QUIZ 2 SPRING 2021 181 MCQS

SEARCHING FILE MTH202

OWNER OF DAVID WORRIORS

1. *A function whose range consists of only one element is called_____*

   One to one function

2. *The set Z of all integers is _____*

   Countable

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

   Both (a) and (c)

4. *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

5. *What will be the fourth term of the following sequence 1/2,2/3,3/4 _____?*

   4/5

6. *The value of 6!=*

   720

7. *A constant function is one to one iff its _____ is a singleton.*

   Domain

8. *A constant function is onto iff its _____ is a singleton.*

Co-domain

9. *Number of one to one functions from X={a,b} to Y={u,v} are equal to _____-*

2

10. *If f is defined recursively by f(0) = -1 and f(n+1)=f(n)+3, then f(2)=_____.*

5

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

Invertible function

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

3

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

Onto

14. *Composition of a function is a commutative operation.*

False

15. *Composition of a function is not a commutative operation*

True

16. *The sum of first five whole number is _____.*

10

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

True

18. *Inverse of a surjective function is always a function.*

False

19. *Inverse of a surjective function may not be a function*

True

20. 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

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

onto

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

One-to-one

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

(hog)of = ho(gof)

24. Cardinality of positive prime numbers less than 20 is _____.

8

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

X

26. 0!=_____.

1

27. An important data type in computer programming consists of _____.

Finite sequences

28. 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

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

11

30. 9!/6!=_____

504

31. 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

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

X

33. A sequence whose terms alternate in sign is called an_____

Alternating sequence

34. Common ration in the sequence "4, 16, 64, 256,…" is…..12.

4

35. 0.8181818181 is a infinite geometric series.

True

36. The word 'algorithm' refers to a step-by-step method for performing some action.

True

37. A predicate become _____ when its variables are given specific values

Sentence

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

False

39. The sum of two irrational numbers need not be irrational number

True

40. The division by zero is allowed in mathematics.

Fasle

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

True

42. If 'n' is an odd integer then n^3+n is _____.

Even

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

False

44. 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

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

Random variable

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

P(A) + P(B)

47. 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)

48. The expectation of x is equal to

Sum xf(x)

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

Independent

50. A walk that starts and ends at the same vertex is called.

None optins

51. How many integers from 1 through 1000 are neither multiple of 3 nor multiple of 5

497

52. What is the probability of getting a number greater than 4 when a die is thrown?

53. Eater formula for graphs is_____.

F=e-v+2

54. X+a,x+3a,x+5a…..is an_____

Arithmetic sequence

55. Composition of a function is a commutative operation.

False

56. Real valued function is a function that assigns _____ to each member of its domain.

Only a real number

57. 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

58. A constant function is surjective if and only if _____

The co-domain consists of a single element

59. Cardinality means the total number of elements in a set.

True

60. If f(x)=2x and g(x)=x then g(f(x)) is _____.

$2x^2$

61. Let f:R->R is one to one function then c,f, c is not equal 0 is also one to one function.

True

62. 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

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

True

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

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

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

True

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

True

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

x-2

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

$2x^2-1$

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

Both (a)and (c)

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

False

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

True

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

True

73. ½, then 3rd term of sequence is _____.

1/2

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

True

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

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

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

Finite and countable infinite…..both

77. A set that is not countable is called _____.

Uncountable

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

Alternating sequence

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

C is not equal 0

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

x-3

81. 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

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

2

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

F_2-F_1= 2+1=3

84. x+a, x+3a, x+5a,…… is a/an_____.

Arithmetic sequence

85. Inverse of a function may not be a function.

True

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

½

87. 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

88. 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

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

Identity function

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

Set of real numbers

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

Finite set

92. A constant function is surjective if and only if_____.

The co domain consists of a single element

93. The sum of the series $a_1 + a_2 + a_3 + \ldots\ldots$ can be written as _____.

$$\sum_{i=1}^{\inf inity} a_k$$

94. Inverse of a function may not be a function.

True

95. $If\ _F_k = F_k - 1 + F_k - 2\ _then\ _F_0 = 1, _f_1 = 2, then\ _F_2 =$ _____

3

96. 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

97. The composition of function is always

Associative

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

Positive integers

99. 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

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

True

101. Domain and range are same for_____.

Identity funtion

102. 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

103. Composition of a function is a commutative operation.

True

104. Inverse of a surjective function is always a function.

False

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

Invertible

106. 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

107. 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

108. 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

109. Which of the following is not a predecessors of ak?

A_k+1

110. 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

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

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

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

¼

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

One to one function

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

NOT ONE TO ONE FUNTION

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

(gof)

116. 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

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

X

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

Bijective function

119. What does 'y' denotes in a geometric sequence?

Common ratio

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

X^2+2x+1

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

True

122. 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

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

Identity function

124. N! is defined to be _____.

The product of the integers from 1 to n

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

Both one to one and onto

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

Countably infinite and finite

127. **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

128. 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

129. x+a, x+3a, x+5…… is a/an_____.

Arithmetic sequence

130. inverse of an injective function may not be a function.

True

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

False

132. 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

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

1/3

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

Empty set or one-to-one

135. 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

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

True

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

X^2+2x+1

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

Bijective function

139. What does 'I' denotes in a geometric sequence?

Common ratio

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

Both one to one and onto

141. N! is defined to be _____.

The product of the integers from 1 to n

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

Both b and c

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

C_n=n/n+1 for n $\geq$ 0

144. X+a, x+3a, x+5a….. is an_____

Arithmetic sequence

145. 0, -5, -10, -15, … is an _____.

Arithemetic sequence

146. 5, 9, 13, 17, … is an _____.

Arithemetic sequence

147. An important data type in computer programming consists of _____.

Finite sequence

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

One-one and onto ….both

149. Cardinality means the total number of elements in a set.

True

150. Inverse of a function may not be a function.

True

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

Identity function

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

Empty set or one-to-one

153. 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)

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

2

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

3

156. An important date type in computer programming consists of _------.

Finite sequence

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

X-3

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

One-to-one function

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

Identity function

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

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

161. 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

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

Set of natural numbers

163. 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

164. Composition of a function is a commutative operation.

True

165. 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)

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

Positive integers

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

125

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

X

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

0

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

True

171. The functions fog and gof are always equal .

False

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

True

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

Constant function

174. 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

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

True

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

Invertible

177. **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

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

None options

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

Sum

180. **The sum of first five whole number is _____.**

10

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

3