**MM 35**          **Sets class xi**          **Time 1 hour**

**Paper prepared by**
**Dev Anoop**
**Mathematics Teacher**
**Bathinda**
**Email: devanoop@devanoop.com**

## 1 Mark Each

1. Let A and B two sets in the same universal set. Find A – B =

2. Write the set of all vowels in English alphabet which precede s.

3. Write the set $\left\{ \dfrac{1}{2}, \dfrac{2}{3}, \dfrac{3}{4}, \dfrac{4}{5}, \dfrac{5}{6}, \dfrac{6}{7}, \dfrac{7}{9}, \dfrac{8}{9} \right\}$ in set builder form.

4. Write the following interval in the set builder form (6, 12]

5. Write the subsets of R as intervals $\{x : x \in R, -4 < x \le 6\}$

## 4 Marks Each

6. Let A, B and C be the sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$. Show that B = C.

7. In a group of 100 people, 70 speak Hindi, 50 speak both English and Hindi and all the people speak at least one of the two languages. How many people speak only English and not Hindi? How many people speak English?

8. In a class of 35 students, 17 have taken mathematics, 10 have taken mathematics but not economics. Find the number of students who have taken both mathematics and economics and the number of students who have taken economics but not mathematics, if it is given that each student has taken either mathematics or economics or both.

## 6 Marks Each

9. A survey shows that 63% of the British like oranges whereas 76% like apples. If x% of the British like both oranges and apples, find the value of x.

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10. In a institute of 10,000 students it was found that 40% students play game A, 20% students play game B and 10% students play game C. 5% students play games A and B, 3% play games B and C, 4% play games A and C. If 2% students play all the three games. Find the number of students who play (i) game A only (ii) game B only (iii) none of games A, B and C.

11. In a survey of 25 students it was found 15 had taken mathematics, 12 had taken English and 11 had taken Hindi, 5 had taken mathematics and Hindi, 9 had taken mathematics and English, 4 had taken English and Hindi and 3 had taken all the three subjects. Find number of students who had taken (i) only Hindi (ii) only math (iii) only English (iv) English and Hindi but not mathematics (v) mathematics and English but not Hindi (vi) only one of the subjects (vii) at least one of the three subjects (viii) none of the subjects.