STA-301 Quiz OnlineTest

Sr	Questions	Answers Choice
1	If f and g are continuous function on an interval [a,b] f(x)>=g(x) for a<=x<=b and ,then area is bounded by the lines parallel to :	A. X-axis B. Y axis C. Both x and y axis
2	Which of the following are first two terms for the taylor series of $f(x)=e^{-x}$at x=0?	A. 1+(1)(x-0) B. 1+(-1)(x-0) C. 1+(-1)(x+0)
3	Tan(x) is continuous every where except at points	A. +- kπ/2 where k=(1,3,5.....) B. +- kπ/2 where k=(2,4,6.....) C. +- kπ/2 where k= (1,2,3,4,5,6.....)
4	The tan(x) is discontinuous at the point where	A. Cos(x)=0 B. Sin(x)=0 C. Tan(x)=0
5	Sigma notation which is represent which of the following greek letter?	A. χ B. η C. Σ D. ψ
6	Which of the following is the spring constant k if a spring constant whose natural length is 2m exerts a force of 3N when started 1m beyond its natural legth?	A. 3 x B. 3 N/m C. 2 m
7	$\{1/2^n\}^n1$ represent the sequence	A. -1/2,-1/4,-1/8 B. 1/2,1/4,1/7=8 C. 0,1,1/2,1/4
8	If f is a twice differentiable function at stationary point $x_o$an $f'(x_o)$ >0 then f has relative _____ At x_o	A. None of these B. Maxima C. Minima
9	$\log_b ac$_____?	A. log_ba + log_bc B. log_ba + log_bb C. None of these
10	30^o	A. π/3 B. π/4 C. π/6
11	Suppose that we apply newton method to approximate the real solution of the equation $x^3-2x^2-1=0$ if we start at $x_1=2$,then which of the following is value of x_2?	A. 6 B. 2.25 C. 0 D. 2
12	$\log_b 1/t$ =_____	A. log_bt B. 1-log_bt C. 1+log_bt D. -log_bt
13	A line is called a tangent line to the circle if it meets the circle at precisely.....	A. one point B. two point C. infinite points
14	d(sec x)/dx=?	A. sec x tan x B. sec x tan y C. cosec x cot x
15	The graph of the equation $y=x^2-4x+5$ will represent	A. Parabola B. Single line C. Two straight line D. Ellipse

16	Center and radius of the circle is $(x+5)^2+(y-3)^2=16$ is	A. (-5,3),4 B. (5,-3),16 C. (5,-3),4 D. None of these
17	$(x^2-4)/(x-2)$ Natural domain is	A. (-∞,2)U (2,+∞) B. (-∞,2) C. (-∞,0) D. None of these
18	If $f(x)=3x^8+2x+1$ then f'x)	A. 3x⁷+2 B. 24x⁷+2 C. 3x⁷+23
19	If there is some function F such that d/dx[F(x)]=f(x) then antiderivatives of f(x) are F(x)+C .What does C represent?	A. Polynomial B. Constant C. Dependent variable D. Independent variable
20	if $x^2+y^2=9$ then dy/dx=?	A. x/y B. -x/y C. -y/x
21	A function f is called antiderivative of a function on a given interval if _____ =f(x),for all x in that interval	A. F'(x) B. F(x) C. f(x) D. f''(x)
22	According to Power -Rule of differentiation ,if $f(x) =x^n$where n is a real number,then d/dx[x^n]	A. xⁿ⁻¹ B. nxⁿ⁻¹ C. (n-1)xⁿ⁻¹
23	The lim $x\rightarrow a$ f(x)=___ where f(x)=k The k is constant	A. K+1 B. K+2 C. k
24	Sigma notation is represent by	A. M B. N C. Σ
25	If $a_1>a_2>.....>a_n>....$ then a sequence $\{a_n\}$ is	A. increasing B. non decreasing C. decreasing D. non increasing
26	π is a _____ number	A. rational B. irrational C. natural D. integer
27	If the geometric series $a+ar+ar^2+ar^3.....+ar^{k-1}$ which of the following is true for the given series	A. converges B. Diverges C. Give no information
28	For a function f(x) to be continuous on interval (a,b) the function must be continuous	A. At all point in (a,b) B. Only at point a,b C. At mid point of a and b D. None of these
29	The equation of the line of the form $y-y_1=m(x-x_1)$ is known as	A. Point Slope form B. Two points form C. Intercept form D. Slop intersect form
30	Let f(x) is the function such that as x approaches a real number ,either from left or right hand side ,the function value increase or decrease unboundedly then lim f(x)	A. Exist B. Does not exist C. Not Sure
31	The PYTHAGORAS theorem describe the relationship between the sides of	A. Right angle triangle B. Isoceleous Triangle C. Equilateral traingle
32	tan x is continuous everywhere except at points	A. +- kπ/2 (k=1,3,5....) B. +- kπ/2 (k=2,4,6....) C. Not Sure
33	For a graph to be symmetric about y axis mean ,for each point (x,y) on the graph the point ____ is also on the graph	A. (x,-y) B. (-x,y) C. (-x,-y)
		A. Subtraction

34	Which operation can not be applied on the function?	A. Subtraction B. Cross Product C. Addition D. Composition
35	a function f is ___ on a closed interval [a,b] ,then f has both a maximum and minimum value on [a,b]	A. Continuous B. Discontinuous C. None of these
36	What is the length of each subinterval,if the interval [1,3]is divided into n sub interval of equal length?	A. 1/n B. 2/n C. 3/n
37	For a sequence $\{a_n\}$ if the ration of successive terms $a_{n+1}/a_n<1$ then the sequence is known as :	A. increasing B. decreasing C. Non increasing D. non decreasing
38	What is the base of natural logarithm ?	A. 2.71 B. 10 C. 5
39	no of x and y are intercept for the equation y=1/x	A. Two x intercepts B. Two y intercepts C. No x and y intercept correct D. None of these
40	$\lim_{x\to\infty}(-2x)=$	A. -2 B. 0 C. 2 D. Does not exist
41	graph $x=y^2$is symmetric about	A. x axis B. y axis C. origin
42	if xy=4 then dy/dx =?	A. 0 B. -1/x² C. -4/x²
43	$\log_b ac$=_____	A. log_ba +log_bc B. log_ba - log_bc C. log_ba /log_bc D. log_ba *log_bc
44	If a function g is differentiable at a point x and function f is differentiable at a point g(x),then the __ is differentiable a point x.	A. Composition (fog) B. Quotient f/g C. product f.g D. Sum (f+g)
45	If x>0 then d/dx[lnx]=_____	A. 1 B. x C. 1/x D. ln 1/x
46	How many critical points exist for a function f if f'(x)=(x-3)(x-2)	A. 0 B. 1 C. 3 D. 2
47	If a quantity y depends on another quantity x in such a way that each value of x determines exactly one value of y,we say that y is _____ of x	A. relation B. Function C. Nota function D. Not a Relation
48	Let $y=(x^3+2x)^{37}$which of the following is correct?	A. dy/dx=37(x³2x)³⁶ B. dy/dx=111x²(x³2x)³⁶ C. dy/dx=(111x²+74)(x³2x)³⁶
49	If a slope m of a nonvertical line is m=1 then the angle of inclination of the line is	A. π /4 B. π /2 C. π /5
50	Suppose that f and g are differentiable function of f x then d/dx(f)(g)=	A. [f'][g]-[f][g']/g² B. [f'][g'] C. [f'][g] + [f][g']
51	Suppose that f and g are differentiable function of x then d/dx[f][g]=	A. [f'][g]-[f][g']/g² B. [f'][g'] C. [f'][g]+[f][g']
52	Which of the following is true for the sequence $\{n\}_{n=0}^{\infty}$?	A. Non increasing B. non decreasing C. increasing D. decreasing

53	Consider two function f(x)=$x^3$and g(x)=(x+9) then fog(x)=	A. (x+9)3 B. x+3 C. x+9
54	If 2x-y=-3 then dy/dx=?	A. 2 B. -2 C. 0
55	If f''(x)<0 on an open interval (a,b) then which of the following statement is correct	A. f is concave up on (a,b) B. f is concave down on (a,b) C. f is linear on a,b
56	If f is a continuous function such that $\lim_{x\to+\infty}=+\infty$ and$\lim_{x\to+\infty}=+\infty$ the f has on	A. maximum value but no minimum B. minimum value but not maximum C. both maximum and minimum value
57	y=1/1-x dy/dx if then	A. 1 B. -1 C. 1/(1-x)²
58	If a quantity y depends on another quantity x in such a way that each value of x determines exactly one value of y ,we say that y is ____ of x	A. relation B. function C. not a function D. not a relation
59	The graph x=$y^2$is symmetric about _____ axis?	A. X-axis B. Y-axis C. Origin
60	If f is a twice differentiable function at stationary point $x_o$an $f'(x_o)$ <0 then f has relative _____ At x_o	A. Minima B. Maxima C. None of these
61	What is the base of natural logaithem?	A. 2.71 B. 10 C. 5 D. Any real number
62	lim x→0 sin2x/x____	A. 2 B. 4 C. 1 D. 8
63	Function f is differentiable function if it is differentiable on the interval	A. (-∞,∞) B. (a,∞) where a is any negative integer C. (0,∞) D. None of these
64	Let y=(x^3+2x)^{37} Let Which of the following is correct?	A. dy/dx=(37)(x³+2x)³⁶ B. dy/dx=(111x²)(x³+2x)³⁶ C. dy/dx=(111x²+74)(x³+2x)³⁶ D.
65	$\log_b$1/c=_____?	A. log_bc B. 1-log_bc C. -log_bc D. 1+log_bc
66	The equation $(x+4)^2+(y+1)^2=6$ represent a circle having center at____ and radius	A. (-4,1),undertoot 6 B. (-4,-11),undertoot 6 C. None of these
67	_____ is the special case for the Taylor's theorem	A. Roll's Theorem B. Picard's Method C. Integration D. Maclaurin Theorem
68	$\log_b$ac=_____	A. log_ba + log_bc B. log_ba - log_bc C. log_ba/log_bc D. log_ba * log_bc
69	if 2x-y=-3 they dy/dx=?	A. 2 B. -2 C. 0 D. -3
70	if xy=4 they dy/dx ?	A. -1/x² B. 4/x² C. -4/x²
71	y=f(x) then the average rate of change of y with with respect to x over the interval [x_o,x_1] is the _____ joining the points (x_o ,f(x_o)) and (x_1f(x_1)) on the graph of f	A. Slope of the secant line B. Slope of the tangent line C. Secent line D. none of these

72	If 2y-y=-3 then dy/dx ?	A. 2 B. -2 C. 0 D. -3
73	The pythagoras theorem describe the relationship between the sides of	A. right angle triangle B. isoceleous triangle C. equilateral traingle
74	The set {x:a<=x<=b} can be written in the form of interval ?	A. (a,b) B. (a.b) C. [a,b]
75	h(x)=1/(x-2)(x-4) domain of the function is	A. (-∞,2)U (2,4)U (4,+∞) B. (-∞,2)U (2,4)U (4,∞) C. All are incorrect
76	Lim $_{x\to a}$ f(x)=____ where f(x)=k?	A. k+2 B. K+1 C. k
77	Lim $_{x\to 0}$sinx/x	A. 1 B. -1 C. 0 D. 2
78	Consider the following function h(x) and a constant c then d/dx((c)){h(x)}=	A. 0 B. d/dx{h(x)} C. d/dx{h(cx)} D. cd/dx{h(x)}
79	If y=1/1-x the dy/dx=____?	A. -1 B. 1 C. 1/(1-x)²
80	If f(x)=e^{-x}at x=0 be the taylor series ,then which of the following is also true?	A. Arithmetic Series B. Maclaurin Series C. Geometric Series D. Harmonic Series
81	Let $x_o$be the critical point of the function f,those critical point for which f'(x_o)=0 are called _____ of	A. Local points B. End points C. Stationary points
82	Which operation could not be applied on the function?	A. Cross Product B. Sum C. Division
83	The graph of the equation y=x^2-4x+5 will represent	A. Parabola B. Straight Line C. Ellipse
84	Average velocity of a body is V_{ave}	A. d₁-d_o/ t₁- t_o B. t₁- t_{o/f(}t₁₎- f(t_{o)} C. _{f(}t₁₎- f(t_{o)/}t₁-t_o D. None of these
85	Suppose f and g are differentiable function of x then d/dx[f/g]	A. [g][f'] - [f][g']/g² B. [g'][f] - [f'][g]/g² C. [g'][f] - [f'][g]/f²
86	set{...-4,-3 ,-2,-1,0,1,2,3,4} is known as the set of	A. natural number B. Integer C. whole number
87	Which of the following option is true for the sequence a_n= {1/n}$_{n=1}$which of the following option is true for the sequence	A. Increasing B. Decreasing C. Non increasing D. Non Decreasing
88	What is the sum of the following series? 1+2+3+----+n	A. n+1/2 B. (n+1)(n+2)/2 C. n(n+2)/2 D. n(n+1)/2
89	If there is some function F such that d/dx[F(x)]=f(x) then any of the function of the form F(x)+C is _____ of f(x)	A. Derivative B. Antiderivative C. Slope D. Maximum value
90	The graph x=$y^2$is symmetric about ___ axis	A. X-axis B. Y-axis C. origin

91	What is the length of each sub interval ,if the interval [1,3] is divided into n sub interval of equal length?	A. 1/n B. 2/n C. 3/n D. 4/n
92	If the partial sum of series is finite then the series will be:	A. Convergent B. Glve no information C. Not Sure
93	$\log_b a^r$=____?	A. a log_br B. rlog_ba C. log_ba/log_br
94	$y=x^2/2$ Let find the average rate of change of y with respect to x over the interval [3,4]	A. 25/2 B. 7/2 C. 25/14 D. 7/14
95	If the partial sum of the series is finite then the series will be	A. Divergent B. Convergent C. Give no information
96	Consider a function h(x) and a constant c then d/dx{(c){h(x)}}	A. 0 B. d/dx((h(x))) C. d/dx((h(cx))) D. cd/dx((h(x)))
97	For a function f ,let $f'(x_n)=0$ for some n Does the newton method for work for approximating the solution of f(x)=0	A. yes B. no C. not sure
98	For a sequence $\{a_n\}$ if the difference between successive terms $a_{n+1}-a_n<=0$ then the sequence is known as	A. increasing B. decreasing C. non decreasing D. non increasing
99	Polynomials are always _____ function	A. Continuous B. Discontinuous C. Not Sure
100	According to the power rule of differentiation,if $f(x)=x^n$where n is a real number then $d/dx[x^n]$=	A. xⁿ⁻¹ B. nxⁿ⁻¹ C. nxⁿ⁺¹
101	For a sequence $\{a_n\}$if the ration of successive terms $a_{n+1}/a_n>1$ then the sequence is known as	A. Increasing B. Decreasing C. Non Increasing D. Non decreasing
102	Chain rule is a rule for differentiating _____ of functions	A. Product B. Sum C. Composition D. Difference
103	Let a function be defined on an interval and let x_1 and $x_2$denotes two distinct points in that interval ,If $f(x_1)= f(x_2)$ for all points x_1 and$x_2$then which of the following statement is correct ?	A. f is decreasing function B. f is increasing function C. f is constant function
104	The power rule $d/dx[x^n]=nx^{n-1}$holds if n is	A. an integer B. a rational number C. an irrational number D. all of the above
105	lim $x\rightarrow 0^+$ln x/1/x=_____	A. 1 B. 0 C. none of these
106	$\log_b a^r$=____?	A. alog_br B. r log_ba C. log_ba /log_br
107	d/dx[cosec x]	A. 1/1+cos²x B. -cos x/1-cos²x C. 1/1-cos²x
108	The mean value of theorem states that " Let function f can be differentiable on (a,b) and continuous on [a,b] then there is no exist at least one point c in (a,b) where _____	A. f'(c)=f(b)-f(a)/b-a B. f(c)=f(b)-f(a)/b-a C. f(c)=f(a)-f(b)/b-a
109	If a function has an extreme value (either a maximum or a minimum) on an open interval (a,b) then the extreme value occurs at ____ of f	A. First point B. Mid point C. Critical Point D. End Point
110	An object is displaced 1m by a force of 1N then the work done	A. 2 B. 1

110	An object is displaced 1m by a force of 1N then the work done	B. 1 C. 0
111	d(tan x)/dx =___	A. sec x B. sec²x C. cosec²x D. cosec x
112	At which points two curves $y=x^2$and y=x+6 intersect?	A. x=0 and x=2 B. x=0 and x=3 C. x=2 and x=3 D. x=-2 and x=3
113	In alternating series test ,which one of the following condition must be satisfied	A. lim k→∞ a_k=1 B. a₁>a₂>a_{3.....>a}k C. a₁<a₂<a_{3.....<a}k
114	_____ is the special case of Taylor's Theorem	A. Roll's theorem B. Picard Method C. Integration
115	2/3 is known as	A. even number B. irrational number C. natural number D. rational number