25. If $n(A) = 1000$, $n(B) = 500$ and if $n(A \cap B) \geq 1$ and $n(A \cup B) = p$, then

(a) $500 \leq p \leq 1000$ (b) $1001 \leq p \leq 1498$

(c) $1000 \leq p \leq 1498$ (d) $1000 \leq p \leq 1499$

26. The number of elements in the set $\{(a, b) : 2a^2 + 3b^2 = 35, a, b \in Z\}$, where Z is the set of all integers, is

(a) 2 (b) 4

(c) 8 (d) 12

27. Let A, B, C be finite sets. Suppose that n (A) = 10, n (B) = 15, n (C) = 20, n (A∩B) = 8 and n (B∩C) = 9. Then the possible value of n (A∪B∪C) is

(a) 26

(b) 27

(c) 28

(d) Any of the three values 26, 27, 28 is possible

28. The value of $(A \cup B \cup C) \cap (A \cap B^c \cap C^c)^c \cap C^c$, is

(a) $B \cap C^c$ (b) $B^c \cap C^c$

(c) $B \cap C$ (d) $A \cap B \cap C$

29. In a town of 10,000 families it was found that 40% family buy newspaper A, 20% buy newspaper B and 10% families buy newspaper C, 5% families buy A and B, 3% buy B and C and 4% buy A and C. If 2% families buy all the three newspapers, then number of families which buy A only is

(a) 3100 (b) 3300

(c) 2900 (d) 1400

30. **Statement-1 :** If $A \cup B = A \cup C$ and $A \cap B = A \cap C$, then $B = C$.

Statement-2 : $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$.

(a) Statement -1 is true, Statement-2 is true; Statement -2 is a correct explanation for Statement-1.

(b) Statement -1 is true, Statement-2 is true; Statement -2 is not a correct explanation for Statement-1.

(c) Statement -1 is false, Statement-2 is true.

(d) Statement -1 is true, Statement-2 is false.