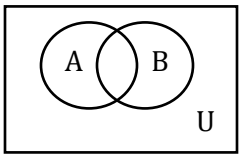
SETS

VENN DIAGRAM AND OPERATION ON SETS

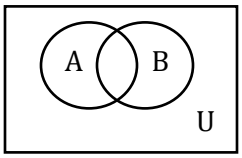
EXERCISE

Q.1 Is set A a subset of set B in the provided Venn diagram?



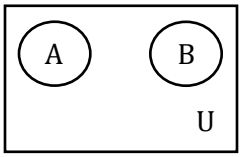
(a) True
(b) False

Q.2 Does set A belong to the subset of set U in the provided Venn diagram?



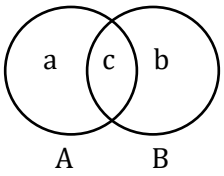
(a) True
(b) False

Q.3 Which of the following statement is true ?



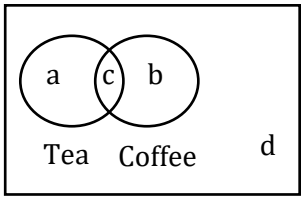
(a) A is subset of B
(b) B is subset of A
(c) U is subset of A and B
(d) A and B are subsets of U

Q.4 If the given Venn diagram has n(A) = 10, n(B) = 20, and the intersection (c) is 5, determine the values of a and b.



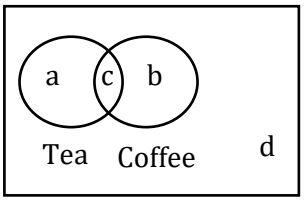
(a) a=10 and b=15
(b) a=5 and b=15
(c) a=15 and b=10
(d) a=15 and b=5

Q.5 Out of a population of 100 individuals, 40 prefer tea, 30 prefer coffee, and 10 enjoy both beverages. How many individuals exclusively favor tea?



(a) 10 (b) 20
(c) 30 (d) 40

Q.6 In a population of 100 individuals, 40 have a preference for tea, and 30 have a preference for coffee. Among them, 10 individuals like both beverages. How many individuals exclusively favor coffee?



(a) 10 (b) 20
(c) 30 (d) 40

Q.7 If A = {1,2,3} and B = {3,4,5,6} determine the union of A and B (A∪B).
(a) {1,2,3} (b) {3}
(c) {1,2,3,4,5,6} (d) { }

Q.8 Consider A as the set of odd numbers and B as the set of even numbers. Determine the intersection of A and B (A∩B).
(a) Set of prime numbers
(b) Set of real numbers
(c) Empty set
(d) Set of natural numbers

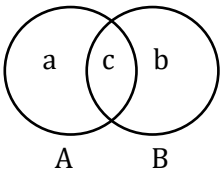
Q.9 If A={a, e, i, o, u} and B={a, e, u} then find the union of A and B (A∪B).
(a) A (b) B
(c) Φ (d) A∩B

Q.10 If A = {a, e, i, o, u} and B = {a, e, u}, determine the intersection of A and B (A∩B).
(a) A (b) B
(c) Φ (d) A∪B

Q.11 Given A = {1, 2, 3} and B = {3, 4, 5, 6}, calculate the intersection of A and B (A∩B).

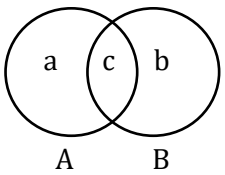
(a) {1,2,3} (b) { }
(c) {1,2,3,4,5,6} (d) {3}

Q.12 In the provided Venn diagram, determine the union of sets A and B (A∪B).



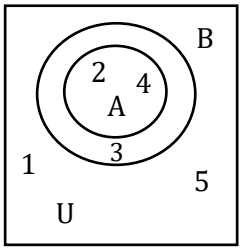
(a) a (b) b
(c) a + c (d) a + b + c

Q.13 In the provided Venn diagram, identify the intersection of sets A and B (A∩B).



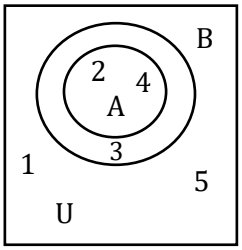
(a) a (b) b
(c) c (d) a + b + c

Q.14 In the provided Venn diagram, locate the union of sets A and B (A∪B).



(a) {1,2,3} (b) {2,4}
(c) {3} (d) {2,3,4}

Q.15 In the provided Venn diagram, determine the intersection of sets A and B



(a) {1,2,3}

(b) {2,4}

(c) {3}

(d) {2,3,4}

ANSWER KEY

1. (b)

2. (a)

3. (d)

4. (b)

5. (c)

6. (d)

7. (c)

8. (c)

9. (a)

10. (b)

11. (d)

12. (d)

13. (c)

14. (d)

15. (b)