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UNIT TEST
MATHEMATICS

CLASS:10
TIME:1.30Hrs   **MARKS:50**

I.choose the best answer   **10x1=10**

1.A={a,b,p}, B={2,3},C={p,q,r,s} then n[(A∪C)xB] is
     a)8   b)20   c)12   d)16

2.If there are 1024 relations from a set A={1,2,3,4,5} to a set B , then the number of elements in B is
     a)3   b)2   c)4   d)8

3.If the ordered pairs (a+2,4) and (5,2a+b) are equal then (a,b) is
     a)(2,-2)   b)(5,1)   c)(2,3)   d)(3,-2)

4.if {(a,8), (6,b)} represents an identity function , then the value of a and b are
Respectively   a)(8,6)   b)(8,8)   c)(6,8)   d)(6,6)

5.Let A={1,2,3,4} and B={4,8,9,10} A function f:A→B given by
f={(1,4),(2,8),(3,9),(4,10)} is a
a) many- one function   b) identity function   `
c)one-one function   d)into function

6.If f:A→B is bijective function and if n(B) =7, then n(A) is equal to
    a)7   b)49   c)1   d)14

7.if g={(1,1),(2,3),(3,5),(4,7)}is a function given by g(x)= then the values of are
    a)(-1,2)   b)(2,-1)   c)(-1,-2)   d)(1,2)

8.$f(x)=(x+1)^3- (x-1)^3$ represents a function which is
    a)linear   b)cubic   c)reciprocal   d)quadratic

9.If {(7,1), (5,a)} represents an constant function then the value of a is
    a)7   b)11   c)5   d)9

10.If $f(x)=x^2+5$ then f(-4)=   a)26   b)21   c)20   d)-20

II.Answer the following questions Q.No 20 compulsary   **10x2=20**

11.If AXB={(3,2),(3,4),(5,2),(5,4)} the find A and B

12.Find AxB,AxA,BxA given that A=B={p,q}

13.A relation R is given by the set {(x,y)/y=x+3, x∈ {0,1,2,3,4,5}.Determine its domain and range

14.A relation 'f' is defined by $f(x)=x^2-2$ where x∈ {−2, −1,0,3} (i) list the elements of f (ii) Is f a function

15.Let f={(x,y) /x,y ∈ N and y=2x} be a relation on N find the domain , co-domain and range .Is this function

16.Let A={1,2,3}, B={4,5,6,7} and f={(1,4),(2,5),(3,6)} be a function from A to B show that f is one-one but onto function

17.Let A={-1,1} and B={0,2} If the function f from A to B defined by f(x)=ax+b is an onto function find a and b

18.Find f°g and g°f where f(x)=2x+1 and $g(x)=x^2-2$

19.find k if f ° $f(k)$=5 where f(k)=2k-1

20.let $f(x)=x^2-1$ find f °f °f

III.Answer the following questions   **4x5=20**

21.Let A={1,2,3,4,5,6,7,8}, B={2,5,7}, C={2} verify that Ax(B-C)=(AxB)-(AxC)

22.Given the function f:x→x^2-5x+6 evaluate (i) f(-1) (ii)f(2a) (iii)f(2) (iv)f(x-1)

23.Let f={(-1,3),(0,-1),(2,-9)} be a linear function from Z into Z find f(x)

24.If f(x)=$\frac{x-1}{x+1}$, x$\neq$1 show that f(f(x))= $-\frac{1}{x}$ provided x$\neq$0

**** ALL THE BEST*****