MATHS
SAMPLE QUESTION PAPER ( SEMESTER II )

Class: VII
Maximum Marks: 60
Time duration: 2hrs
No of pages: 3

List of Topics covered in this sample paper:
Problems based on simple equations
Percent and Percentage
Profit, Loss and Discount
Construction of Quadrilaterals
Volume and Surface area
Factorization
Indices
Set concepts
Subsets, Universal Set
Venn-diagrams
Congruent Triangles
Simple Interest
Averages
Collection and tabulation of Data

General Instructions:
All questions are compulsory.
Section A – Questions 1 to 5 carry 1 mark each.
Section B – Questions 6 to 15 carry 2 marks each.
Section C – Questions 16 to 20 carry 3 marks each.
Section D – Questions 21 to 24 carry 5 marks each.

Section A
1. A number is decreased by 12 which is equal to 45, find the number by giving the expression?
2. What is 60 by 5%?
3. Factorize: $4x^2+5xy-6xy^2$
4. How to represent an null set
5. Define rate of interest

Section B
6. The money spent on repair of the car was 22% of its value. If the repair costs Rs 10000, find the cost of the car.

7. Find the SP if CP is Rs 60 and loss is 12 \( \frac{1}{2} \).

8. If the total surface area of cube s is 103cm\(^2\), find the length of each side and its volume.

9. Find \( 5^4 \cdot 5^5 \cdot 5^3 \)

10. What is finite and infinite set?

11. Given A= \{4,6,8,10,15,17\} B= \{3,9,6,8,15,11,18\}

   Find \( A \cup B \) , \( A \cap B \)

12. Find the simple interest for Rs 550 for 2 years 5 month at 20% p.a.

13. Find \((-3ab)^2 \cdot (-5a^2bc^4)^2\)

14. Difference between finite and infinite set

15. Find simple interest for Rs 8500 for 12 months at the rate of 3\( \frac{1}{2} \) p.a.

Section C

16. A fruit seller bought mangoes at Rs 105 per dozen and sold them at a loss of 10 percent. How much will a customer pay for:
   a) one mango
   b) 35 mango

17. Factorize by using an identity \(2x^2 - 8\)

18. Explain Difference of two sets with examples

19. The average temperature for the first four days of the week was 45\( ^0 \)C. The average of the whole week was 55\( ^0 \)C. What was the average temperature during the last three days of the week?

20. Find \( y \) if the arithmetic mean of the number are 4,9,5,7,10,11

Section D

21. Construct a quadrilateral ABCD such that \( AB = 5\text{cm}, BC = 4.5\text{cm}, CD = 6\text{cm}, DA = 4\text{cm} \) and \( AC = 6\text{cm} \)

22. Express the given set in set builder method
   a) \{0,2,4,6,8,10,12\}
   b) \{15,20,25,30,35,40,45,50\}
   c) \{1/3, 1/6, 1/9, 1/12\}

23. From the Venn diagram find
   a) \( X \)
   b) \( Y \)
   c) \( n(Y) \)
   d) \( (X \cup Y)' \)
   e) \( Y \cap X' \)
24. Prove that if the hypotenuses and one side of a right angled triangle are equal to the hypotenuse and one side of another angled triangle, then the two triangles are congruent.