

15. In a battle 70% of the combatants lost one eye, 80% an ear, 75% an arm, 85% a leg,  $x$  % lost all the four limbs. The minimum value of  $x$  is
- (a) 10 (b) 12  
(c) 15 (d) None of these
16. Let  $n(U) = 700$ ,  $n(A) = 200$ ,  $n(B) = 300$ ,  $n(A \cap B) = 100$ , then  $n(A' \cap B')$  is equal to
- (a) 400 (b) 600  
(c) 300 (d) None of these
17. **Statement-1** : If  $B = U - A$ , then  $n(B) = n(U) - n(A)$  where  $U$  is universal set.  
**Statement-2** : For any three arbitrary set  $A, B, C$  we have if  $C = A - B$ , then  $n(C) = n(A) - n(B)$ .
- (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.
18. Each student in a class of 40, studies at least one of the subjects English, Mathematics and Economics. 16 study English, 22 Economics and 26 Mathematics, 5 study English and Economics, 14 Mathematics and Economics and 2 study all the three subjects. The number of students who study English and Mathematics but not Economics is
- (a) 7 (b) 5  
(c) 10 (d) 4
19. In a class of 80 students numbered a to 80, all odd numbered students opt of Cricket, students whose numbers are divisible by 5 opt for Football and those whose numbers are divisible by 7 opt for Hockey. The number of students who do not opt any of the three games, is
- (a) 13 (b) 24  
(c) 28 (d) 52
20. In a class of 60 students, 23 play Hockey 15 Play Basket-ball and 20 play cricket. 7 play Hockey and Basket-ball, 5 play cricket and Basket-ball, 4 play Hockey and Cricket and 15 students do not play any of these games. Then
- (a) 4 play Hockey, Basket-ball and Cricket  
(b) 20 play Hockey but not Cricket  
(c) 1 plays Hockey and Cricket but not Basket-ball  
(d) All above are correct
21. The set  $(A \setminus B) \cup (B \setminus A)$  is equal to
- (a)  $[A \setminus (A \cap B)] \cap [B \setminus (A \cap B)]$   
(b)  $(A \cup B) \setminus (A \cap B)$   
(c)  $A \setminus (A \cap B)$   
(d)  $\overline{A \cap B} \setminus A \cup B$
22. If  $A$  is the set of the divisors of the number 15,  $B$  is the set of prime numbers smaller than 10 and  $C$  is the set of even numbers smaller than 9, then  $(A \cup C) \cap B$  is the set
- (a)  $\{1, 3, 5\}$  (b)  $\{1, 2, 3\}$   
(c)  $\{2, 3, 5\}$  (d)  $\{2, 5\}$
23. Two finite sets have  $m$  and  $n$  elements. The number of subsets of the first set is 112 more than that of the second set. The values of  $m$  and  $n$  are, respectively,
- (a) 4, 7 (b) 7, 4  
(c) 4, 4 (d) 7, 7
24. The number of students who take both the subjects mathematics and chemistry is 30. This represents 10% of the enrolment in mathematics and 12% of the enrolment in chemistry. How many students take at least one of these two subjects?
- (a) 520 (b) 490  
(c) 560 (d) 480
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