

## CHECK YOUR GRASP

## SETS

## EXERCISE-I

1. If A and B are two sets, then  $A \cap (A \cup B)'$  is equal to-  
 (1) A (2) B  
 (3)  $\phi$  (4) none of these
2. If A is any set, then-  
 (1)  $A \cup A' = \phi$  (2)  $A \cup A' = U$   
 (3)  $A \cap A' = U$  (4) none of these
3. If A, B be any two sets, then  $(A \cup B)'$  is equal to-  
 (1)  $A' \cup B'$  (2)  $A' \cap B'$   
 (3)  $A \cap B$  (4)  $A \cup B$
4. If A and B be any two sets, then  $(A \cap B)'$  is equal to-  
 (1)  $A' \cap B'$  (2)  $A' \cup B'$  (3)  $A \cap B$  (4)  $A \cup B$
5. Let  $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ ,  $A = \{1, 2, 5\}$ ,  $B = \{6, 7\}$  then  $A \cap B'$  is-  
 (1)  $B'$  (2) A (3)  $A'$  (4) B.
6. If A and B are two sets, then  $A \cup B = A \cap B$  iff-  
 (1)  $A \subseteq B$  (2)  $B \subseteq A$   
 (3)  $A = B$  (4) none of these
7. Let A and B be two sets in the universal set. Then  $A - B$  equals-  
 (1)  $A \cap B'$  (2)  $A' \cap B$   
 (3)  $A \cap B$  (4) none of these
8. Two sets A, B are disjoint iff-  
 (1)  $A \cup B = \phi$  (2)  $A \cap B \neq \phi$   
 (3)  $A \cap B = \phi$  (4)  $A - B = A$
9. Which of the following is a null set ?  
 (1)  $\{0\}$   
 (2)  $\{x : x > 0 \text{ or } x < 0\}$   
 (3)  $\{x : x^2 = 4 \text{ or } x = 3\}$   
 (4)  $\{x : x^2 + 1 = 0, x \in R\}$
10. If  $A \subseteq B$ , then  $A \cap B$  is equal to-  
 (1) A (2) B (3)  $A'$  (4)  $B'$
11. If A and B are any two sets, then  $A \cup (A \cap B)$  is equal to-  
 (1) A (2) B (3)  $A'$  (4)  $B'$
12. If A and B are not disjoint, then  $n(A \cup B)$  is equal to-  
 (1)  $n(A) + n(B)$   
 (2)  $n(A) + n(B) - n(A \cap B)$   
 (3)  $n(A) + n(B) + n(A \cap B)$   
 (4)  $n(A) \cdot n(B)$
13. If  $A = \{2, 4, 5\}$ ,  $B = \{7, 8, 9\}$  then  $n(A - B)$  is equal to-  
 (1) 6 (2) 9 (3) 3 (4) 0
14. Let A and B be two sets such that  $n(A) = 70$ ,  $n(B) = 60$  and  $n(A \cup B) = 110$ . Then  $n(A \cap B)$  is equal to-  
 (1) 240 (2) 20 (3) 100 (4) 120
15. Which set is the subset of all given sets ?  
 (1)  $\{1, 2, 3, 4, \dots\}$  (2)  $\{1\}$   
 (3)  $\{0\}$  (4)  $\{\}$
16. If  $Q = \left\{x : x = \frac{1}{y}, \text{ where } y \in N\right\}$ , then-  
 (1)  $0 \in Q$  (2)  $1 \in Q$  (3)  $2 \in Q$  (4)  $\frac{2}{3} \in Q$
17.  $A = \{x : x \neq x\}$  represents-  
 (1)  $\{0\}$  (2)  $\{\}$  (3)  $\{1\}$  (4)  $\{x\}$
18. Which of the following statements is true ?  
 (1)  $3 \subseteq \{1, 3, 5\}$  (2)  $3 \in \{1, 3, 5\}$   
 (3)  $\{3\} \in \{1, 3, 5\}$  (4)  $\{3, 5\} \in \{1, 3, 5\}$
19. Which of the following is a null set ?  
 (1)  $A = \{x : x > 1 \text{ and } x < 1\}$   
 (2)  $B = \{x : x + 3 = 3\}$   
 (3)  $C = \{\phi\}$   
 (4)  $D = \{x : x \geq 1 \text{ and } x \leq 1\}$
20.  $P(A) = P(B) \Rightarrow$   
 (1)  $A \subseteq B$  (2)  $B \subseteq A$   
 (3)  $A = B$  (4) none of these

## ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	3	2	2	2	2	3	1	3	4	1	1	2	2	2	4
Que.	16	17	18	19	20										
Ans.	2	2	2	1	3										

## EXERCISE-II

- [AIEEE - 2012]**

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