11th Maths - Model Question Paper

CLASS : XI **TIME: 1:30 HRS**

SUB: MATHS **MARK: 50**

I)CHOOSE THE CORRECT ANSWER **5X1=5**

1)If n(A X B) ṇ (A X C) = 8 and n (B n C) =2 then n(A) is

a) 6 b) 4 c)8 d) 16

2) n(Φ) =0 and n({Φ}) =

a)2 b) 3 c) 0 d) 1

3) Then number of relation on a set containing 3 elements is

a) 9 b) 512 c)521 d) 1025

4) AC B and B C A What can you say about A and B ?

a) B≠A b) A =B c) A X B d) A C B

5) A U (A n B)=

a) B b) A c) AU B d) A n B

II . ANSWER FOLLOWING QUESTION. Q.NO 12 IS COMPLUSARY **5 X 2 = 10**

6) Define EQUIVALENCE RELATION .

7) Find the number of subsets of A if A ={x:x=4n+1, 2≤n≤5, n€N.

8) Write the set {-1,1} in set builder form.

9) If A={1,2,3,4,} B={3,4,5,6} Find n ((AU B) X(A n B) X (A∆B)).

10) JUST SAY TRUE ARE NOT OF STATEMENT

" AN ELEMENTS OF A SET CAN NEVER BE A SUBSET OF IT SELF"

11) n (A n B) = 3 AND n (A U B) =10 then n(p(A ∆ B)).

12) The weight of the muscles of a man is a function of his boby weight x and can be expressed as W(x)=0.35x . Determine the domain of this function.

III. ANSWER FOLLOWING QUESTION Q.NO 19 IS COMPLUSARY **5 X 3 = 15**

13) Check the relation R= { (1,1), (2,2), (3,3),…….(n,n)} defined on the set S = { 1,2,3,4,5,6,7,……..n} for the 3 basic relation .

14) Find the range of the function f(x) = $\frac{1}{1-3\cos x}$

15) From the curve y= sin x , draw y = sin $|x|$.

16) Show that the relation xy = -2 is a function for a suitable domain .

Find the domain and range of the function .

17) The distance of an object falling is a function of time t and can be expressed as

s (t) = -16t^2. Graph the function and determine if it 1-1.

18) In the set Z of integers , define m Rn if m – n is divisible by 7.

P.t R is equalence relation .

19) Write the steps to obtain the graph of the function y = 3$(x-1)^2$+5

from the graph y =x^2.

III. Answer any 4 question . 4 x 5 =20

20) A simple cipher takes a number and codes it, using the function f(x) = 3x – 4 . find the

Inverse of this function , determine whether the inverse also a function and verfy

Symmetrical property about line y =x .

21) If f,g : R→R are define by f(x) =$|x|$ +x, and g(x) =$|x|$-x, find gof and fog.

22)From the curve y=$|x|$, draw i) y=$|x-1|$ +1 ii) y =$|x+1|$ -1 iii)y =$|x+2|$ -3.

23)By taking suitable sets A,B,C, verify the result

i) (B –A) U C=(BU C) – (A-C).

ii) (A XB) n (B XA) = (An B) X(B n A)

iii) C – (B- A) =(C n A) U (C n B).

24) Find the largest possible domain for the real valued function given by

F(x) =$\frac{\sqrt{9-x^2}}{\sqrt{x^2-1}}$ ..

25)Let f,g: R→Rbe defined as f(x)=2x-$|x|$and g(x)= 2x+$|x|$. find fog.

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