INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2025 -26

CLASS: 11 SUBJECT: Mathematics DATE: 02/05/25

LESSON : RELATIONS AND FUNCTIONS

LEVEL – 1

1. If n (A) = 5 then the number of elements in AXA is

[(a) 5 (b)16 (c) 25 (d) 10]

2. $AX(B \cup B) =$

[a) A b) B C) ∅ d) AXB]

3. $AX\ (B \cap \emptyset) =$

[a) A b) B C) ∅ d) AXB]

4. If n (A) = 3 then the number of relations from A to A is

5. If A = {1, 2, 3} and B = { p, q} , find A X B and BXA

6. If R = { 0, 3) , (1, 4) , (2, 5). (3, 6) } , write the set builder form. Also draw the arrow diagram .

7. If f : N to N, f(x) = { (x, 2x - 1), x< 5} . Find the domain and range.

LEVEL - 2

8. The range of the function $f(x) = Ix - 3\ I$ is

[a) [0, 3] b) [0, 3) c) (3, ∞) d) [0, ∞)]

9. If f(x) = $\frac{1}{x}$, then find f(x) - f($\frac{1}{x}$)

10. Is f = {(1, 3), (2, 4) , (3, 5) , (4, 6), (1, 1)}, a function.

LEVEL – 3

11. The range of the function f(x) = x^2 + 3, is

[(a) [3, ∞) (b) R – {3} (c) (- ∞, 0) (d) (0, ∞)]

12. If A = { 2, 4, 6} , B = {3, 5} and C= {1, 2, } ,then verify that

$AX(B - C) = (AXB) - (AXC)$

13. Write the relation R = {(x, x^2+1), x is a prime number less than 10 } in roster form. Find the domain and range of R.

14. If $f(x) = x^2 \; and \; g(x) = 2x + 1$, $find \;\; i) f - g(x)$, $ii)\; f + g(x), iii)\; f.g(x)$

15. If f = { (0, 3), (1, 5), (2, 7)(3, 9)} is in the form, y = ax +b , then find a