Practice paper for class XI(NCERT)

Chapters – 1, 2, 3

1. If A = {7, 8,9} and B ={9, 5}, find $(A \cup B) \; X \; (A \cap B)$.
2. If the number of elements in set A and in B is m and n respectively, then the number of relations from set A to B is?
3. If $x \in R$ then find the range of $\frac{x^2-x+1}{x^2+x+1}$.
4. A function f is defined for all positive integers and satisfies f (1) = 2014 and f (1) +f (2) +…+f (n) = n^{2}f (n), for all n>1. Then find the value of f (2013).   ANS 2/2013
5. If A ={ 1,3,5,….,17}, B={2,4,6,…18} and N is the universal set then find the value of $A' \cup \{(A \cup B) \cap B'\}$.
6. Find the domain and range of $f(x) = \frac{1}{\sqrt{4-x^2}}$.
7. Two sets A and B have 9 elements in common. How much number of elements is common to sets AXB and BXA?   ANS 81
8. If f(x) satisfy the equation x^{2}f(x) + f(1 − x)= 2x − x^4 , then find f(1/3) .   ANS 8/9
9. Let R be a relation in set N as R = {(x, y) : x + 2y = 8}, what is the range of R?
10. Find the range of function $f(x) = \frac{1}{2-sin\,3x}$ for all real numbers.   ANS [1/3 , 1]
11. Out of the 64 students, the number of students taking mathematics is 55 and number of students taking both mathematics and statistics is 10. How many of the students took statistics only?
12. Let A and B are subsets of universal set U such that n(U) =800, n(A) = 300, n(B) = 400 and $n(A \cap B) = 100$. Then the value of $n(A' \cap B')$ is?
13. If A and B are two sets , then $(A - B) \cup (B - A) \cup (A \cap B) =$?
14. If A, B and C are three sets such that $A \cap B = A \cap C \; and \; A \cup B = A \cup C$, then which one is true
      (a) A = B   (b) A = C   (c) B = C.
15. For any two sets A and B, A − (A − B)=? (a) B (b) A − B (c) $A \cap B$ (d) $A' \cap B'$
16. Simplify $(A \cup B)' \cap (A' \cup B)'$.   ANS { }
17. For three sets A , B and C if A = $B \cap C \; and \; B = C \cap A$, then which is true
      (a) A is subset of B   (b) B is subset of A   (c) A = B   (d) A is subset of B'.
18. A, B, C are subsets of set X, then $(A' \cap B' \cap C) \cup (B \cap C) \cup (A \cap C)$ equals
      (a) A   (b) B   (c) C   (d) $X \cap (A \cup B \cup C)$.
19. In a survey it was found that 70% like apples , 64% like bananas and x% like both apples and bananas, find the range of x.   ANS $34 \le x \le 64$
20. Simplify $cosxcos(x + 2) - cos^2(x + 1)$.   ANS: - sin^{2}1

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