EduSahara™ Assignment

Name : Operations on Sets

Chapter : Sets

Grade : SSC Grade X

1. If $A \subset B$, then which of the following are true?

   a) $A \cap B = B$
   b) $A \cup B = \varnothing$
   c) $A \cap B = A$
   d) $A \cup B = B$
   e) $A \cup B = A$

   (i) {c,d} (ii) {b,d,c} (iii) {b,d} (iv) {a,c} (v) {e,a,c}

2. If $A \subset B$, then which of the following are true?

   a) $A - B = B$
   b) $A - B = \varnothing$
   c) $A \cup B = \varnothing$
   d) $B - A = A$
   e) $B - A = B$

   (i) {a,b} (ii) {c,b} (iii) {b} (iv) {d,e,b}

3. Given 5 sets $A = \{8,3,7,4\}$, $B = \{7,8,3,4\}$, $C = \{2,10,4,3,9,1,5\}$, $D = \{13,17,11,19,18,16,14\}$ and $E = \{4,1,8,9,5,7,10,3,2,6\}$, which of the following are true?

   a) $A \leftrightarrow C$
   b) $A = B$
   c) $C = D$
   d) $C \leftrightarrow D$
   e) $A \subset C$

   (i) {e,a,b} (ii) {a,b} (iii) {b,d} (iv) {c,d} (v) {c,d,b}

4. For any two non-empty sets A and B, which of the following are true?

   a) $A \cup B = \varnothing$
   b) $A \cup B = B \cap A$
   c) $A \cup B = B \cup A$
   d) $A \cap B = B \cap A$
   e) $A \cap B = B \cup A$

   (i) {a,c} (ii) {b,d,c} (iii) {c,d} (iv) {e,a,c} (v) {b,d}

5. If $A = \{4,0,1\}$ and $B = \{3,4,2\}$, then $A \cup B =$

   (i) {0,1,2,3} (ii) {1,3,2,4,0} (iii) {4,3,7,1,2} (iv) {1,3,0,4} (v) {2,0,1,4,3,7}

6. If $A = \{6,2,8,1\}$ and $B = \{9,10,8,5\}$, then $A \cup B =$

   (i) {2,9,8,6,1,5,10} (ii) {8,10,2,6,1,5,13} (iii) {13,5,6,8,1,9,10,2} (iv) {9,1,6,10,2,5} (v) {2,8,1,5,6,10}

7. If A = {4,14,10,1,5} and B = {3,9,15,0,8} , then A ∪ B =

(i) {9,15,10,4,1,8,14,0,3} (ii) {8,5,1,15,10,9,14,3,4} (iii) {15,3,1,0,5,10,19,8,4,14,9}

(iv) {0,1,9,5,15,14,18,8,3,10} (v) {0,3,14,9,4,10,15,8,5,1}

8. If A = {8,5,4} and B = {0,3,1} , then A ∩ B =

(i) {} (ii) {8,1} (iii) {0} (iv) {4} (v) {13}

9. If A = {6,1,2,10,5} and B = {2,1,8,5,4} , then A ∩ B =

(i) {8,6,5,1,2} (ii) {1,11,5,2} (iii) {5,6,1,2} (iv) {2,1,5} (v) {4,2,1,5}

10. If A = {0,8,1,15,5,13,11} and B = {9,7,6,15,4,3,12} , then A ∩ B =

(i) {15,3} (ii) {15,18} (iii) {15,12,5} (iv) {11,15} (v) {15}

11. If A = {1,0,2,5} and B = {1,4,0,5} , then A − B =

(i) {} (ii) {2} (iii) {0,2} (iv) {11,2} (v) {4}

12. If A = {2,4,7,14,11} and B = {6,14,10,2,11} , then A − B =

(i) {4,7} (ii) {6,10} (iii) {7,18,4} (iv) {7} (v) {7,4,14}

13. If A = {2,13,0,12,7,9} and B = {3,12,10,4,0,9} , then A − B =

(i) {3,4,10} (ii) {7,2,13,9} (iii) {7,2,18,13} (iv) {2,7,13} (v) {7,13}

14. If A = {7,9,2,10} and B = {7,0,6,10} , then B − A =

(i) {0,6} (ii) {0} (iii) {0,11,6} (iv) {} (v) {6,0,10}

15. If A = {12,4,9,5,2} and B = {6,15,12,1,2} , then B − A =

(i) {15,6,1,18} (ii) {6,15} (iii) {6,1,15} (iv) {} (v) {6,1,15,2}

16. If A = {7,15,2,12,8,0} and B = {5,1,14,9,12,0} , then B − A =

(i) {9,5,1,14} (ii) {5,14,9} (iii) {} (iv) {1,14,5,9,0} (v) {14,9,19,1,5}

17. The symmetric difference of set A = {0,4,1} and set B = {3,1,2} is

(i) {3,2} (ii) {2,0,3} (iii) {0,4} (iv) {1,3,0,2,4} (v) {2,3,4,0}

18. The symmetric difference of set A = {6,1,2,9,5} and set B = {7,6,10,0,5} is

(i) {2,1,10,9,7,6,0} (ii) {10,1,7,2,0} (iii) {0,7,10} (iv) {9,0,10,2,7,1} (v) {1,2,9}

19. If μ = {7,-1,0,-4,-2,-5,1,2,-8,8,-9,4,9,-3,-6}, A = {7,-1,0,-4,-2} and B = {-2,-5,1,2,0,-8,8}, find A ∪ B

(i) {-4,-2,2,0,7,-5,1,8,-1} (ii) {7,1,-2,-4,-1,0,-8,2,-5,-6} (iii) {0,-8,-5,-6,-2,7,2,-1,1,8,-4}

(iv) {-8,1,-2,2,7,-4,8,0,-5} (v) {2,-4,7,-2,8,0,1,-1,-5,-8}

20. If μ = {-3,7,-5,-7,8,1,9,-8,-2,-4,2,5,-9,0}, A = {-3,7,-5,-7,8,1,9} and B = {-8,-2,1}, find A ∩ B

(i) {} (ii) {1} (iii) {1,-4} (iv) {5}

21. If μ = {-7,9,-6,-3,1,7,0,4,5,8}, A = {-7,9,-6,-3} and B = {-3,1,7}, find A − B

(i) {9,-6} (ii) {} (iii) {0,-6,-7,9} (iv) {-7,-6,9} (v) {9,5,-7}

22. If μ = {-5,7,9,-1,-9,-7,0,-4,4,-2,-8,8,1,10,-3,-6,2,5}, A = {-5,7,9,-1,-9,-7,0} and B = {-4,4,9,-9,-5,-2,-8}, find B − A

(i) {-2,-8,-4} (ii) {} (iii) {10,-2,-4,-8,4} (iv) {-2,-4,-8,4} (v) {-8,-2,2,4}

23. If μ = {0,4,-9,1,-6,-8,-5,-4,-7,-1,5}, A = {0,4,-9,1} and B = {-6,-9,-8,-5}, find (A − B) ∪ (B − A)

(i) {-6,1,0,4,-8} (ii) {-8,1,-6,0,-5} (iii) {-6,-5,5,1,0,4,-8} (iv) {-5,1,-6,4,-8,0} (v) {-6,-5,4,0,-4,-8}

24. If μ = {6,7,2,-5,3,5,4,-3,-6,-8,0,-4,9,-9,1,-2,-7}, A = {6,7,2,-5,3,5} and B = {4,2,-3,-6,-8,-5,3}, find (A ∪ B) − (A ∩ B)

(i) {4,-3,7,-8,-6,6,0,5} (ii) {6,7,4,-3,5,-7,-8} (iii) {4,5,-6,7,-8,-3} (iv) {6,7,5,4,-6,-8} (v) {4,-8,7,-6,6,5,-3}

25. If μ = {7,-4,-9,5,-2,6,-3,0,2,1,9,-8,-6,-1,-5,10,8,3}, A = {7,-4,-9,5,-2,6,-3} and B = {0,2,1,9,-4,-9,-8}, find n(A ∪ B)

(i) 15 (ii) 10 (iii) 13 (iv) 12 (v) 11

26. If μ = {9,-3,6,-8,-2,-9,-1,4,7,5,2,0,-5,3,-6,-7,8}, A = {9,-3,6,-8,-2,-9} and B = {-3,-1,4,7,9,-2,-8}, find n(A ∩ B)

(i) 1 (ii) 4 (iii) 6 (iv) 3 (v) 5

27. If μ = {5,-1,-2,-3,1,6,7,2,8,0,4,3,-6,-5}, A = {5,-1,-2,-3,1,6} and B = {7,-2,2,-3}, find n(A − B)

(i) 5 (ii) 6 (iii) 4 (iv) 2 (v) 3

28. If μ = {-9,7,0,1,-1,6,9,-2,5}, A = {-9,7,0} and B = {0,1,-1,6}, find n(B − A)

(i) 4 (ii) 1 (iii) 3 (iv) 6 (v) 2

29. If μ = {0,-3,3,-8,9,7,-4,-9,4,-5,2,-2,5,-7,8,-6}, A = {0,-3,3,-8,9,7,-4} and B = {-9,4,-8,-5,-3}, find n((A − B) ∪ (B − A))

(i) 7 (ii) 9 (iii) 6 (iv) 11 (v) 8

30. If μ = {4,7,-8,3,5,6,0,-7,1,-9,-5,-2}, A = {4,7,-8,3} and B = {-8,5,3,6,0}, find n((A ∪ B) − (A ∩ B))

(i) 6 (ii) 5 (iii) 2 (iv) 7 (v) 4

Assignment Key

1) (i)	2) (iii)	3) (iii)	4) (iii)	5) (ii)	6) (i)
7) (v)	8) (i)	9) (iv)	10) (v)	11) (ii)	12) (i)
13) (iv)	14) (i)	15) (iii)	16) (i)	17) (v)	18) (iv)
19) (v)	20) (ii)	21) (iv)	22) (iv)	23) (iv)	24) (v)
25) (iv)	26) (ii)	27) (iii)	28) (iii)	29) (v)	30) (ii)