Mth-202 Important Mid Term Mcq's Solution 100% Correct : Solve By Vu-Topper RM!!

Question No:1 (Marks:1) Vu-Topper RM

Range of function /[f(x)=(e^x)/] is _____

➢**Set of positive real numbers**

Question No:2 (Marks:1) Vu-Topper RM

Composite relation symbolically written as _____

➢**SoR={(a,c)aeA, ceC, 3eB, (a,b)eR and (b,c)eS}**

Question No:3 (Marks:1) Vu-Topper RM

If x=17(mod 5) which of the following integers are valid solution for x ?

➢**12**

Question No:4 (Marks:1) Vu-Topper RM

Range of the relation {(0,1),(3,22),(90,34)}

➢**{1,22,34}**

Question No:5 (Marks:1) Vu-Topper RM

Let A= {0,1,2} and R = {(0,2),(1,1),(2,0)} be a relation on A. The which of the following ordered pairs are needed to make it transitive?

➢ **(0,0) and (2,2)**

Question No:6 (Marks:1) Vu-Topper RM

Operation of subtraction is a binary operation on the set of _____

➢**Integers**

Question No:7 (Marks:1) Vu-Topper RM

Let S=R and define the 'square' relation R= $\{(x,y)Ix^2=y^2\}$. The square relation is an _____ relation

➢**Equivalence relation**

Question No:8 (Marks:1) Vu-Topper RM

The logic gate NOT is a uniary operation on {0,1}.

➢**True**

Question No:9 (Marks:1) Vu-Topper RM

Let A= {1,2}, then P(A)=_____

➢**{{},{1},{2},{1,2}}**

Question No:10 (Marks:1) Vu-Topper RM

If a relation R is reflexive, anti symmetric and transitive then which of the following is not true for the inverse relation.

➢**Inverse relation will be irreflexive.**

Question No:11 (Marks:1) Vu-Topper RM

Let R be a binary relation on a set A,R is anti-symmetric iff _____

➢**a,beA if (a,b)eR and (b,a)eR then a=b**

Question No:12 (Marks:1) Vu-Topper RM

"-" is a binary operation on the set of integers Z.

➢**True**

Question No:13 (Marks:1) Vu-Topper RM

The inverse relation R^(-1) from B to A is defined as _____

➢**R^(-1) = {(b,a) e B*A I (a,b)eR}**

Question No:14 (Marks:1) Vu-Topper RM

Which of the following is always true for the matrix representation of a symmetric relation?

➢**Matrix is equal to its transpose**

Question No:15 (Marks:1) Vu-Topper RM

Let A= {1,2,3,4} and let R and S be transitive binary relations on A defined as; R= {(1,2), (1,3), (2,2), (3,3), (4,2), (4,3) and S={(2,1), (2,4), (3,3)} then RuS= {(1,2), (1,3), (2,1), (2,2), (2,4), (3,3), (4,2), (4,3)}

➢**R union S is transitive**

Question No:16 (Marks:1) Vu-Topper RM

Let S=R and define the ' square' relation R = $\{(x,y)Ix^2=y^2\}$. The square is an _____ relation.

➢**Equivalance relation**

Question No:17 (Marks:1) Vu-Topper RM

If x=-10(mod 15). Which of the following integers are valid solution for x?

➢**5**

Question No:18 (Marks:1) Vu-Topper RM

Let R be a binary relation on a set A. If R is anti symmetric then _____

➢**Inverse of R is anti symmetric**

Question No:19 (Marks:1) Vu-Topper RM

If A={1,2,3} is a set and R = {(1,2),(2,2),(2,1)} is a relation on A, R is

➢**Symmetric**

Question No:20 (Marks:1) Vu-Topper RM

Let A={0,1} and B=(1). Let R and S be two binary relations on Cartesian product of A and B such that R={(0,1)} and S= {(1,1)}. Then R intersection S=_____

➢**Empty**

Question No:21 (Marks:1) Vu-Topper RM

A relation R is said to be _____ iff it is reflexive, antisymmetric and transitive.

➢**Partial order Relation**

Question No:22 (Marks:1) Vu-Topper RM

Let X={1,2,3} and Y={7,8,9} and let f be function defined from X to Y such that f is onto then which of the following statement about f is true?

➢**Co-domain of f must contain 1 element**

Question No:23 (Marks:1) Vu-Topper RM

The function fog and gof are always equal

➢**False**

Question No:24 (Marks:1) Vu-Topper RM

If a relation R={(1,2),(2,3),(3,4)(4,1)(2,2) is given then which of the following is true about this relation.

➢**R is reflexive**

Question No:25 (Marks:1) Vu-Topper RM

A set is called countable if , and only if, it is_____

➢**finite**

Question No:26 (Marks:1) Vu-Topper RM

Let $f(x) = x^2-1$ define function f from R to R and c=2 be any scalar, then c,f(x) is _____

➢**$2x^2+2$**

Question No:27 (Marks:1) Vu-Topper RM

The set Z of all integers is _____

➢**Countable**

Question No:28 (Marks:1) Vu-Topper RM

Let R be a binary relation on a set A. If R is anti symmetric then _____

➢**Inverse of R is symmetric**

Question No:29 (Marks:1) Vu-Topper RM

For (2x-3, 4y+2) = (1,10). What will be the value of x and y ?

➢ **(2,2)**

Question No:30 (Marks:1) Vu-Topper RM

Let f and g be the two functions from R to R defined by f(x) = IxI and g(x)= square root of x^2 for all xeR. Then_____

➢**F(x) is not equal to g(x)**

Question No:31 (Marks:1) Vu-Topper RM

If a set A has 15 elements then P(A) (power set of A) has _____ elements.

➢**2^15**

Question No:32 (Marks:1) Vu-Topper RM

For the relation below to be a function, x cannot be what values {(12,14),(13,5),(-2,7),(x,13)}?

➢**X cannot be 12, 13, or -2**

Question No:33 (Marks:1) Vu-Topper RM

Let the set A = {1,2,3,4}. Then the relation {(2,4),(4,2)} is _____
➢**Symmetric**

Question No:34 (Marks:1) Vu-Topper RM

For the following relation to be a function, x can not be what values? R={(2,4),(x,1), (4,2),(5,6)}.
➢**x cannot be 2,4 and 5**

Question No:35 (Marks:1) Vu-Topper RM

Vertical line test is used to determine that whether the graph of a relation is a function or not.
➢**True**

Question No:36 (Marks:1) Vu-Topper RM

The properties of being symmetric and being anti symmetric are _____
➢**Not negative of each other**

Question No:37 (Marks:1) Vu-Topper RM

The number of elements in AxB are _____ if A is a set with '5' elements and B is a set with '4' elements.
➢**20**

Question No:38 (Marks:1) Vu-Topper RM

R={(a,1)(b,2)(c,3)(d,4)} then the inverse of this relation is _____
➢**{(1,a)(2,b)(3,c)(4,d)}**

Question No:39 (Marks:1) Vu-Topper RM

Logic gate NOT does not define a binary operation on (0,1) because _____
➢**It takes a single input and gives a single output**

Question No:40 (Marks:1) Vu-Topper RM

How many real numbers exist between 1 and 5
➢**3**

Question No:41 (Marks:1) Vu-Topper RM

The number pi is
➢**Irrational**

Question No:42 (Marks:1) Vu-Topper RM

The number square root 2 is
➢**Irrational**

Question No:43 (Marks:1) Vu-Topper RM

Range the relation {(0,1)(3,22),(90,34)}
➢**{0,3,90}**

Question No:44 (Marks:1) Vu-Topper RM

Supherical coordinate 0 is related to the cylindrical coordinate as_____

➢**@=@**

Question No:45 (Marks:1) Vu-Topper RM

Operation of subtraction is a binary operation on the set_____

➢**Integers**

Question No:46 (Marks:1) Vu-Topper RM

Let A {1,2,3,4} and R={(1,2),(2,3),(3,3),(3,4)} be a relation on A. Then which one of the following ordered pair has made R not an irreflexive relation?

➢ **(3,3)**

Question No:47 (Marks:1) Vu-Topper RM

Input values of the function are called the _____

➢**Domain**

Question No:48 (Marks:1) Vu-Topper RM

Range of function f(x)=IxI will be

➢**Set of positive real numbers**

Question No:49 (Marks:1) Vu-Topper RM

Which of the following is not a binary operation on the set of integers?

➢**Division**

Question No:50 (Marks:1) Vu-Topper RM

In the matrix representation of an irreflexive relation all the entries in the main diagonal are _____

➢**0**

Question No:51 (Marks:1) Vu-Topper RM

If the partition set of A is $\{A_1,A_2\}$ then

➢**$A_1 n A_2$= not empty set**

Question No:52 (Marks:1) Vu-Topper RM

Let A= {a,b} then P(A) =

➢**{Non empty set, {a},{b},{a,b}}**

Question No:53 (Marks:1) Vu-Topper RM

Which relations below are not functions?

➢**{(13,14),(13,5),(16,7),(18,13)}**

Question No:54 (Marks:1) Vu-Topper RM

In the directed graph of an antisymmetric relation there is _____ pair of arrows between two distinct elements of the set.

➢**No**

Question No:55 (Marks:1) Vu-Topper RM

If a relation R= (1,1),(2,1)(2,2) is given then which of the following is not true about this relation

➢**R is irreflexive**

Question No:56 (Marks:1) Vu-Topper RM

Let R and S be transitive relations on a set A then _____

➢**Neither R union S is transitive nor R intersection S is transitive**

Question No:57 (Marks:1) Vu-Topper RM

Let R={(1,2)(3,4)(5,6)(7,8)}. Domain of the inverse of the relation is _____

➢**{2,4,6,8}**

Question No:58 (Marks:1) Vu-Topper RM

Let A={1,2,3,4,5} and B={4,9,,16,17,25}. Then the relation R={(2,4),(3,9),(4,16),93,17)} The inverse of R is'

➢**{(4,2),(9,3),(16,4),(17,3)}**

Question No:59 (Marks:1) Vu-Topper RM

Let R be a relation on a set A. If R is symmetric then its compliment is

_____

➢**Irreflexive**

Question No:60 (Marks:1) Vu-Topper RM

Which is not a binary operation on the set of natural numbers N?

➢**Subtraction**

Question No:61 (Marks:1) Vu-Topper RM

If a relation R={(1,1)(2,1)(1,2)(2,2)} is given then which of the following is not true about this relation.

➢**R is irreflexive**

Question No:62 (Marks:1) Vu-Topper RM

R={(a,1)(b,2)(c,3)(d,4)} then the inverse of this relation is _____

➢**{(1,a)(2,b)(3,c)(4,d)}**

Question No:63 (Marks:1) Vu-Topper RM

For any set A, the Cartesian product of A and A is known as _____

➢**Universal relation**

Question No:64 (Marks:1) Vu-Topper RM

Let A={p,q,r,s} and define a relation R on A by R={(p,p),(p,r),(q,r),(q,s),(r,s)} Then which one of the following is the correct statement about R:

➢**R is not reflexive**

Question No:65 (Marks:1) Vu-Topper RM

A={1,2} B={3,4}, R={(1,3)(2,4)}. Then the complement of R is _____.

➢**{(1,4)(2,3)}**

Question No:66 (Marks:1) Vu-Topper RM

Domain of a relation symbolically written as_____.

➢Dom(R)={aeAI(a,b)eR}

Question No:67 (Marks:1) Vu-Topper RM

Let X={2,4,5} and Y={1,2,4} and R be a relation from X to Y defined by R={(2,4)(4,1)(a,2)}. For what value of 'a' the relation R is a function?

➢5

Question No:68 (Marks:1) Vu-Topper RM

Let A={1,2,3,4,5,6,7,8,9}, then which of the following sets represent the partition of the set A?

➢A={1,3,5,7,9}, B={2,4,6}, C={8}

Question No:69 (Marks:1) Vu-Topper RM

Let A={1,2,3} and B={2,4} then number of binary relations from A to B are _____.

➢64

Question No:70 (Marks:1) Vu-Topper RM

A relation R is said to be _____iff it is reflexive, antisymmetric and transitivde.

➢Partial order Relation

Question No:71 (Marks:1) Vu-Topper RM

Let f be a function from X={2,4,5} to Y={1,2,4,6} defined as:f={(2,6),(4,2),(5,1)} . The range of f is _____

➢{1,2,6}

Question No:72 (Marks:1) Vu-Topper RM

Let A={0,1,2} and R={(0,2),(1,1),(2,0)} be a relation on A. Then which of the following statement about R is true?

➢R is symmetric

Question No:73 (Marks:1) Vu-Topper RM

Let A={2,3,4} and B={2,6,8} and let R be the "divides" relation from A to B i.e for all (a,b) belong to (Cartesian product of A and B), a,R b iff a I b (a divides b). Then

➢R={(2,2),(2,6),(2,8),(3,6),(4,8)}

Question No:74 (Marks:1) Vu-Topper RM

Let A={1,2,3,…,50} and B={2,4,6,8,10}. Then the Cartesian product of A and B has _____ elements.

➢250

Question No:75 (Marks:1) Vu-Topper RM

In the matrix representation of an reflexive relation all the entries in the main diagonal are _____

➢1

Question No:76 (Marks:1) Vu-Topper RM

Which of the following is not a type of a relation?

➢**Permutation**

Question No:77 (Marks:1) Vu-Topper RM

Let X={2,4,5} and Y={1,2,4} and R be a relation from X to Y defined by R={(2,4),(4,1),(a,2)}. For what value of 'a' the relation R is a function ?

➢5

Question No:78 (Marks:1) Vu-Topper RM

Which of the following is not a representation of a relation?

➢**Venn diagram**

Question No:79 (Marks:1) Vu-Topper RM

Let A={1,2,3,4} and define the following relations on A. Then R={(1,3),(1,4),(2,3),(2,4),(3,1),(3,4)} is _____

➢**R is irreflexive**

Question No:80 (Marks:1) Vu-Topper RM

The range of f:X-> Y is also called the image of

➢**True**

Question No:81 (Marks:1) Vu-Topper RM

Which of the following logical connective is not a binary operation ?

➢**Implication**

Question No:82 (Marks:1) Vu-Topper RM

A set may be dividend up into its disjoint subsets, such division is called_____

➢**Partition**

Question No:83 (Marks:1) Vu-Topper RM

If A=(1,2,3)&B=(4,5,6) and R ={(1,4)(2,5)(3,6)(3,4)} The complementary relation is _____

➢**A*B(difference or –) R**

Question No:84 (Marks:1) Vu-Topper RM

In matrix representation of a_____ relation, the diagonal entries are always 1.

➢**Reflexive**

Question No:85 (Marks:1) Vu-Topper RM

R is not symmetric iff there are elements a and b in A such that _____

➢ **(a,b) belongs to R but (b,a) does not belong to R**

Question No:86 (Marks:1) Vu-Topper RM

Which relations below are functions?

R1={(3,4),(4,5),(6,7),(8,9)}
R2={(3,4),(4,5),(6,7),(3,9)}
R3={(-3,4),(4,-5),(0,0),(8,9)}
R4={(8,11),(34,5),(6,17),(8,19)}

➢**R1 and R3 are functions**

Question No:87 (Marks:1) Vu-Topper RM

The logic gate OR and AND are uniary operation on {0,1}

➢**False**

Question No:88 (Marks:1) Vu-Topper RM

There is atleast one loop in the graph of an irreflexive relation

➢**False**

Question No:89 (Marks:1) Vu-Topper RM

There is atleast one loop in the graph of an reflexive relation

➢**True**

Question No:90 (Marks:1) Vu-Topper RM

A contains 3 elements and B contains 2 elements, then number of subsets of A*B are _____

➢**64**

Question No:91 (Marks:1) Vu-Topper RM

Let A={1,2,3} and B={0,1,2} and C={a,b} R={(1,0),(1,2),(3,1),(3,2)} S={(0,b),(1,a),(2,b)} composite of R and S=_____

➢{(1,b),(1,a),(3,a),(3,b)}

Question No:92 (Marks:1) Vu-Topper RM

If R is transitive then the inverse relation will be transitive

True

Question No:93 (Marks:1) Vu-Topper RM

The number of elements in the power set of P(not empty set) denoted by P(P(not empty set) is

➢**2**

Question No:94 (Marks:1) Vu-Topper RM

The function defined from Z to Z as f(x)= 1/(x+2)(x-2) is not well defined because _____

➢**Function is not defined at x=2 and x=-2**

Question No:95 (Marks:1) Vu-Topper RM

Rang of relation {(0,1),(3,22),(90,34)} is _____

➢**{1, 22, 34}**

Question No:96 (Marks:1) Vu-Topper RM

The number of elements in the power set of P(not empty set) denoted by P(not empty set) is

➢**1**

Question No:97 (Marks:1) Vu-Topper RM

Let R={(1,2),(3,4),(5,6),(7,8)}. Domain of inverse of the relation is _____

➢**{2,4,6,8}**

Question No:98 (Marks:1) Vu-Topper RM

The relation ‘divides’ on the set of integers is _____

➢**A symmetric relation**

Question No:99 (Marks:1) Vu-Topper RM

Operation of subtraction is a binary operation on the set of_____

➢**Integers**

Question No:100 (Marks:1) Vu-Topper RM

If R is transitive then the inverse relation will be transitive.

➢**True**

Question No:101 (Marks:1) Vu-Topper RM

Let A={1,2,3,4} and define the relation R on A by R={(1,2),(2,3),(3,3),(3,4)}.
Then_____

➢**R is both reflexive and irreflexive**

Question No:102 (Marks:1) Vu-Topper RM

A set may be divided up into its disjoints subsets,such division is called

➢**Partition**

Question No:103 (Marks:1) Vu-Topper RM

If a set A contains is elements then the number of elements in its power set P(A) is _____

➢**2^n**

Question No:104 (Marks:1) Vu-Topper RM

Range of a relation symbolically written as _____.

➢**Ran R = {b ∈ B I (a, b) ∈ R }**

Question No:105 (Marks:1) Vu-Topper RM

Let R be a binary relation on a set A. IF R is anti symmetric then _____.

➢**Inverse of R is anti symmetric**

Question No:106 (Marks:1) Vu-Topper RM

Let A be a set with m elements and B be a set with n elements then the number of elements in A*B are _____

➢**m.n**

Question No:107 (Marks:1) Vu-Topper RM

Let A{1,2,3,4} and define the following relation on A. Then R={(1,3),(2,2),(2,4),(3,1),(4,2)} Is _____

➢**R is symmetric**

Question No:108 (Marks:1) Vu-Topper RM

If A={1,2,3}& B={4,5,6} and R={1,4},{2,5},{3,6},{3,4}. The complementary relation is _____

➢**A*B (difference or -) R**

Question No:109 (Marks:1) Vu-Topper RM

Let R be a relation on a set A. If R is reflexive then its compliment is _____

➢**Irreflexive**

Question No:110 (Marks:1) Vu-Topper RM

25=1(mod 3) means that 3 divides _____

➢**25-1**

Question No:111 (Marks:1) Vu-Topper RM

Let R be the universal relation on a set A then which one of the following statement about R is true ?

➢**R is reflexive, symmetric and transitive**

Question No:112 (Marks:1) Vu-Topper RM

Domain of a relation symbolically written as _____

➢**Dom(R)= {aeR I (a,b) e R}**

Question No:113 (Marks:1) Vu-Topper RM

Let R be a relation on a set A. R is transitive if and only if for all a,b,ceA then

➢ **(a,b)eR and (b,c)eR then (a,c)eR**

Question No:114 (Marks:1) Vu-Topper RM

Let A be a non-empty set and P(A) the power set of A Deifne the ‘ subset’ relation ,c as follows for all X,Y e P(A), XcY<-> for all x, iffxeX then xeY . Then c is _____

➢**c is partial order relation**

Question No:115 (Marks:1) Vu-Topper RM

Define a relation R={(1,1),(2,2),(3,3),(1,3) the relation is

➢**R is reflexive and transitive**

Question No:116 (Marks:1) Vu-Topper RM

Let R be a relation on a set A. R is transitive if and only if for all a,b,ceA then.

➢ **(a,b)eR and (b,c)eR then (a,c)eR**

Question No:117 (Marks:1) Vu-Topper RM

Let R and S be reflexive relations on a set A then R intersection S is reflexive

➢**True**

Question No:118 (Marks:1) Vu-Topper RM

A function whose range consists of only one element is called_____

➢**One to one function**

Question No:119 (Marks:1) Vu-Topper RM

The set Z of all integers is _____

➢**Countable**

Question No:120 (Marks:1) Vu-Topper RM

Let X={1,5,9} and Y={3,4,7}, Define a function f from X to Y such that f(1)=7,f(5)=3,f(9)=_____. Which is true f(9) to make it a one-to-one

(injective) function?
➢**4**

Question No:121 (Marks:1) Vu-Topper RM
What will be the fourth term of the following sequence 1/2,2/3,3/4 _____?
➢**4/5**

Question No:122 (Marks:1) Vu-Topper RM
The value of 6!=
➢**720**

Question No:123 (Marks:1) Vu-Topper RM
A constant function is one to one iffits _____ is a singleton.
➢**Domain**

Question No:124 (Marks:1) Vu-Topper RM
A constant function is onto iffits _____ is a singleton.
➢**Co-domain**

Question No:125 (Marks:1) Vu-Topper RM
Number of one to one functions from X={a,b} to Y={u,v} are equal to _____-
➢**2**

Question No:126 (Marks:1) Vu-Topper RM
If f is defined recursively by f(0) = -1 and f(n+1)=f(n)+3, then f(2)=_____.
➢**5**

Question No:127 (Marks:1) Vu-Topper RM
A function whose inverse function exists is called a/an_____
➢**Invertible function**

Question No:128 (Marks:1) Vu-Topper RM
Let f(2)=3, g(2)=3, f(4)=1 and g(4)=2 then the value of fog(4) is……
➢**3**

Question No:129 (Marks:1) Vu-Topper RM
Let A={1,2,3,4} and B={7} then the constant function from A to B is _____.
➢**Onto**

Question No:130 (Marks:1) Vu-Topper RM
Composition of a function is a commutative operation.
➢**False**

Question No:131 (Marks:1) Vu-Topper RM
Composition of a function is not a commutative operation
➢**True**

Question No:132 (Marks:1) Vu-Topper RM

The sum of first five whole number is _____.

➢**10**

Question No:133 (Marks:1) Vu-Topper RM

If f and g are two one-to-one functions, then their composition that is gof is one-to-one.

➢**True**

Question No:134 (Marks:1) Vu-Topper RM

Inverse of a surjective function is always a function.

➢**False**

Question No:135 (Marks:1) Vu-Topper RM

Inverse of a surjective function may not be a function

➢**True**

Question No:136 (Marks:1) Vu-Topper RM

Let X={1,2,3,4} and Y={7,8,9} and let f be function defined from X to Y such that f is onto then which of the following statement about f is true?

➢**Co-domain of f must contain 3 elements**

Question No:137 (Marks:1) Vu-Topper RM

If f; X->Y and g; Y->Z are both onto functions. Then gof; X->Z is _____

➢onto

Question No:138 (Marks:1) Vu-Topper RM

If f and g are two one-to-one functions, then their composition gof is_____

➢**One-to-one**

Question No:139 (Marks:1) Vu-Topper RM

If f: W →X, g:X →Y, and h:Y →Z are functions, then_____

➢ **(hog)of = ho(gof)**

Question No:140 (Marks:1) Vu-Topper RM

Cardinality of positive prime numbers less than 20 is _____.

➢**8**

Question No:141 (Marks:1) Vu-Topper RM

IF $f(x)=\sin^{-1}(x)$ and g(x)=sin x then gof(x) is _____.

➢X

Question No:142 (Marks:1) Vu-Topper RM

0!=_____.

➢**1**

Question No:143 (Marks:1) Vu-Topper RM

An important data type in computer programming consists of _____.

➢**Finite sequences**

Question No:144 (Marks:1) Vu-Topper RM

Let f(x)=2x and g(x)=x+2 define functions f and g from R to R, then (f-g)(x) is _____.

➢**x-2**

Question No:145 (Marks:1) Vu-Topper RM

The total number of terms in an arithmetic series 0+5+10+15+….50 are _____.

➢**11**

Question No:146 (Marks:1) Vu-Topper RM

9!/6!=_____

➢**504**

Question No:147 (Marks:1) Vu-Topper RM

Let f(x)=3x and g(x)=3x-2 define functions f and g from R to R, THEN (F+G)(X) is _____

➢**6x-2**

Question No:148 (Marks:1) Vu-Topper RM

If f is a bijective function then $(f^{-1}f(x))$ is equal to

➢**X**

Question No:149 (Marks:1) Vu-Topper RM

A sequence whose terms alternate in sign is called an_____

➢**Alternating sequence**

Question No:150 (Marks:1) Vu-Topper RM

Common ration in the sequence “4, 16, 64, 256,…” is…..12.

➢**4**

Question No:151 (Marks:1) Vu-Topper RM

0.8181818181 is a infinite geometric series.

➢**True**

Question No:152 (Marks:1) Vu-Topper RM

The word ‘algorithm’ refers to a step-by-step method for performing some action.

➢**True**

Question No:153 (Marks:1) Vu-Topper RM

A predicate become _____ when its variables are given specific values

➢**Sentence**

Question No:154 (Marks:1) Vu-Topper RM

The sum of two irrational numbers must be an irrational number.

➢**False**

Question No:155 (Marks:1) Vu-Topper RM

The sum of two irrational numbers need not be irrational number

➢**True**

Question No:156 (Marks:1) Vu-Topper RM

The division by zero is allowed in mathematics.

➢**Fasle**

Question No:157 (Marks:1) Vu-Topper RM

The product of any two consecutive positive integers is divisible by 2

➢**True**

Question No:158 (Marks:1) Vu-Topper RM

If ‘n’ is an odd integer then n^3+n is _____.

➢**Even**

Question No:159 (Marks:1) Vu-Topper RM

For integers a,b,c, If divides b and a divides c, then a divides (a+b).

➢**False**

Question No:160 (Marks:1) Vu-Topper RM

Quotient remainder theorem states that for any positive integer d, there exist unique integer q and r such that _____ and 0<r<d

➢**N=d.q+r**

Question No:161 (Marks:1) Vu-Topper RM

A rule that assigns a numerical value to each outcome in a simple space is called

➢**Random variable**

Question No:162 (Marks:1) Vu-Topper RM

If A and B are two disjoint (mutually exclusive) events then P(AB)=

➢**P(A) + P(B)**

Question No:163 (Marks:1) Vu-Topper RM

How many ways are there to select five players from a 10 member tennis team to make a trip to a match to another school?

➢**C(10,5)**

Question No:164 (Marks:1) Vu-Topper RM

The expectation of x is equal to

➢**Sum xf(x)**

Question No:165 (Marks:1) Vu-Topper RM

If P(A intersection B) = P(A) P(B) THEN THE events A and B are called

➢**Independent**

Question No:166 (Marks:1) Vu-Topper RM

A walk that starts and ends at the same vertex is called.
➢**None optins**

Question No:167 (Marks:1) Vu-Topper RM
How many integers from 1 through 1000 are neither multiple of 3 nor multiple of 5
➢**497**

Question No:168 (Marks:1) Vu-Topper RM
What is the probability of getting a number greater than 4 when a die is thrown?
➢**3/5**

Question No:169 (Marks:1) Vu-Topper RM
Eater formula for graphs is_____.
➢**F=e-v+2**

Question No:170 (Marks:1) Vu-Topper RM
X+a,x+3a,x+5a…..is an_____
➢**Arithmetic sequence**

Question No:171 (Marks:1) Vu-Topper RM
Composition of a function is a commutative operation.
➢**False**

Question No:172 (Marks:1) Vu-Topper RM
Real valued function is a function that assigns _____ to each member of its domain.
➢**Only a real number**

Question No:173 (Marks:1) Vu-Topper RM
Let X={1,2,3,4} and a function ‘f’ defined on X f(1)=1,f(2)=2,f(3)=3,f(4)=4 then _____
➢**F is an identity function**

Question No:174 (Marks:1) Vu-Topper RM
A constant function is surjective if and only if _____
➢**The co-domain consists of a single element**

Question No:175 (Marks:1) Vu-Topper RM
Cardinality means the total number of elements in a set.
➢**True**

Question No:176 (Marks:1) Vu-Topper RM
If f(x)=2x and g(x)=x then g(f(x)) is _____.
➢**$2x^2$**

Question No:177 (Marks:1) Vu-Topper RM
Let f:R->R is one to one function then c,f, c is not equal 0 is also one to one function.
➢**True**

Question No:178 (Marks:1) Vu-Topper RM

Let X={1,2,3,4} and a function 'f' defined from X to X by f(1)=1, f(2)=1, f(3)=1, f(4)=1 then which of the following is true?

➢**F is a constant function**

Question No:179 (Marks:1) Vu-Topper RM

If f and g are two one-to-one functions, then their composition that is gof is one-to-one.

➢**True**

Question No:180 (Marks:1) Vu-Topper RM

Which of the following is not correct for a 'sequence'?

➢**A sequence is a relation whose domain is the set of natural numbers**

Question No:181 (Marks:1) Vu-Topper RM

$F(x)=x^2$ is not one to one function from R to R^+

➢**True**

Question No:182 (Marks:1) Vu-Topper RM

Let f: R->R is one to one function then c,f c is not equal to is also one to one function.

➢**True**

Question No:183 (Marks:1) Vu-Topper RM

Let $f(x)=x+2$ then $f^{-1}(x)$ is_____

➢**x-2**

Question No:184 (Marks:1) Vu-Topper RM

Let $f(x)=x^2+1$ define functions f from R to R and c=2 be any scalar, then c,f(x) is _____.

➢**$2x^2-1$**

Question No:185 (Marks:1) Vu-Topper RM

A function F: R-> R defined by f(x) = square root x is a real valued function.

➢**False**

Question No:186 (Marks:1) Vu-Topper RM

If g:R->R defined by $g(x)=e^2$ is a real valued function of a real variable.

➢**True**

Question No:187 (Marks:1) Vu-Topper RM

A function F:R-> R defined by f(x) = log x is a real valued function

➢**True**

Question No:188 (Marks:1) Vu-Topper RM

½, then 3rd term of sequence is _____.

➢**1/2**

Question No:189 (Marks:1) Vu-Topper RM

The process of defining an object in terms of smaller versions of itself is called recursion.

➢**True**

Question No:190 (Marks:1) Vu-Topper RM

Which of the following is not correct for a 'sequence'?

➢**A sequence is a relation whose domain is the set of natural numbers**

Question No:191 (Marks:1) Vu-Topper RM

A set is called countable if, and only if, it is _____.

➢**Finite and countable infinite…..both**

Question No:192 (Marks:1) Vu-Topper RM

A set that is not countable is called _____.

➢**Uncountable**

Question No:193 (Marks:1) Vu-Topper RM

A sequence whose terms alternate in sign is called an _____.

➢**Alternating sequence**

Question No:194 (Marks:1) Vu-Topper RM

Let f: R->R is one to one function then c,f is also one to one function for _____.

➢**C is not equal 0**

Question No:195 (Marks:1) Vu-Topper RM

Let $f(x) = x+3$ then $f^{-1}(x)$ is _____-

➢**x-3**

Question No:196 (Marks:1) Vu-Topper RM

Let f and g be two functions defined by $f(x) = x+2$ and $g(x)= 2x+1$. Then the composition of f and g is_____.

➢**2x+3**

Question No:197 (Marks:1) Vu-Topper RM

Number of one to one functions form X={a,b} to Y={u,v} are equal to _____

➢**2**

Question No:198 (Marks:1) Vu-Topper RM

The flbonacci sequence is deined as $F_0=1, F_1=1, F_k=F_{k-1}+F_{k-2}$ for all integers $k \geq 2$ then which of the following is true for F_2

➢**$F_2-F_1= 2+1=3$**

Question No:199 (Marks:1) Vu-Topper RM

x+a, x+3a, x+5a,…… is a/an_____.

➢**Arithmetic sequence**

Question No:200 (Marks:1) Vu-Topper RM

Inverse of a function may not be a function.

➢**True**

Question No:201 (Marks:1) Vu-Topper RM

In the following sequence $a_k=K/(k+1)$, for k=1, a_1 will be _____.

➢**½**

Question No:202 (Marks:1) Vu-Topper RM

If f(x)=x and g(x)= -x are both one to one function then (f+g)(x) is also one to one function.

➢**False**

Question No:203 (Marks:1) Vu-Topper RM

If f(x)=x and g(x)= -x are both one to one function then (f+g)(x) is not one to one function.

➢**True**

Question No:204 (Marks:1) Vu-Topper RM

The function 'f' and 'g' are inverse of each other if and only if their composition gives_____.

➢**Identity function**

Question No:205 (Marks:1) Vu-Topper RM

Which of the following set is the domain of a sequence?

➢**Set of real numbers**

Question No:206 (Marks:1) Vu-Topper RM

Let C is defined as the set of all countries in the world then C is a _____.

➢**Finite set**

Question No:207 (Marks:1) Vu-Topper RM

A constant function is surjective if and only if_____.

➢**The co domain consists of a single element**

Question No:208 (Marks:1) Vu-Topper RM

Let X={1,2,3,4} and a function 'f' defined from X to X by f(1)=1, f(2)=1, f(3)=1, f(4)=1 then which of the following is true?

➢**F is a constant function**

Question No:209 (Marks:1) Vu-Topper RM

The composition of function is always

➢**Associative**

Question No:210 (Marks:1) Vu-Topper RM

A set is countably infinite if, and only if, it has the same cardinality as the set of

➢**Positive integers**

Question No:211 (Marks:1) Vu-Topper RM

Two functions 'f' and 'g' from 'X' to 'Y' are said to be equal if and only if _____.

➢**F(x)=g(x) for all 'x' belongs to X**

Question No:212 (Marks:1) Vu-Topper RM

$Y=x^3$ is a graph of bijective function from R to R.

➢**True**

Question No:213 (Marks:1) Vu-Topper RM

Domain and range are same for_____.

➢**Identity function**

Question No:214 (Marks:1) Vu-Topper RM

Let X={1,2,3,4} and a function 'f' defined on X by f(1)=1,f(2)=2,f(3)=3

➢**F is an identity function**

Question No:215 (Marks:1) Vu-Topper RM

Composition of a function is a commutative operation.

➢**True**

Question No:216 (Marks:1) Vu-Topper RM

Inverse of a surjective function is always a function.

➢**False**

Question No:217 (Marks:1) Vu-Topper RM

A function whose inverse function exists is called a/an_____.

➢**Invertible**

Question No:218 (Marks:1) Vu-Topper RM

Given a set X define a function I from X to X by i(x)=x from all x belonging to X . Then_____.

➢**I is both injective and surjective**

Question No:219 (Marks:1) Vu-Topper RM

Let f: R->R is a one to one function then c,f is also one to one function for.

➢**C is not equal 0**

Question No:220 (Marks:1) Vu-Topper RM

Let X={1,5,9} and Y={3,4,7}. Define a function f from X to Y such that f(1)=7, f(5)=3, f(9)=_____. Which is true for f(9) to make it a one-to-one (injective) function?

➢**4**

Question No:221 (Marks:1) Vu-Topper RM

Which of the following is not a predecessors of ak?

➢**A_k+1**

Question No:222 (Marks:1) Vu-Topper RM

Two functions 'f' and 'g' from X to Y are said to be equal if and only if_____.

➢**F(x)=g(x) for all 'x' belongs to x**

Question No:223 (Marks:1) Vu-Topper RM

The two functions 'f' and 'g' are equal if _____.

➢**F(x) =3x and g(x)= $6x^2+3x/2x^2+1$ for all xeR**

Question No:224 (Marks:1) Vu-Topper RM

If first term of a geometric sequence is 2 and common ratio is ½, then 3rd ter, of sequence.

➢¼

Question No:225 (Marks:1) Vu-Topper RM

Y= squre root x is an _____function form R^+ to R

➢One to one function

Question No:226 (Marks:1) Vu-Topper RM

Y= x^2 is an _____function form R to R^+

➢NOT ONE TO ONE FUNTION

Question No:227 (Marks:1) Vu-Topper RM

If a function (gof)(x) : X->Z is defined as (gof)(x)=g(f(x)) for all xeX, Then the function_____—.

➢ (gof)

Question No:228 (Marks:1) Vu-Topper RM

If 0 is the first term and -2 be the common difference of an arithmetic series, then the sum of first five terms of series is _____.

➢-20

Question No:229 (Marks:1) Vu-Topper RM

If f(x)=$\sin^{-1}$(x) and g(x) = sin x then gof(x) is _____.

➢X

Question No:230 (Marks:1) Vu-Topper RM

F: X->Y that is both one to one and onto is called a _____.

➢Bijective function

Question No:231 (Marks:1) Vu-Topper RM

What does ‘y’ denotes in a geometric sequence?

➢Common ratio

Question No:232 (Marks:1) Vu-Topper RM

Let g be a function defined by g(x)=x+1. Then the composition of (gog).

➢X+2

Question No:233 (Marks:1) Vu-Topper RM

A graph of a function f is one to one iff every horizontal line intersects the graph in at most one point.

➢True

Question No:234 (Marks:1) Vu-Topper RM

Which of the following is true for the following sequence?

➢If n is even, then Cn=2 and if n is odd, then Cn = 0

Question No:232 (Marks:1) Vu-Topper RM

The function 'f' and 'g' are inverse of each other if and only if their composition gives_____.

➢**Identity function**

Question No:233 (Marks:1) Vu-Topper RM

N! is defined to be _____.

➢**The product of the integers from 1 to n**

Question No:234 (Marks:1) Vu-Topper RM

Let A = {1,2,3,4} and B={7} then the constant function from A to B

➢**Both one to one and onto**

Question No:235 (Marks:1) Vu-Topper RM

A set is called countable if, and only if, it is _____.

➢**Countably infinite and finite**

Question No:236 (Marks:1) Vu-Topper RM

If f(x) = x and g(x) = -x are both one to one functions then (f+g)(x) is also one to one function.

➢**False**

Question No:237 (Marks:1) Vu-Topper RM

If a is the 1st term and d be the common difference of an arithmetic sequence then the sequence is a, a+d, a+2d, a+3d….

➢**True**

Question No:238 (Marks:1) Vu-Topper RM

x+a, x+3a, x+5…… is a/an_____.

➢**Arithmetic sequence**

Question No:239 (Marks:1) Vu-Topper RM

inverse of an injective function may not be a function.

➢**True**

Question No:240 (Marks:1) Vu-Topper RM

$y=x^3$ is a graph of bijective function form R to R

➢**False**

Question No:241 (Marks:1) Vu-Topper RM

Two functions 'f' and 'g' from x to y are said to be equal if and only if _____.

➢**F(x)=g(x) for all 'x' belongs to x**

Question No:242 (Marks:1) Vu-Topper RM

Common ration in sequence '36, 12, 4 , 4/3, …..' is ……

➢**1/3**

Question No:243 (Marks:1) Vu-Topper RM

A set is called finite if, and only if, is the _____ or there is ———.

➢**Empty set or one-to-one**

Question No:244 (Marks:1) Vu-Topper RM

Let $f(X)=x^2-1$ and $g(x)=x+1$ define functions f and g from R to R, then (f/g)x

➢**x-1**

Question No:245 (Marks:1) Vu-Topper RM

A graph of a function f is one to one iff every horizontal line intersects the graph in at most one point.

➢**True**

Question No:246 (Marks:1) Vu-Topper RM

Let g be a function defined by g(x) = x+1. Then the composition of (gog).

➢**X+2**

Question No:247 (Marks:1) Vu-Topper RM

F:X->Y that is both one to one and onto is called a _____.

➢**Bijective function**

Question No:248 (Marks:1) Vu-Topper RM

What does 'I' denotes in a geometric sequence?

➢**Common ratio**

Question No:249 (Marks:1) Vu-Topper RM

Let A={1,2,3,4} and B={7} then the constant function from A to B is _____.

➢**Both one to one and onto**

Question No:250 (Marks:1) Vu-Topper RM

N! is defined to be _____.

➢**The product of the integers from 1 to n**

Question No:251 (Marks:1) Vu-Topper RM

A set is called countable if, and only if, it is _____.

➢**Both b and c**

Question No:252 (Marks:1) Vu-Topper RM

Which of the following is the example of an alternating sequence?

➢**$C_n=n/n+1$ for $n \geq 0$**

Question No:253 (Marks:1) Vu-Topper RM

X+a, x+3a, x+5a….. is an_____

➢**Arithmetic sequence**

Question No:254 (Marks:1) Vu-Topper RM

0, -5, -10, -15, … is an _____.

➢**Arithemetic sequence**

Question No:255 (Marks:1) Vu-Topper RM

5, 9, 13, 17, … is an _____.

➢**Arithemetic sequence**

Question No:256 (Marks:1) Vu-Topper RM

An important data type in computer programming consists of _____.

➢**Finite sequence**

Question No:257 (Marks:1) Vu-Topper RM

One-to-one correspondence means the condition of _____.

➢**One-one and onto ….both**

Question No:258 (Marks:1) Vu-Topper RM

Cardinality means the total number of elements in a set.

➢**True**

Question No:259 (Marks:1) Vu-Topper RM

Inverse of a function may not be a function.

➢**True**

Question No:260 (Marks:1) Vu-Topper RM

The functions ‘f’ and ‘g’ are inverse of each other if and only if their composition gives _____.

➢**Identity function**

Question No:261 (Marks:1) Vu-Topper RM

A set is called finite if , and only if, it is the _____ or there is _____.

➢**Empty set or one-to-one**

Question No:262 (Marks:1) Vu-Topper RM

Let f and g be the two functions from R to R defined by f(x) = IXI and g(x) = square root x^2 for all xeR, then _____.

➢**F(x) is not equal to g(x)**

Question No:263 (Marks:1) Vu-Topper RM

If $f^{-1}(x) = 6-x/2$ then $f^{-1}(2)$ is _____.

➢**2**

Question No:264 (Marks:1) Vu-Topper RM

Let f(2)=3, g(2)=3, f(4)=1 and g(4)=2 then the value of fog(4) is _____.

➢**3**

Question No:265 (Marks:1) Vu-Topper RM

An important date type in computer programming consists of _——.

➢**Finite sequence**

Question No:266 (Marks:1) Vu-Topper RM

Let f(x)=x+3 then $f^{-1}(x)$ is _____.

➢**X-3**

Question No:267 (Marks:1) Vu-Topper RM

If f:X->Y amdg:Y->Z are both onto function. Then gof : X->Z is _____.

➢**One-to-one function**

Question No:268 (Marks:1) Vu-Topper RM

The functions 'f' and 'g' are inverse of each other if and only if their composition gives

➢**Identity function**

Question No:269 (Marks:1) Vu-Topper RM

The two function 'f' and 'g' are equal if _____.

➢**F(x) = 3x and g(x) = $6x^2$+3x/2x+1 for all xeR**

Question No:270 (Marks:1) Vu-Topper RM

Two functions 'f' and 'g' from X To Y are said to be equal if and only if——.

➢**F(x) and g(x) for all 'x' belongs to X**

Question No:271 (Marks:1) Vu-Topper RM

Which of the following set is the domain of a sequence?

➢**Set of natural numbers**

Question No:272 (Marks:1) Vu-Topper RM

If 1^{st} term of a geometric sequence is 2 and common ratio is 1/2 , then 3^{rd} term of sequence is _____.

➢**1/2**

Question No:273 (Marks:1) Vu-Topper RM

Composition of a function is a commutative operation.

➢**True**

Question No:274 (Marks:1) Vu-Topper RM

If a function (gof)(x): X-> Z is defined as (gof)(x)=g(f(x)) for all xeX. Then the function _____ is known as composition of f and g.

➢ **(g o f)**

Question No:275 (Marks:1) Vu-Topper RM

A set is countably infinite if and only if and only if, it has the same cardinality as the set of _____.

➢**Positive integers**

Question No:276 (Marks:1) Vu-Topper RM

The 3^{rd} term of the sequence $b_n=5^n$ is _____.

➢**125**

Question No:277 (Marks:1) Vu-Topper RM

If f is a bijective function then ($f^{-1}(f(x))$ Is equal to _____.

➢**X**

Question No:278 (Marks:1) Vu-Topper RM

Let f(x) = x and g(x) = -x for all xeR, then (f+g)(x) is ____.

➢ **0**

Question No:279 (Marks:1) Vu-Topper RM

An infinite sequence may have only a finite number of values.

➢**True**

Question No:280 (Marks:1) Vu-Topper RM

The functions fog and gof are always equal .

➢**False**

Question No:281 (Marks:1) Vu-Topper RM

If f and g are two one-to-one functions, then their composition that is gof is one-to-one.

➢**True**

Question No:282 (Marks:1) Vu-Topper RM

A function whose range consists of only one element is called _____.

➢**Constant function**

Question No:283 (Marks:1) Vu-Topper RM

Let X ={1,5,9} and Y={3,4,7}. Define a function f from X to Y such that f(1)=7, f(5)=3, f(9)=4 then which of the following statement about 'f' is true?

➢**F is both one-to-one and onto**

Question No:284 (Marks:1) Vu-Topper RM

$Y=x^3$ is a graph of bijective function from R to R.

➢**True**

Question No:285 (Marks:1) Vu-Topper RM

A function whose inverse function exists is called a/an_____.

➢**Invertible**

Question No:286 (Marks:1) Vu-Topper RM

Let F and g be two functions defined by f(x)= x+2 and g(x)= 2x+1. Then the composition of f and g is _____.

➢**2x + 5**

Question No:287 (Marks:1) Vu-Topper RM

If r is a positive real number, then the value of r in 3, r,r=-27r is

➢**-9**

Question No:288 (Marks:1) Vu-Topper RM

The _____ of the terms of a sequence forms a series.

➢**Sum**

Question No:289 (Marks:1) Vu-Topper RM

The sum of first five whole number is _____.

➢**10**

Question No:290 (Marks:1) Vu-Topper RM

If $f_k=f_k-1+f_k-2$then $f_0=1$, $f_1=2$, then f_2= _____.

➢**3**

Question No:291 (Marks:1) Vu-Topper RM

Let f(x) = 3x and g(x) = x + 2 define functions f and g from R to R, then (f.g)(x) is _____.

➢**$3x^2 + 6x$**

Question No:292 (Marks:1) Vu-Topper RM

Let R be a relation on a set A. If R is reflexive then its compliment is _____ .

➢**Irreflexive**

Question No:293 (Marks:1) Vu-Topper RM

If A = Set of students of virtual university then A has been written in the _____.

➢**Descriptive form**

Question No:294 (Marks:1) Vu-Topper RM

If a function (g o f)(x):X→Z is defined as (g o f)(x) = g(f(x)) for all x ∈ X. Then the function _____ is known as composition of f and g.

➢ **(g o f)**

Question No:295 (Marks:1) Vu-Topper RM

If X and Y are independent random variables and a and b are constants, then Var(aX + bY)is equal to

➢**aVar(X) + bVar(Y)**

Question No:296 (Marks:1) Vu-Topper RM

Let A = {1, 2, 3} and B = {2, 4} then number of functions from A to B are _____.

➢**8**

Question No:297 (Marks:1) Vu-Topper RM

p is equivalent to q' means _____.

➢**p is necessary and sufficient for q.**

Question No:298 (Marks:1) Vu-Topper RM

Let A and B be subsets of U with n(A) = 12, n(B) = 15, n(A') = 17, and n(A intersection B) = 8, then n(U)=_____ .

➢**29**

Question No:299 (Marks:1) Vu-Topper RM

For the following relation to be a function, x can not be what values?
R = {(2,4), (x,1), (4,2), (5,6)}

➢**x cannot be 2, 4 or 5**

Question No:300 (Marks:1) Vu-Topper RM

Find the number of the word that can be formed of the letters of the word “ELEVEN”.

➢**120**