

Sets and Relations

- 1. If n(U) = 60, n(A) = 35, n(B) = 24 and $n(A \cup B)' = 10$ then $n(A \cap B)$ is a) 9 b) 8 c) 6 d) None of these
- 2. If A, B and C are non-empty subsets of a set, then $(A B) \cup (B A)$ equals a) $(A \cap B) \cup (A \cup B)$ b) $(A \cup B) - (A \cap B)$ c) $A - (A \cap B)$ d) $(A \cup B) - B$
- 3. If A has 3 elements and B has 6 elements, then the minimum number of elements in the set $A \cup B$ is
 - a) 6 b) 3 c) ϕ d) None of these
- 4. If $A = \{1, 3, 5, 7, 9, 11, 13, 15, 17\}, B = \{2, 4, \dots, 18\}$ and N is the universal set, then $A' \cup ((A \cup B) \cap B')$ is

a)
$$A$$
 b) N c) B d) None of these

- 5. In a group of 65 people, 40 like cricket, 10 like both cricket and tennis. The number of persons liking tennis only and not cricket is
 - a) 21 b) 25 c) 15 d) None of these
- 6. If *P*, *Q* and *R* are subsets of a set *A*, then $R \times (P' \cup Q')'$ equals a) $(R \times P) \cap (R \times Q)$ b) $(R \times Q) \cap (R \times P)$ c) $(R \times P) \cup (R \times Q)$ d) None of these
- 7. Let R be a relation defined as a R b if 1 + ab > 0. Then, the relation R is a) Reflexive
 b) Symmetric
 c) Transitive
 d) None of these
 - c) Transitive d) None of these

8. Let *R* be the relation on the set *R* of all real numbers defined by a R b if $|a - b| \le 1$. Then *R* is

- a) Reflexive b) Symmetric
- c) Transitive d) Anti-Symmetric