Negative marks: -1 for every incorrect answer.
- Don't write anything on the question paper except on the rough space given.
- Use only black or blue ballpoint pen.

1. p : Every natural number is a rational number. q : Every rational number is a natural number.

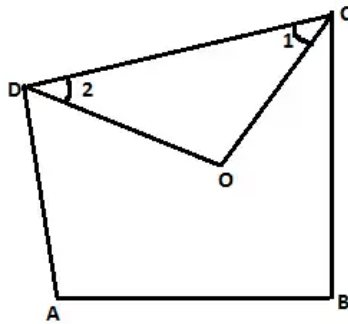
Which of the following is correct?

- (a) p is true and q is false.
- (b) p is false and q is true.
- (c) Both p and q are true.
- (d) Both p and q are false.

2. The numerator and the denominator of a rational number are in the ratio 7:5. When 4 is added to both the numerator and denominator, the ratio becomes 5: 4. What is the rational number?

- (a) $7/5$
- (b) $5/7$
- (c) $2/5$
- (d) $13/14$

3. In the given figure, DO and CO are the bisectors of $\angle ADC$ and $\angle BCD$ respectively. If $\angle ADC = \angle BCD = 60^\circ$ and $\angle DAB = 100^\circ$, find the measures of $\angle DOC$ and $\angle ABC$ respectively.



- (a) $160^\circ, 40^\circ$
- (b) $110^\circ, 140^\circ$
- (c) $120^\circ, 140^\circ$
- (d) $140^\circ, 120^\circ$

4. A letter is chosen at random from the word 'MATHEMATICS'. What is the probability it will be a vowel?

- (a) $1/2$
- (b) $3/8$
- (c) $3/11$
- (d) $2/11$

5. Read the statements carefully and select the correct option.

Statement-1 : While solving a mathematical problem, Samidha squared a number and then subtracted 25 from it rather than the required i.e., first subtracting 25 from the number and then squaring it. But she got the right answer. The given number is 13.

Statement-2 : The smallest natural number which is a perfect square and which ends in 3 identical digits lies between 2000 and 3000.

- (a) Statement-1 is true but Statement-2 is false.
- (b) Statement-1 is false but Statement-2 is true.
- (c) Both Statement-1 and Statement-2 are true.
- (d) Both Statement-1 and Statement-2 are false.

6. By what least number 3600 must be divided to make it a perfect cube?

- (a) 9
- (b) 50
- (c) 300
- (d) 450

7. Simple interest on a sum of money for 1 year at 12% per annum is ₹1200. What will be the compound interest when compounded half-yearly on that sum at the same rate for the same period?

- (a) ₹1236
- (b) ₹1326
- (c) ₹11236
- (d) ₹13260

8. The present population of a city is 8000. If it increases by 10% during the first year and by 20% during the second year, then population after two years will be

- (a) 12400
- (C) 10560
- (b) 14400
- (d) None of these

9. If the perimeter of a triangle is $(4y - 3x + 2)$ cm and two sides of the triangle measure $(4x + 2y + 2)$ cm and $(3x + 7y - 22)$ cm, find the length of the third side of the triangle.

- (a) $(-10x - 5y + 32)$ cm
- (b) $(4x + 13y + 2)$ cm
- (c) $(10x + 5y - 3z)$ cm
- (d) $(4x - 13y - z)$ cm

10. Which of the following cannot be true for any polyhedron?

- (a) Faces = 4, Vertices = 4, Edges = 6
- (b) Faces = 8, Vertices = 6, Edges = 12
- (c) Faces = 5, Vertices = 1, Edges = 8
- (d) Faces = 20, Vertices = 12, Edges = 30

11. Sum of the lengths of all edges of a cube is x meters. If the surface area of the cube is x sq. metres, then its volume (in cubic metres) is

- (a) x^3
- (b) 8
- (c) x
- (d) 2

12. A swimming pool is 24 m long and 15 m broad, when a number of men dive into the pool, the height of the water rises by 1 cm. If the average amount of water displaced by one of the men is 0.1 cu. m, how many men are there in the pool?

- (a) 42
- (b) 46
- (c) 32
- (d) 36

13. Find the value of x if $3^{3.5} \times 21^2 \times 42^{2.5} \div 2^{2.5} \times 7^{3.5} = 21^x$.

- (a) 8
- (b) 10
- (c) 12.5
- (d) 6.5

14. 8 taps having the same rate of flow, fill a tank in 27 minutes. If two taps go out of order, how long will the remaining taps take to fill the tank?

- (a) 36 minutes
- (b) 45 minutes
- (c) 54 minutes
- (d) None of these

15. Divide $(y^2 + 6y - 16)(y + 2)$ by $(y^2 - 4)$

- (a) $y + 8$
- (b) $y - 2$
- (c) $y + 4$
- (d) $2y + 4$

16. Points $(5,0)$, $(5,1)$, $(5,8)$ lie on

- (a) x - axis
- (b) A line parallel to x - axis
- (c) y - axis
- (d) A line parallel to y - axis

17. Which of the following statements are true?

- (a) If a number is divisible by 3, then it must be divisible by 9.
- (b) If a number is divisible by 9, then it must be divisible by 3.
- (c) If a number is divisible by 4, then it must be divisible by 8.
- (d) A number is divisible by 18, if it is divisible by both 3 and 6.

18. Which of the following do not vary directly?

- (a) Speed of a vehicle and time taken to cover a fixed distance.
- (b) Number of days worked and amount of earnings.
- (c) Number of books and their price.
- (d) Number of units of current used and the amount of charge for consumption.

19. Number of seconds in a year expressed in scientific notations is

- (a) 3.1536×10^8
- (b) 3.1536×10^6
- (c) 3.1536×10^7
- (d) 3.1536×10^{-7}

20. If $x - y = 5$, $xy = 24$ then the value of $x^2 + y^2$ will be

- (a) 23
- (b) 73
- (c) 65
- (d) 74

21. A football has less inertia than a stone of the same size because

- (a) football has more air inside than the stone
- (b) football has less air inside than the stone
- (c) football has less mass than the stone
- (d) football has more mass than the stone

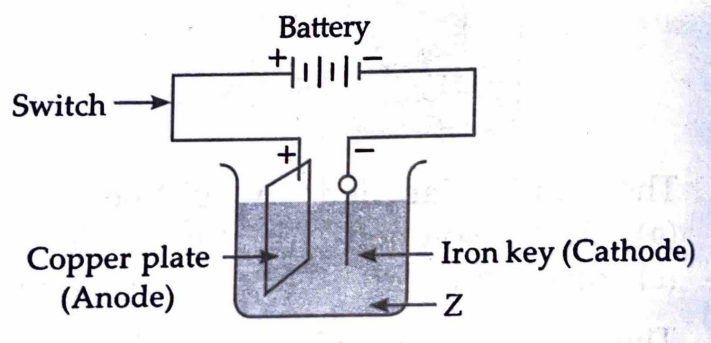
22. Whenever the surfaces in contact tend to move or move with respect to each other, the force of friction comes into play

- (a) only if the objects are solid
- (b) only if one of the two objects is liquid
- (c) only if one of the two objects is gaseous
- (d) irrespective of whether the objects are solid, liquid or gaseous

23. The ultrasonic waves take 4 seconds to travel from the ship to the bottom of the sea and back to the ship (in the form of an echo). What is the depth of the sea? (Speed of sound in water = 1500 m/s.)

- (a) 3000 m
- (b) 2000 m
- (c) 1000 m
- (d) 500 m

24. Observe the following figure.



Identify the electrolyte Z in the given figure.

- (a) Silver nitrate
- (b) Zinc sulfate
- (c) Copper sulfate
- (d) Potassium Sulphate

25. Consider the list of terms given below

- (i) Tsunami
- (ii) Landslide
- (iii) Floods
- (iv) Lightning

Earthquakes can cause

- (a) (i), (ii) and (iii)
- (b) (ii) and (iv)
- (c) (ii), (iii) and (iv)
- (d) (in) and (iv)

26. If one has two lenses of long focal length, one concave and the other convex and also two lenses of short focal length, one concave and other convex, to make a astronomical telescope, one has to choose

- (a) One convex lens of long focal length and another convex lens of short focal length
- (b) One convex lens of short focal length and one concave lens of long focal length
- (c) One concave lens of short focal length and one convex lens of long focal length
- (d) One concave lens of long focal length and another concave lens of short focal length

27. The impression of an image persists for about of a second from the retina of the human eye.

- (a) 1/16
- (c) 1/6
- (b) 1/8
- (d) 1/4

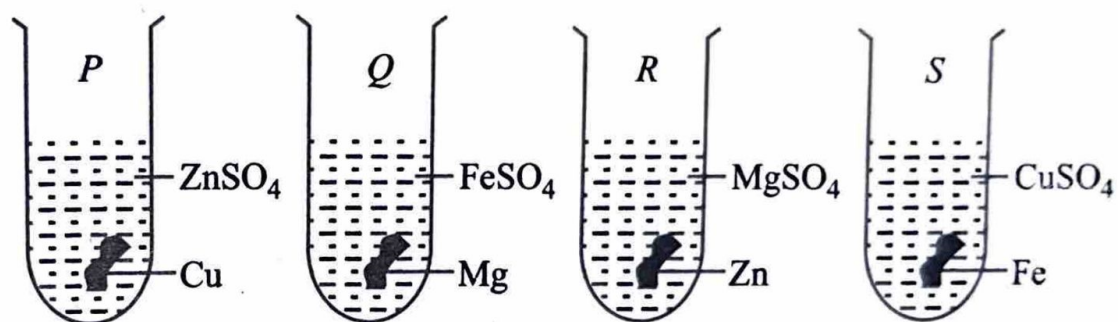
28. Read the given statements about synthetic fibres and plastics carefully.

- I. Polycot is a mixture of two types of fibres, polyester and cotton.
- II. Calendar, woollen clothes and cold drink cans are all non-biodegradable.
- III. Uniforms of firemen have a coating of nylon to make them flame resistant.
- IV. Polythene and PVC are examples of thermosetting plastics.

Which of these statements is/are incorrect?

- (a) II and IV
- (b) I and III
- (c) Only II
- (d) II, III and IV

29. A student performed the first set of experiments with four test tubes containing solutions and metal pieces as indicated in the figure. In the second set of experiments, the metal pieces are interchanged between test tubes P and Q and also between test tubes R and S.



In which test tube(s), no reaction will occur in both sets of experiments?

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

30. Read the given statements and select the correct option.

Statement 1 : During fractional distillation of petroleum, the temperature increases inside the fractionating column on going from bottom to the top.

Statement 2: The fraction with the lower boiling point condenses first.

- (a) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.
- (b) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.
- (c) Statement 1 is true but statement 2 is false.
- (d) Both statements 1 and 2 are false

31. If Raman opened the air-hole of a bunsen burner fully and lighted the burner, he will get

- (a) A luminous flame which is orange-yellow in colour.
- (b) A non-luminous flame which is pale blue in colour.
- (c) A flame that strikes back which is thin blue or green-yellow in colour.
- (d) A smoky flame which gives off a lot of soot.

32. Which of the following has the same monomer unit?

- (a) Nylon and cellulose
- (b) Polyester and nylon
- (c) Rayon and nylon
- (d) Cellulose and rayon

33. A highly reactive element X is stored under water. It readily reacts with oxygen of air to give a compound Y which dissolves in water. The aqueous solution of Y changes blue litmus solution to red. The element X is

- (a) sodium
- (b) sulphur
- (c) phosphorus
- (d) potassium

34. Which one of the following best describes the term 'Broadcasting'?

- (a) Irrigating the field by sprinkler system
- (b) Sowing of seeds by hand
- (c) Harvesting the crop by hand
- (d) Transferring the seedlings from the nursery to field

35. In which of the following cells nuclear material is not surrounded by a nuclear membrane?

- (a) Cell of a bacterium
- (b) Cell of amoeba
- (c) A plant cell
- (d) A human cheek cell

36. Which one of the following options contains only metals?

- (a) Fluorine, Helium, Neon
- (b) Cadmium, Antimony, Manganese
- (c) Iron, Helium, Phosphorus
- (d) Tungsten, Antimony, Bromine

37. Which one of the following carbon compounds is found in the coal tar?

- (a) Benzene
- (b) Phenol
- (c) Naphthalene
- (d) All of these

38. Which one of the following is not ductile?

- (a) Gold
- (b) Tungsten
- (c) Aluminium
- (d) Sulphur

39. Which one of the following is a natural cause of deforestation?

- (a) Forest fire
- (b) Severe draughts
- (c) Global warming
- (d) Both a) and b)

40. Corbett National Park is located in which of the following states of India?

- (a) Madhya Pradesh
- (b) Gujarat
- (c) Uttarakhand
- (d) Assam