



**CLASS – VII**  
**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. A container contains water at temperature  $80^{\circ}C$ . After every 10 minutes, the change in temperature is  $-4^{\circ}C$ . After how much time will the temperature of water be  $20^{\circ}C$ ?

- a) 50 min
- b) 1 hour 30 min
- c) 2 hours 30 min
- d) 2 hours

2. In a hall,  $\frac{1}{3}$  of the people were females and  $\frac{1}{4}$  of those females were school girls. If the total number of people were 600, then how many school girls were there in the hall?

- a) 200
- b) 100
- c) 400
- d) 150

3. The mean, median, unique mode and range of a collection of eight integers are all equal to 8. The largest integer that can be an element of this collection is

- a) 11
- b) 12
- c) 13
- d) 14

4. Two numbers are in the ratio 3 : 4. If 5 is subtracted from each, then the ratio will be 2: 3. What is the smaller number?

- a) 15
- b) 18
- c) 20
- d) 24

5. Solve for x :  $\frac{7x+3}{4} + \frac{9x-5}{8} = \frac{16x-3}{16}$

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

6. If an angle is five times its supplementary angle then the angle is

- a)  $75^{\circ}C$
- b)  $150^{\circ}C$
- c)  $144^{\circ}C$
- d)  $40^{\circ}C$

7. Find the measure of the largest angle of a triangle, if one angle is  $70^{\circ}$  and the other two angles are in the ratio 7: 15.

- a)  $70^{\circ}C$
- b)  $75^{\circ}C$
- c)  $80^{\circ}C$
- d)  $90^{\circ}C$

8. In  $\triangle ABC$  and  $\triangle LMN$ ,  $AB = LM$  and  $BC = MN$ . Which of the following conditions can make the two triangles congruent?

- a)  $\angle A = \angle L$
- b)  $\angle B = \angle M$
- c)  $\angle C = \angle N$
- d) All of these

9. The number of students in a school increased by 8% annually. If there are 71280 students in the school, then how many students were there last year?

- a) 57640
- b) 54000
- c) 61320
- d) 66000

10. If  $a : b = 2 : 3$ , then  $(3a + 2b) : (5a + 3b)$  is equal to

- a)  $13/20$
- b)  $24/19$
- c)  $12/19$
- d)  $13/21$

11. State 'T' for true and 'F' for false and select the correct option.

(i) Every natural number is a rational number.

(ii) Every rational number is a fraction.

(iii) Zero is not a rational number.

(iv) The reciprocal of 0 is  $1/0$

- a) FTTF
- b) TTTF
- c) TFFF
- d) TTFF

12. 4 squares each of side 10 cm have been cut from each corner of a rectangular sheet of paper of size 100 cm  $\times$  80 cm. From the remaining piece of paper, an isosceles right triangle is removed whose equal sides are each of 10 cm length. Find the area of the remaining part of the paper.

- a)  $2550 \text{ cm}^2$
- b)  $7550 \text{ cm}^2$
- c)  $8550 \text{ cm}^2$
- d)  $1550 \text{ cm}^2$

13. The perimeter of a triangle is  $5 - 3a + 7a^2$  and two of its sides are  $2a^2 + 3a - 2$  and  $3a^2 - a + 3$ . Find the third side of a triangle.

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

14. A rectangular piece of land is to be sold out in smaller pieces. The total area of the land is  $2^{17}$  sq. miles. The pieces to be cut out are  $16^2$  sq. miles in size. How many smaller pieces of the land can be sold at the given sizes.

- a)  $2^{15}$
- b)  $16^4$
- c)  $2^9$
- d) None of these.

15. A figure has 4 vertices, 6 edges and a face is a

- a) Cube
- b) Cuboid
- c) Triangular pyramid
- d) Triangle

16. Which of the following statements is CORRECT?

- (a) If lengths of any two sides of a triangle are 7 cm and 10 cm, then the length of its third side lies between 3 cm and 17 cm.
- (b) It is possible to construct a unique triangle, if all its three angles are given.
- (c) An angle of  $\left(7\frac{1}{2}\right)^\circ$ , can't be constructed using a compass and ruler.
- (d) None of these

17. Simplify and write as product of exponential form of primes :  $(20^{16} \div 20^{13}) \times 20^3$

- a)  $2^{12} \times 5^6$
- b)  $2^6 \times 5^6$
- c)  $20^6$
- d) None of these.

18. Four sheets of 50 cm  $\times$  5 cm are to be arranged in such a manner that a square could be formed. What will be the area of the inner part of the square so formed?

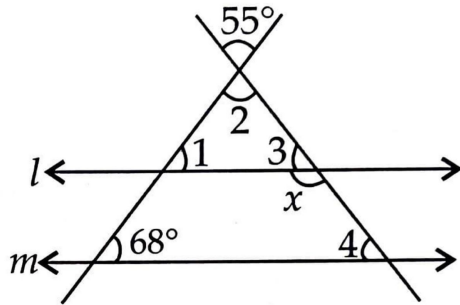
- a)  $2000 \text{ cm}^2$
- b)  $1800 \text{ cm}^2$
- c)  $2025 \text{ cm}^2$
- d)  $2500 \text{ cm}^2$

19. Which of the following statements is incorrect?

- a)  $-\frac{5}{8}$  lies on the left of 0 on the number line.
- b) On the number line,  $\frac{3}{7}$  lies on the right of 0.
- c) The rational number  $\frac{1}{2}$  and  $-\frac{1}{2}$  are on the opposite sides of 0 on the number line.
- d) Sum of rational numbers  $\frac{5}{3}$  and  $-\frac{5}{3}$  is not zero.

20. Given  $l \parallel m$ , find the value of x in the following figure.

- a)  $96^\circ$
- b)  $89^\circ$
- c)  $123^\circ$
- d)  $121^\circ$



21. 1 litre water is poured into a small vessel and 10 litre water is poured into a big vessel. Heat is supplied to both vessels so that the water starts boiling. Then

- Temperature of the water in both vessels is the same and the heat supplied is also the same.
- Temperature of the water in both vessels is the same but heat supplied is not the same.
- Temperature of water in both vessels is not the same but the heat supplied is the same.
- Temperature of water in both vessels is not the same and heat supplied is also not the same.

22. A train moving on a linear path travels a distance  $D$  at a constant speed of  $30 \text{ km/h}$ , then it travels the same distance in opposite direction and reaches initial position at a constant speed  $5 \text{ km/h}$ . What is the average speed of the train?

- $36 \text{ km/h}$
- $10 \text{ km/h}$
- $0$
- $75 \text{ km/h}$

23. A person is running along a circular track of area  $625\pi \text{ m}^2$  ( $\pi = 22/7$ ) with a constant speed. Find the displacement in 15 seconds if he has to complete the race in 30 seconds.

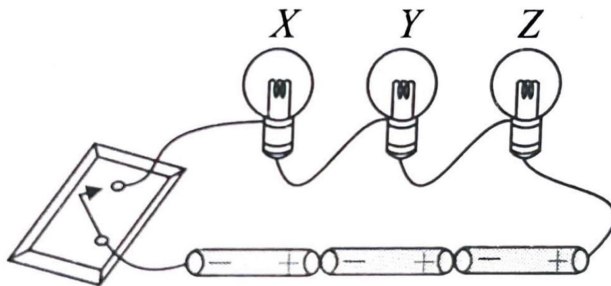
- $200 \text{ m}$
- $25 \text{ m}$
- $100 \text{ m}$
- $50 \text{ m}$

24. Ramesh wants to increase the strength of his electromagnet. Which of the following can he do to make the electromagnet stronger?

- Increase the number of times the magnet is stroked.
  - Increase the number of batteries.
  - Increase the number of coils used around the electromagnet.
  - Change the thickness of the wire.
- I and III only
  - II, III and IV only
  - II and III only
  - I, II and IV only

25. Three bulbs X, Y and Z are connected in a circuit as shown in figure. When the switch is put on, then

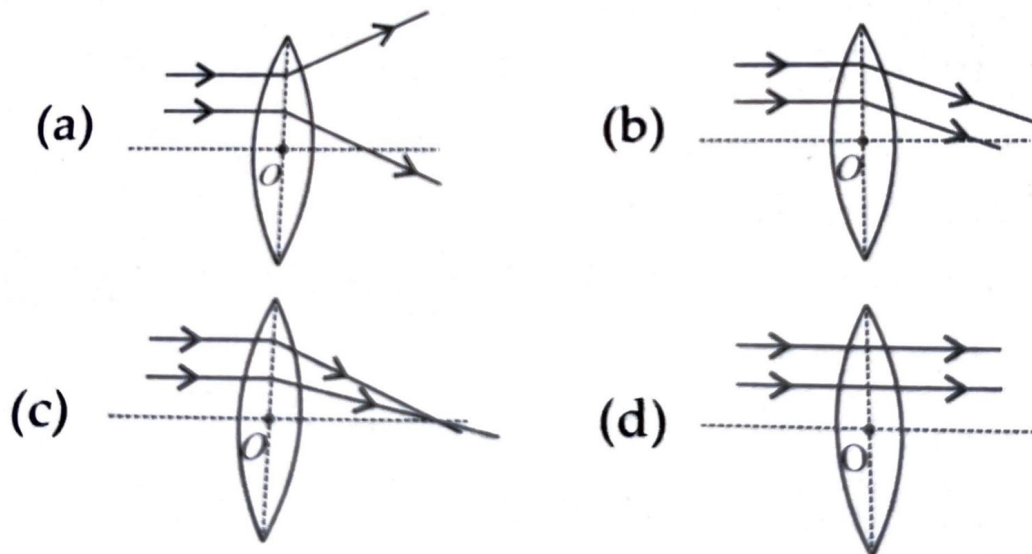
- a) all the bulbs will glow at the same time
- b) bulbs will glow in the order of X, Y and Z
- c) bulb X will glow first whereas bulbs Y and Z will glow simultaneously after some time
- d) bulb Z will glow first.



26. A bus driver is reversing his bus at a speed of 8 m/s. The rear view mirror of the bus is a plane mirror. The driver sees in his rear view mirror the image of a car parked behind his bus. The speed at which the image of the car appears to approach the driver will be

- a) 2 m/s
- b) 4m/s
- c) 8 m/s
- d) 16 m/s

27. Two parallel rays of light strike a convex lens. Which of the following correctly shows the passage of the rays after passing through the lens?



28. Deepak found the soil of his field too basic in nature while Karan used excessive chemical fertilizers in his fields. What should they add to their fields to improve the quality of the soil?

- a) Deepak : Quick lime & Karan : Organic matter
- b) Deepak : Organic matter & Karan : Quick lime
- c) Both should add quick lime.
- d) Both should add organic matter.

29. While discussing the topic 'Rusting', Mr Ankit, a class 7 teacher wrote the following statements on the blackboard. He asked his students to find the incorrect statements.

- I. Depositing a layer of tin on iron is called Galvanisation.
- II. Stainless steel rusts more quickly as it contains carbon and metals like chromium, nickel and manganese.
- III. Salty water fastens the process of rust formation.

Select the incorrect statement(s).

- a) III only
- b) I only
- c) I and II only
- d) I, II and III

30. The equation  $\text{Mg} + \text{CuO} \rightarrow \text{MgO} + \text{Cu}$  represents.

- a) Decomposition reaction
- b) Combination reaction
- c) Displacement reaction
- d) Double displacement reaction.

31. Which one of the following is an anaerobe?

- a) Fish
- b) Mosquito
- c) Yeast
- d) Grasshopper

32. The vascular system of plants consists of:

- a) Veins and nerves
- b) Xylem and phloem
- c) Leaf blades and veins
- d) Apical tissues and xylem

33. Which one among the following is a hermaphrodite?

- a) Rose flower
- b) Sweet pea flower
- c) Papaya flower
- d) Both (a) and (b)

34. Portable toilets are \_\_\_\_\_ toilets
- Septic tank
  - Composting
  - Chemical
  - Vermi-processing
35. Which one of the plants have bisexual flowers?
- Rose
  - Mustard
  - Petunia
  - All the above
36. Convert 95 degree  $^{\circ}\text{F}$  to Celsius
- 35 degree Celsius
  - 45 degree Celsius
  - 20 degree Celsius
  - 25 degree Celsius
37. An atom or groups of atoms of the same or of different elements that behaves as a single unit with a positive or negative charge is known as:
- Radicals
  - Isotopes
  - Isobars
  - All the above
38. Resistance depend on \_\_\_\_\_
- Thickness of wire
  - Length of wire
  - Material of wire
  - All of these
39. Name the tiny filtering units of the kidney
- Nephrons
  - Bile
  - Neurons
  - Guard cells
40. Which of the following acids is present in spinach?
- Nitric acid
  - Formic acid
  - Sulphuric acid
  - Oxalic acid