EduSahara™ Assignment

Name : Set Algebra

Chapter : Sets

Grade : ICSE Grade VIII

1. Which of the following are true?

   a) A ∩ A' = A
   b) A ∩ A' = ∅
   c) A ∪ A' = A
   d) A ∪ A' = μ
   e) A ∪ A' = ∅
   f) A ∩ A' = μ

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

2. Which of the following are true with respect to set operations?

   a) Intersection is not associative
   b) Union does not distribute over intersection
   c) Intersection is associative
   d) Intersection distributes over union
   e) Union distributes over intersection

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

3. Which of the following are true with respect to set operations?

   a) Intersection is commutative
   b) Union is associative
   c) Union is not commutative
   d) Union is commutative
   e) Intersection is not commutative

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

4. Which of the following are true?

   a) A' ∩ B' = (A ∪ B)'
   b) A' ∪ B' = (A ∩ B)'
   c) A' ∪ B' = (A ∪ B)'
   d) A' ∩ B' = (A ∩ B)'
   e) A' ∩ B' = A' ∪ B'

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

5. Which of the following are true?

   a) (A ∪ B) ∪ C = A ∪ (B ∪ C)
   b) A ∩ (B ∪ C) = (A ∩ B) ∪ (A ∩ C)
   c) A ∩ (B ∪ C) = (A ∪ B) ∩ (A ∪ C)
   d) (A ∩ B) ∩ C = A ∩ (B ∩ C)
   e) A ∪ (B ∩ C) = (A ∪ B) ∩ (A ∪ C)
   f) A ∪ (B ∩ C) = (A ∩ B) ∪ (A ∩ C)

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

6. If A = {5,7,3,4,6}, which of the following are true?

a) $\{7,3\} \subset A$
b) $6 \in A$
c) $A \supset 6$
d) $6 \notin A$
e) $6 \subset A$

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

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

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

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

8. If A = {i,n,v,l,z}, which of the following are true?

a) $n \subset A$
b) $\{i,n\} \subset A$
c) $n \in A$
d) $A \supset n$
e) $n \notin A$

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

9. Given sets A, B and C, where $A \subset B \subset C$, which of the following are true?

a) $C \supset B$
b) $C \subset A$
c) $\varnothing \subset B$
d) $B \supset A$
e) $B \subset A$

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

10. Which of the following are true?

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

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

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

a) $A = B$
b) $A' = B$
c) $B \supset A$
d) $B \subset A$
e) $A' \subset B$

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

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

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

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

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

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

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

14. Given 5 sets $A = \{9,10,4,2\}$, $B = \{4,9,10,2\}$, $C = \{8,1,6,10,7,9,3\}$, $D = \{18,12,14,17,16,13,15\}$ and $E = \{5,4,3,6,2,1,8,9,7,10\}$, which of the following are true?

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

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

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

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

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

Assignment Key

1) (v)	2) (iv)	3) (i)	4) (iv)	5) (iii)	6) (i)
7) (iii)	8) (ii)	9) (iii)	10) (ii)	11) (iv)	12) (iii)
13) (iv)	14) (iii)	15) (iv)			