RELATIONS AND FUNCTIONS

CARTESIAN PRODUCT, DOMAIN RANGE

EXERCISE

Q.1 If P X Q is an empty set then which of the following is a null set?

(a) only P

(b) only Q

(c) either P or Q

(d) both P and Q

Q.2 If (a, b) = (x, y) then_____

(a) a=x

(b) a=y

(c) a=y and b=x

(d) a=x and b=y

Q.3 If set P has 4 elements and set Q has 5 elements then find the number of elements in P X Q.

(a) 9

(b) 4^5

(c) 20

(d) 5^4

Q.4 If (x+2, y-3) = (5,7) then find values of x and y.

(a) x=3 and y=10

(b) x=3 and y=4

(c) x=7 and y=4

(d) x=7 and y=10

Q.5 Is (a, b) = (b, a)?

(a) True

(b) False

Q.6 If P X Q has 10 elements then which is not possible?

(a) n(P)=1 and n(Q)=10

(b) n(P)=10 and n(Q)=1

(c) n(P)=2 and n(Q)=5

(d) n(P)=5 and n(Q)=4

Q.7 If P = Q then P X Q = Q X P is true or not?

(a) True

(b) False

Q.8 If A X B = {(1, a), (1, b), (1, c), (2, a), (2, b), (2, c)} then find set A.

(a) {1} (b) {1, 2}

(c) {1, a} (d) {a, b, c}

Q.9 If A X B = {(1, a), (1, b), (1, c), (2, a), (2, b), (2, c)} then find set B.

(a) {1} (b) {1, 2}

(c) {1, a} (d) {a, b, c}

Q.10 If set A has 2 elements and set B has 3 elements then how many subsets does A X B have?

(a) 6 (b) 8

(c) 32 (d) 64

ANSWER KEY

1. (c)

2. (c)

3. (c)

4. (b)

5. (b)

6. (d)

7. (a)

8. (b)

9. (d)

10. (d)