Question **5**

Answer saved

Marked out of 1.00

[BT-3, CO-5, PO-4]

Formula of t test for single mean is given by

Select one:

$$lefton$$
 a. $t=(ar x-\mu)/(S/\sqrt n)$

$$\bigcirc$$
 b. $t=(ar{x}-\mu)/(\sigma/\sqrt{n})$

$$\bigcirc$$
 c. $t=(ar{x}+\mu)/(\sigma/\sqrt{n})$

$$\bigcirc$$
 d. $t=(ar{x}+\mu)/(S/\sqrt{n})$

Clear my choice

Question 6

Answer saved

Marked out of 1.00

[BT-4, CO-2, PO-4]

Stirling's formula is the average of

Select one:

- O a. Gauss forward and Newton forward formula
- O b. Gauss forward and Newton backward formula
- o c. Gauss forward and Backward formula
- O d. Newton forward and Newton backward formula

Clear my choice

Question **7**

Answer saved
Marked out of

1.00

[BT-5, CO-4, PO-4]

Given dy/dx=(y-x)/(y+x) , y(0)=1. The value of y(0.1) when h=0.1, by using Euler's method is

Select one:

- O a. 0.9
- O b. 1
- o. 0.1
- O d. 1.1

Answer saved

Marked out of 1.00

[BT-2, CO-5, PO-3]

Time series is used in

Select one:

- a. Economic forecasting
- O b. Sales forecasting
- O c. Stock market analysis
- od. All of these

Clear my choice

Question 9

Answer saved

Marked out of 1.00

[BT-4, CO-3, PO-4]

Euler-Maclaurin's formula gives the correction in

Select one:

- O a. Simpson's 3/8 rule
- O b. Bool's rule
- O c. Simpson's 1/3 rule
- od. Trapezoidal rule

Clear my choice

Question 10

Answer saved

Marked out of 1.00

[BT-1, CO-3, PO-4]

Boole's formula is given by

Select one:

$$lackbox{0}$$
 a. $\int_a^b y dx = 2h/45[y_0 + 5y_1 + y_2 + 6y_3 + y_4 + 5y_5 + y_6 + \ldots]$

$$\bigcirc$$
 b. $\int_a^b y dx = h/2[(y_0+y_n)+2(y_1+y_2+y_3+\ldots.+y_{n-1})]$

$$\bigcirc$$
 c. $\int_a^b y dx = 2h[y_0 + 5y_1 + y_2 + 6y_3 + y_4 + 5y_5 + y_6 + \ldots]$

$$\bigcirc$$
 d. $\int_a^b y dx = 2h/45[7y_0 + 32y_1 + 12y_2 + 32y_3 + 7y_4 + \ldots]$

Clear my choice

Question 11

Answer saved
Marked out of

1.00

[BT-4, CO-2, PO-4]

If 3rd order differences are constants, we will get a polynomial of degree

Select one:

- O a. 2
- O b. 1
- O c. 3
- O d. 4

Question 12 [BT-4, CO-4, PO-4] Answer saved The best representative curve to the given set of points for which sum of the square of the errors is a minimum is Marked out of known as 1.00 Select one: a. Principe of least square O b. Linear curve O c. Approximating curve O d. Curve fitting Clear my choice Question 13 [BT-4, CO-3, PO-4] If there are 6 intervals, which formula is not applicable? Answer saved Marked out of 1.00 Select one: a. Bool's rule O b. Trapezoidal rule O c. Weddle's rule O d. Simpson's rule Clear my choice Question 14 [BT-4, CO-4, PO-3] Answer saved There is a class of methods called - - - - which do not require the calculations of higher order derivatives and give Marked out of greater accuracy. 1.00 Select one: O a. Euler's method b. Taylor series method C. Runge-Kutta method O d. Euler's modified method INTEGRAL LEARNING INITIATIVE Clear my choice Links Follow Us Contact Integral University, Kursi Road, Disclaimer Facebook Integral Learning Initiative: A Lucknow(india) Collaborative Blended Learning IU site Platform

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Question 15

Answer saved

Marked out of 1.00

[BT-3, CO-2, PO-4]

To apply Gauss forward interpolation formula, the value of $u=(x-x_0)/h$ must satifies

Select one:

- O a. -1<u<0
- O b. -1<u<1
- o. 0<u<1
- O d. -2<u<-1

Clear my choice

Question 16

Answer saved Marked out of 1.00

[BT-1, CO-3, PO-4]

Simpson's 1/3 formula is given by

Select one:

$$igodesign{array}{c} igodesign{array}{c} igodesign{array}{c} igodesign{array}{c} b \ y dx = h/3[(y_0+y_n)+4(y_1+y_3+\ldots+y_{n-1})+2(y_2+y_2+\ldots+y_{n-2})] \end{array}$$

$$\bigcirc$$
 b. $\int_a^b y dx = h/3[(y_0+y_n)+3(y_1+y_3+\ldots +y_(n-1))+2(y_2+y_2+\ldots +y_{n-2})]$

O c.
$$\int_{a}^{b} y dx = h/3[(y_0 + y_n) + 4(y_1 + y_3 + \dots + y_{n-1}) + 4(y_2 + y_2 + \dots + y_{n-2})]$$

O d.
$$(\int_a^b dx = h/2 [(y_0+y_n)+2(y_1+y_2+y_3+....+y_{n-1})])$$

Clear my choice

Question 17

Answer saved

Marked out of 1.00

[BT-2, CO-5, PO-3]

Which is/are the component of a time series?

Select one:

- a. Neither secular trend nor seasonal variation
- b. Secular trend and seasonal variation both
- O c. Seasonal variation
- O d. Secular trend

Answer saved

Marked out of 1.00

[BT-4, CO-4, PO-3]

The simplest method in finding the approximate solutions to the first order equation is

Select one:

- a. Runge Kutta method
- O b. Taylor's series method
- O c. Modified Euler's method
- od. Euler's method

Clear my choice

Question 19

Answer saved

Marked out of 1.00

[BT-3, CO-4, PO-4]

The second order Runge-Kutta method is

Select one:

- O a. Euler's method
- O b. Guass method
- O c. Taylor series method
- d. modified Euler's method

Clear my choice

Question 20

Answer saved

Marked out of

[BT-2, CO-2, PO-4]

Which of the following relation is true?

Select one:

- \bigcirc a. \(δ =1/3(E^{1/2}+E^{-1/2}) \)
- \bigcirc b. \($\delta=E^{1/2}+E^{-1/2}$ \)
- c. \($\delta = 1/2(E^{1/2}+E^{-1/2}) \$)
- \bigcirc d. \(δ =1/2(E^{1/2}-E^{-1/2}) \)

Clear my choice

Question 21

Answer saved

Marked out of 1.00

[BT-3, CO-1, PO-3]

The value of 0.5102E57 + 0.4960E57 is

Select one:

- O a. 0. 1006E70
- o b. 1.0062E57
- O c. 0.1006E57
- O d. 0. 1006E58

Question **22** Answer saved Marked out of 1.00

[BT-5, CO-1, PO-4]

Iterative formula to find the value of \(\sqrt[]{N}\) by Newton's method is

Select one:

- a. \(x_{(n+1)}= (x_n^2-N)/(2x_n) \)
- O b. $(x_{(n+1)}=(x_n^3+N)/(2x_n))$
- \bigcirc c. \(x_{(n+1)}= (x_n^2+N)/(2x_n) \)
- O d. $(x_{(n+1)}=(x_n^3-N)/(2x_n))$

Clear my choice

Question 23 Answer saved Marked out of 1.00

[BT-4, CO-5, PO-4] If $t_{cal} < t_{tab}$,

Select one:

- O a. null hypothesis rejected
- b. null hypothesis accepted
- O c. incomplete information to conclude anything about hypothesis
- d. alternate hypothesis rejected

Clear my choice

Question **24** Answer saved Marked out of

1.00

[BT-3, CO-5, PO-3]

A region in which null hypothesis H_o is rejected is called as

Select one:

- a. feasible region
- O b. confidence region
- o. critical region
- O d. statistical begins Links

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Question **25**

Answer saved

Marked out of 1.00

[BT-2, CO-1, PO-3]

Convergence criterion of iteration method by writing the given equation f(x)=0 in the form $x=\emptyset(x)$ is

Select one:

- \bigcirc a. $|\emptyset(x)| < 1$
- \bigcirc b. $|\emptyset'(x)| < 1$
- $igode{o}$ c. |f'(x)| < 1
- \bigcirc d. |f(x)| < 1

Clear my choice

Question **26**

Answer saved
Marked out of
1.00

[BT-2, CO-1, PO-3]

If in interval (a, b), there is a root of any equation, then which condition must be true

Select one:

- a. f(a) and f(b) both are positive
- b. f(a) and f(b) are of opposite sign
- O c. f(a) and f(b) are of same sign
- O d. f(a) and f(b) both are negative

Clear my choice

Question 27

Answer saved
Marked out of
1.00

[BT-4, CO-5, PO-4]

Student's t-test is applicable in case of

Select one:

- O a. large samples
- b. small samples
- $\bigcirc\,$ c. for sample of size between 100 and 200
- O d. for sample of size between 200 and 300

Answer saved

Marked out of 1.00

[BT-5, CO-5, PO-4]

In an unpaired samples t-test with sample sizes $n_1 = 11$ and $n_2 = 11$, the value of tabulated t should be obtained for:

Select one:

- O a. 22 degrees of freedom
- O b. 21 degrees of freedom
- o c. 20 degrees of freedom
- O d. 10 degrees of freedom

Clear my choice

Question 29

Answer saved

Marked out of 1.00

[BT-4, CO-3, PO-3]

To apply Boole's rule, number of subintervals must be

Select one:

- O a. multiple of 3
- O b. multiple of 6
- O c. multiple of 2
- od. multiple of 4

Clear my choice

Question 30

Answer saved

Marked out of 1.00

[BT-3, CO-1, PO-4]

If $u=(4x^2y^3)/z^4$ and errors in x,y,z are 0.001 at x=y=z=1. Then maximum relative error in u is

Select one:

- O a. 0.09
- O b. 0.9
- o. 0.009
- O d. 0.1

Clear my choice

Question 31

Answer saved

Marked out of 1.00

[BT-5, CO-5, PO-4]

The probability of exactly one head in toss of three coin is

Select one:

- a. 3/8
- O b. 1/8
- O c. 1/2
- O d. 3/4

Question **32**Answer saved
Marked out of
1.00

[BT-4, CO-2, PO-3]

If interpolation is required at a point which lies in the last of the given range of x, which formula will be applicable

Select one:

- O a. Newton's forward formula
- O b. Guass forward formula
- o. Newton's backward formula
- O d. Guass backward formula

Clear my choice

Question 33

Answer saved
Marked out of
1.00

[BT-3, CO-4, PO-4]

Least square methods are used to fit

Select one:

- O a. Circle
- b. Straight line and parabola both
- O c. Parabola only
- O d. Straight line only

Clear my choice

Question 34

Answer saved

Marked out of 1.00

[BT-4, CO-4, PO-3]

From the following which one gives more accurate value

Select one:

- O a. Both Euler's and modified Euler's method
- O b. Neither Euler's and nor modified Euler's method
- O c. Euler's method
- od. Euler's modified method

Clear my choice

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Question **35**

Answer saved

Marked out of 1.00

[BT-1, CO-2, PO-4]

The technique for computing the value of the function outside the given range of argument is called

Select one:

- O a. interpolation
- b. extrapolation
- O c. inverse interpolation
- O d. curve fitting

Clear my choice

Question **36**

Answer saved

Marked out of 1.00

[BT-5, CO-2, PO-3]

$$E^2 f(x) = ?$$

Select one:

- a. f(x+2h)
- O b. f(x-h)
- O c. f(x-2h)
- d. f(x+h)

Clear my choice

Question **37**

Answer saved

Marked out of 1.00

[BT-3, CO-2, PO-3]

How much maximum order differences are possible, if there are 6 values of dependent variable

Select one:

- a. 5th order
- O b. 2nd order
- O c. 4th order
- O d. 3th order

Answer saved

Marked out of 1.00

[BT-5, CO-1, PO-4]

What is the value of f(1) from the equation x - cos x = 0

Select one:

- o a. 0.4597
- O b. 0.00152
- O c. 0.000152
- O d. 0.0152

Clear my choice

Question 39

Answer saved
Marked out of

1.00

[BT-4, CO-3, PO-3]

If there are 8 intervals, which formula is not applicable?

Select one:

- o a. Weddle's rule
- O b. Trapezoidal rule
- O c. Simpson's 1/3 rule
- O d. Bool's rule

Clear my choice

Question 40

Answer saved

Marked out of 1.00

[BT-4, CO-2, PO-3]

Regarding factorial notations, which one is true?

Select one:

$$\bigcirc$$
 a. $x^{(3)} = x(x+1)(x-2), h=1$

$$\bigcirc$$
 b. $x^{(3)} = x(x+1)(x+2), h = 1$

$$lefton c. \ x^{(3)} = x(x-1)(x-2), h=1$$

O d.
$$x^{(3)} = (x-1)(x+1)(x+2), h = 1$$

Clear my choice

Question 41

Answer saved
Marked out of

1.00

[BT-3, CO-3, PO-3]

When derivatives requires at the beginning of the table values, we use the formula obtained from

Select one:

- O a. Stirling formula
- O b. Guass interpolation formula
- c. Newton forward interpolation formula
- O d. Newton backward interpolation formula

Question 42	[BT-4, CO-5, PO-3]			
Answer saved Marked out of	Test used for goodness of fit is			
1.00	Select one:			
	O a. F-test			
	O b. Z-test			
	c. chi-square test			
	O d. t-test			
	Clear my choice			
Question 43	IRT-4 CO-1 PO-21			
Answer saved	[BT-4, CO-1, PO-2] If relative error of a number is 3.264×10 ⁻⁹ then its percentage error is			
Marked out of 1.00	Select one:			
	● a. 3.264×10 ⁻⁷			
	O b. 3.264×10 ⁻¹³			
	○ c. 3.264×10 ⁻⁹			
	O d. 3.264×10 ⁻¹²			
	Clear my choice			
Question 44	[BT-5, CO-1, PO-3]			
Answer saved				
Marked out of 1.00				
	Select one:			
	○ a. 1.75			
	O b. 1.875			
	O c. 1.57			
	d. 1.785			
	Clear my choice			
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Question **45**

Answer saved

Marked out of 1.00

[BT-5, CO-3, PO-4]

If a=0, b=1 and number of subintervals are 5, what is the value of h?

Select one:

- O a. 0.1
- o b. 0.2
- O c. 1
- O d. 5

Clear my choice

Question **46**

Answer saved

Marked out of 1.00

[BT-5, CO-3, PO-4]

If
$$y = 1/x, y' = ?$$

Select one:

- \bigcirc a. -1/x
- \bigcirc b. $1/x^2$
- \bigcirc c. 1/x
- d. \(-1/x^2 \)

Clear my choice

Question **47**

Answer saved
Marked out of
1.00

[BT-5, CO-1, PO-4]

To apply Gauss Seidel method , equations \(2x+36y-z=12, $\sim 8x-2y+3z=15$, $\sim 2x-4y+9z=13$ \) are rewritten as

Select one:

- a. \(x=1/8 [15+2y-3z],y=1/35 [12-2x+z],z=1/9 [13-2x+4y] \)
- O b. \(x=1/9 [15+2y-3z],y=1/36 [12-2x+z],z=1/9 [13-2x+4y] \)
- \bigcirc c. \(x=1/2 [12-36y+z],y=(-1)/2 [15-8x-3z],z=1/9 [13-2x+4y] \)
- $\bigcirc \ \ d. \ \ (x=1/8 \ [15+2y-3z],y=1/36 \ [12-2x+z],z=1/9 \ [13-2x+4y] \ \)$

Answer saved
Marked out of
1.00

[BT-1, CO-4, PO-3]

Equations by solving least square methods are known as

Select one:

- a. Normal equations
- O b. Auxiliary equations
- O c. Exponential equations
- O d. Standard equations

Clear my choice

Question 49

Answer saved
Marked out of
1.00

[BT-2, CO-4, PO-3]

The method involves the derivative of different orders is

Select one:

- O a. Euler's method
- O b. Runge Kutta method
- O c. modified Euler's method
- d. Taylor's series method

Clear my choice

Question **50**

Answer saved

Marked out of

1.00

[BT-5, CO-2, PO-4]

For the given distributed data find the value of \($\Delta^2 y_0 \$ \)

x	2	4	6	8	
У	1	4	8	10	Select one:
	-	-		-	O a. 3

- O b. 2
- O c. 1
- O d. 4

Clear my choice

Question **51**

Answer saved
Marked out of
1.00

[BT-4, CO-1, PO-4]

If derivative of the function becomes zero, which of the method is not applicable to calculate the root of the given equation?

Select one:

- O a. False position method
- O b. Bisection method
- o. Newton's method
- O d. Guass method

Question **52** [BT-5, CO-3, PO-4] Answer saved If there are 7 ordinates, how many intervals will be there? Marked out of 1.00 Select one: a. 6 O b. 9 O c. 7 O d. 8 Clear my choice Question **53** [BT-4, CO-4, PO-3] Answer saved The Euler's method has limited application due to its Marked out of 1.00 Select one: O a. less accuracy O b. due to other reasons c. both due to tough procedure and less accuracy O d. tough procedure Clear my choice Question **54** [BT-4, CO-2, PO-4] Answer saved Which formula gives the best result when the value of $(u=(x-x_0)/h)$ is exactly 1/2? Marked out of 1.00 Select one: a. Newton's formula O b. Stirling's formula c. Bessel's formula O d. Laplace Everett's formula Clear my choice INTEGRAL LEARNING INITIATIVE Follow Us **Quick Links** Contact ■ CO: INDIRECT ATTAINMENT Sclaimer Integral Learning Initiative: A SURVEY Collaborative Blended Learning | IU site Integral University, Kursi Road, Facebook Jump to... Lucknow(india) IU site E-mail: ili@iul.ac.in, Platform Gallery

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Question **55**

Answer saved

Marked out of 1.00

[BT-4, CO-1, PO-2]

To apply which one of the method, we write the given equation f(x)=0 as $x=\emptyset(x)$

Select one:

- a. Newton's method
- O b. False position method
- O c. Iteration method
- O d. Guass method

Clear my choice

Question **56**

Answer saved

Marked out of 1.00

[BT-1, CO-5, PO-3]

Statistical Constants such as mean or variance measured for population are known as

Select one:

- a. parameter
- O b. statistic
- O c. variable
- O d. trend

Clear my choice

Question **57**

Answer saved

Marked out of 1.00

[BT-5, CO-5, PO-4]

A die is thrown 120 times and the results of these throws are given as

Number appeared on the die	1	2	3	4	5	6
Frequency	16	30	22	18	14	20

If we have to test whether the given die is biased or not, the expected frequencies for each digit is

Select one:

- O a. 120
- O b. 6
- O c. 20
- O d. 30

Answer saved

Marked out of 1.00

[BT-1, CO-4, PO-3]

The general problem of finding equations of approximating curves which fit a given data is called

Select one:

- a. curve fitting
- O b. approximating curve
- O c. linear form
- O d. quadratic form

Clear my choice

Question **59**

Answer saved

Marked out of 1.00

[BT-2, CO-3, PO-4]

First derivatives formula at the point $x=x_n$ is given by

Select one:

$$\bigcirc$$
 a. $dy/dx=1/h[
abla y_n-1/2
abla^2 y_n+1/3
abla^3 y_n-1/4
abla^4 y_n+\dots$

$$\bigcirc$$
 b. $dy/dx=1/h[
abla y_n-1/2
abla^2 y_n-1/3
abla^3 y_n-1/4
abla^4 y_n-\dots$

$$\bigcirc$$
 c. $dy/dx = [
abla y_n + 1/2
abla^2 y_n + 1/3
abla^3 y_n + 1/4
abla^4 y_n + \dots]$

$$igotaggledown$$
 d. $dy/dx=1/h[
abla y_n+1/2
abla^2 y_n+1/3
abla^3 y_n+1/4
abla^4 y_n+\dots$

Clear my choice

Question **60**

Answer saved

Marked out of 1.00

[BT-4, CO-5, PO-3]

Any hypothesis which is tested for the purpose of rejection under the assumption that it is true is called

Select one:

- O a. composite hypothesis
- O b. alternative hypothesis
- c. statistical hypothesis
- d. null hypothesis

Clear my choice

Question **61**

Answer saved

Marked out of 1.00

[BT-1, CO-1, PO-4]

False position formula to find a real root of an equation is given by

Select one:

- \bigcirc a. $x_1 = (af(b) + bf(a))/(f(b) + f(a))$
- \bigcirc b. \(x_{n+1}=x_n+f(x_n)/f'(x_n) \)
- \bigcirc c. \(x_{n+1}=x_n-f(x_n)/f'(x_n) \)
- d. $(x_1=(af(b)-bf(a))/(f(b)-f(a)))$

Question 62	[BT-2, CO-2, PO-3]					
Answer saved	Which formula is not applicable when the arguments are not at equal intervals					
Marked out of 1.00	Select one:					
	a. Newton's divided difference formula					
	b. Stirling's formula					
	C. All are correct					
	O d. Lagrange's formula					
	Clear my choice					
Question 63	[BT-4, CO-4, PO-3]					
Answer saved Marked out of	\(y(x+h)=y(x)+hf(x,y) \) is referred as method					
1.00	Select one:					
	a.					
	Euler's					
	b. Runge Kutta method					
	c. Taylor seriesd.					
	Clear my choice					
Question 64	[BT-3, CO-3, PO-4]					
Answer saved	Which integration formula can be used to find the sum of series up to n terms?					
Marked out of 1.00	Select one:					
	a. Euler Maclaurin's formula					
	O b. Simpson's 1/3 formula					
	C. Bool's rule					
	O d. Weddle's formula					
	Clear my choice					
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