



1. If  $A = \{8, 7, 12, 5, 15, 4, 1, 3\}$ ,  $B = \{11, 1, 13, 6, 8, 5, 4, 9\}$  and  $C = \{7, 10, 1, 5, 0, 14, 6, 2\}$ , then  $A \cap (B \cap C) =$   
(i)  $\{5, 1, 19\}$  (ii)  $\{5, 0, 1\}$  (iii)  $\{1, 5, 12\}$  (iv)  $\{11, 1, 5\}$  (v)  $\{1, 5\}$

2. Which of the following is 'complement' symbol?  
(i)  $\not\in$  (ii)  $\leftrightarrow$  (iii)  $\subset$  (iv)  $\in$  (v)  $'$

3. If  $A = \{10, 9, 0, 6, 11, 4, 3\}$ ,  $B = \{15, 2, 5, 10, 1, 7\}$  and  $C = \{15, 13, 2, 0, 12, 11\}$ , then  $C \cap (A \cap B) =$   
(i)  $\{\}$  (ii)  $\{17\}$  (iii)  $\{3\}$  (iv)  $\{7\}$  (v)  $\{13\}$

4. Which of the following is not equal to set  $A = \{7, 4, 8, 3, 2, 9, 6, 0\}$ ?  
(i)  $\{4, 8, 9, 6, 1, 7, 2, 3\}$  (ii)  $\{6, 2, 0, 3, 7, 9, 8, 4\}$  (iii)  $\{8, 0, 3, 6, 7, 9, 4, 2\}$  (iv)  $\{6, 0, 9, 8, 7, 4, 2, 3\}$  (v)  $\{3, 2, 4, 8, 7, 0, 9, 6\}$

5. If  $A = \{7, 9, 8\}$  and  $\mu = \{7, 9, 8, -6, 4\}$ , find  $A \cup \mu$   
(i)  $\{6, -6, 9, 8, -1\}$  (ii)  $\{-6, 9, 7, 4, 8\}$  (iii)  $\{7, 4, 9, 8\}$  (iv)  $\{1, 9, -6, 7, 8, 4, 3\}$  (v)  $\{4, 10, 7, -6, 9\}$

6. Which of the following is not a subset of  $A = \{4, 9, 0, 8, 1, 5, 2, 7, 3\}$ ?  
(i)  $\{2, 0, 4, 3, 1, 8, 5, 7\}$  (ii)  $\{0, 2, 6, 5, 1, 4, 3, 9\}$  (iii)  $\{4, 9, 0, 8, 1, 5, 2, 7, 3\}$  (iv)  $\{3, 5, 2, 7, 8, 9, 0\}$  (v)  $\{2, 1, 8, 7, 3, 9, 5, 4\}$

7. Which of the following is 'superset or equal to' symbol?  
(i)  $\cup$  (ii)  $\in$  (iii)  $\supseteq$  (iv)  $\subset$  (v)  $\leftrightarrow$

8. If  $A = \{u, y, e, z, c\}$ , which of the following are true?  
a)  $A \supset e$   
b)  $e \notin A$   
c)  $\{c, e\} \subset A$   
d)  $e \subset A$   
e)  $e \in A$   
(i)  $\{b, e, c\}$  (ii)  $\{a, c\}$  (iii)  $\{d, a, c\}$  (iv)  $\{c, e\}$  (v)  $\{b, e\}$

9. Which of the following is a null set?  
(i)  $\{2, -1, -6, 7\}$  (ii)  $\{-5, 1, 7, -3, 3\}$  (iii)  $\{-6, 1, 2\}$  (iv)  $\{\}$  (v)  $\{3, -9\}$

10. If  $A = \{6, 10, 1, 0\}$ ,  $B = \{1, 5, 0\}$  and  $C = \{1, 6, 8\}$ , then  $A \cup (B \cup C) =$   
(i)  $\{8, 6, 1, 5, 0\}$  (ii)  $\{8, 0, 1, 6, 10\}$  (iii)  $\{8, 1, 5, 10, 0, 6\}$  (iv)  $\{\}$  (v)  $\{5, 6, 16, 0, 8, 10, 1\}$

11. If  $A = \{5, 4, 1\}$  and  $B = \{1, 4, 0\}$ , then  $B \cup A =$   
(i)  $\{1, 5, 0\}$  (ii)  $\{5, 4, 0, 1\}$  (iii)  $\{4, 0, 5, 6, 1\}$  (iv)  $\{1, 4, 5\}$  (v)  $\{0, 8, 4, 5\}$

12. If  $\mu = \{-8, 10, -2, -4, 7, -1, -9, 5, -5, -6, -3, 4, -7, 2, 8, 3, 0\}$ ,  $A = \{-8, 10, -2, -4, 7, -1, -9\}$  and  $B = \{5, -5, -6, 7, -3, 4, -7\}$ , find  $n(B)$   
(i) 8 (ii) 4 (iii) 9 (iv) 7 (v) 6

13. If  $\mu = \{-4,8,-5,3,-7,6,7,9\}$ ,  $A = \{-4,8,-5\}$  and  $B = \{8,-5,-4\}$ , find  $(A \cup B) - (A \cap B)$

(i)  $\{3\}$  (ii)  $\{\}$  (iii)  $\{7\}$

14. If  $A = \{2,7,4,8,5\}$ , which of the following are true?

a)  $\{8,4\} \subset A$   
b)  $5 \subset A$   
c)  $A \supset 5$   
d)  $5 \in A$   
e)  $5 \notin A$

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

15. What is the cardinality of an empty set?

(i) 2 (ii) 3 (iii) 0 (iv) 5 (v) 6

16. If  $A = \{15,0,9,2,13,3\}$ ,  $B = \{10,1,15,8,0,5\}$  and  $C = \{0,4,14,8,11,6\}$ , then  $A \cap (B \cap C) =$

(i)  $\{0,4\}$  (ii)  $\{0,20\}$  (iii)  $\{13,0\}$  (iv)  $\{0,10\}$  (v)  $\{0\}$

17. If  $A = \{0,3,10,6\}$  and  $B = \{2,8,7,3\}$ , then  $B \cup A =$

(i)  $\{10,8,6,2,7,0\}$  (ii)  $\{10,0,13,8,2,3,6\}$  (iii)  $\{8,0,2,13,7,3,10,6\}$  (iv)  $\{8,2,10,3,0,6,7\}$  (v)  $\{2,3,0,7,10,8\}$

18. If  $\mu = \{-8,6,-3,-1,-6,-9,2,-7,8,0,-4,9,-5,4,-2\}$ ,  $A = \{-8,6,-3,-1,-6,-9,2\}$  and  $B = \{-7,-3,8,0\}$ , find  $((A - B) \cup (B - A))'$

(i)  $\{9,-5,4,-2,-4\}$  (ii)  $\{\}$  (iii)  $\{-2,-4,9,-3,-5,4\}$  (iv)  $\{-5,-4,4,-2,-3\}$

19. If  $\mu = \{4,0,-9,-2,6,5,-1,-8,7,3,-5,1,-7,-6,8\}$ ,  $A = \{4,0,-9,-2,6\}$  and  $B = \{5,-1,-8,7,0,3,-2\}$ , find  $(A - B) \cup (B - A)$

(i)  $\{7,-8,-9,5,3,4,-1\}$  (ii)  $\{-8,7,4,-9,-1,5,6,3\}$  (iii)  $\{4,6,3,7,5,-9,-8\}$  (iv)  $\{3,6,5,-8,4,-1,-5,-9\}$   
(v)  $\{-1,4,-8,3,6,-9,8,7,5\}$

20. If  $\mu = \{-5,-6,-3,1,-7,8,5,-4,3,-2,2,6\}$ ,  $A = \{-5,-6,-3,1,-7\}$  and  $B = \{8,5,-4,3\}$ , find  $(A - B)'$

(i)  $\{3,-2,6,2,8,-4,5\}$  (ii)  $\{8,-4,3,6,2,-2\}$  (iii)  $\{\}$

21. If  $A$  and  $B$  are disjoint sets, which of the following are true?

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

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

22. If  $\mu = \{-7,-8,9,1,-6,3,5,6,-2,-4,-1,0,8\}$ ,  $A = \{-7,-8,9,1\}$  and  $B = \{-6,3,5,-7,6,-2\}$ , find  $n(B - A)$

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

23. Which of the following elements does not belong to the set  $\{m,z,x,b,u\}$

(i) f (ii) u (iii) m (iv) b (v) x

24. If  $\mu = \{-1,4,-3,-6,1,-8,-7,3,-9,2,7\}$ ,  $A = \{-1,4,-3,-6\}$  and  $B = \{-3,1,-8,-7\}$ , find  $A - B$

(i)  $\{2,4,-6\}$  (ii)  $\{\}$  (iii)  $\{3,-1,-6,4\}$  (iv)  $\{-1,-6,4\}$  (v)  $\{-1,4\}$

25. Which of the following is 'superset' symbol?

- (i)  $\subset$
- (ii)  $\subseteq$
- (iii)  $\notin$
- (iv)  $\supset$
- (v)  $\cap$

## Assignment Key

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