[20]

*** Choose the right answer from the given options. [1 Marks Each]**

1. If A and B are two disjoint sets, then $n(A \cup B)$ is equal to:
   (A) $n(A) + n(B)$ (B) $n(A) + n(B) - n(A \cap B)$
   (C) $n(A) + n(B) + n(A \cap B)$ (D) $n(A)\, n(B)$.

2. In a city 20% of the population travels by car 50% travels by bus and 10% travels by both car and bus. Then, persons travelling by car or bus is:
   (A) 80% (B) 40% (C) 60% (D) 70%.

3. IF R = {(2, 1), (4, 3), (4, 5)}, then range of the function is?
   (A) Range R = {2, 4} (B) Range R = {1, 3, 5} (C) Range R = {2, 3, 4, 5} (D) Range R {1, 1, 4, 5}

4. If A = {2, 4, 6, 8, 10}, B = {1, 3, 5, 7, 9}, then A - B =_____:
   (A) {} (B) {2, 4, 6, 8, 10}
   (C) {1, 3, 5, 7, 9} (D) None

5. A market research group conducted a survey of 1000 consumers and reported that 720 consumers like product A and 420 consumers like product B.Then, the least number of consumers that must have liked both the products is:
   (A) 140 (B) 180 (C) 210 (D) 190

6. Choose the correct answers from the given four option:
   In a class of 60 students, 25 students play cricket and 20 students play tennis, and 10 students play both the games. Then, the number of students who play neither is.
   (A) 0 (B) 25 (C) 35 (D) 45

7. If $A \cup B^1$ then $n(A \cup B) = ?$
   (A) $n(A) + n(B) - n(A \cap B)$ (B) $n(A) - n(B) + n(A \cap B)$
   (C) $n(A) - n(B) - n(A \cap B)$ (D) $n(A) + n(B) + n(A \cap B)$

8. Choose the correct answers from the given four option:
   If sets A and B are defined as $A = \left\{(x,y) | y = \frac{1}{x}, 0 \neq x \in R\right\}$ $B = \{(x,y) | y = -x, x \in R\}$, then
   (A) $A \cap B = A$ (B) $A \cap B = B$ (C) $A \cap B = \phi$ (D) $A \cup B = A$

9. Two finite sets have m and n elements. The number of elements in the power set of first set is 48 more than the total number of elements in power set of the second set. Then, the values of m and n are:
   (A) 7, 6 (B) 6, 3 (C) 7, 4 (D) 3, 7.

10. The equation $x + \cos x = a$ has exactly one positive root. Complete set of values of 'a' is:
    (A) $(0,1)$ (B) $(-\infty,1)$ (C) $(-1,1)$ (D) $(1,\infty)$

11. In an examination 80% passed in English, 85% in Maths, 75% in both and 40 students failed in both subjects. Then the number of students appeared are:
    (A) 300 (B) 400 (C) 500 (D) 600

12. In a certain group of 36 people, 18 are wearing hats and 24 are wearing sweaters. If six people are wearing neither a hat nor a sweater, then how many people are wearing both a hat and a sweater?
    (A) 30 (B) 22 (C) 12 (D) 8

13. Which of the following collections are sets?
    (A) The collection of all the days of a week
    (B) A collection of 11 best hockey player of India.
    (C) The collection of all rich person of Delhi
    (D) A collection of most dangerous animals of India.

14. Choose the correct answers from the given four option:
    A survey shows that 63% of the people watch a News Channel whereas 76% watch another channel. If x% of the people watch both channel, then
    (A) x = 35 (B) x = 63 (C) $39 \leq x \leq 63$ (D) x = 39

15. There are 19 hockey players in a club. On a particular day 14 were wearing the prescribed hockey shirts, while 11 were wearing the prescribed hockey pants. None of then was without hockey pant or hockey shirt. How many of them were

in complete hockey uniform?

(A) 8 (B) 6 (C) 9 (D) 7

16. The cardinality of the set P(P(P(f))) is.

(A) 0 (B) 1 (C) 2 (D) 4

17. The set $(\mathrm{A} \cup \mathrm{B}')' \cup \mathrm{B} \cap \mathrm{C}$ is equal to:

(A) $\mathrm{A}' \cup \mathrm{B} \cup \mathrm{C}$ (B) $\mathrm{A}' \cup \mathrm{B}$ (C) $\mathrm{A}' \cup \mathrm{C}'$ (D) $\mathrm{A}' \cap \mathrm{B}$.

18. In a class of 50 students, 10 did not opt for math, 15 did not opt for science and 2 did not opt for either. How many students of the class opted for both math and science.

(A) 24 (B) 25 (C) 26 (D) 27

19. How many elements has P(A), if A = f ?

(A) Two (B) One (C) Three (D) Zero.

20. If A = (6, 7, 8, 9), B = (4, 6, 8, 10) and C = {x : x $\in$ N : 2 < x $\leq$ 7} ; find :B − C

(A) {4, 6} (B) {4, 6, 8} (C) {6, 8, 10} (D) {8, 10}

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