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Unit 2 - UNIT - II : Numerical differentiation and Integration

ASSESSMENT - 4

The due date for submitting this assignment has passed.

Due on 2023-04-19, 23:59 IST.

As per our records you have not submitted this assignment.

1) Interpolation is the process of computing___ ***1 point***

- the values outside the interval
- intermediate values of a function
- both (a) and (b)
- none of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
intermediate values of a function

2) If interpolation is required near the middle values of the table, we use ***1 point***

- Stirling's interpolation formula
- Bessel's interpolation formula
- Both (a) and (b)
- Newton's backward formula

No, the answer is incorrect.
Score: 0
Accepted Answers:
Stirling's interpolation formula

3) Find ▼(29) given (3,7);(4,11);(5,16);(6,22) and (7,29) ***1 point***

- 4
- 5
- 6
- 7

No, the answer is incorrect.
Score: 0
Accepted Answers:
7

4) Find Δ (7) given (3,7);(4,11);(5,16);(6,22) and (7,29) ***1 point***

- 4
- 5
- 6
- 7

No, the answer is incorrect.
Score: 0
Accepted Answers:
4

5) Find the values of y at x = 21 and x = 28 from the following data. y(20) = 0.342, y(23) = 0.3907, y(26) = 0.4384, y(29) = 0.4848 ***1 point***

- y(21) = 0.3583, y(28) = 0.4695
- y(21) = 0.3538, y(28) = 0.4596
- y(21) = 0.5383, y(28) = 0.6495
- y(28) = 0.3583, y(21) = 0.4695

No, the answer is incorrect.
Score: 0
Accepted Answers:
y(21) = 0.3583, y(28) = 0.4695

6) Newton forward interpolation formula is used when the interval of difference is *1 point*

- varies
- constant
- varies or constant
- none of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
constant

7) Newton backward interpolation formula is used when the interval of differencing is *1 point*

- varies
- constant
- varies or constant
- none of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
constant

8) Lagranges interpolation formula is used when the interval of differencing is *1 point*

- varies
- constant
- varies or constant
- none of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
varies

9) The following function(s) can be used for interpolation *1 point*

- trigonometric
- polynomial
- exponential
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

10) Find the parabola passing through the points (0, 1), (1, 3), (3, 55) using Lagrange's interpolation formula. *1 point*

- y = 8x^2 -- 6x -- 1
- y = 8x^2 + 6x + 1
- y = 8x^2 + 6x -- 1
- y = 8x^2 -- 6x + 1

No, the answer is incorrect.
Score: 0
Accepted Answers:
y = 8x^2 -- 6x + 1

11) The function y=2x^2+3x+1 passes through (1,6);(3,28) and (10,231). The process of finding y when x=2 is called *1 point*

- interpolation
- extrapolation
- guessing
- regression

No, the answer is incorrect.
Score: 0
Accepted Answers:
interpolation

12) Given n points and the function y=f(x) passing through all the data points. If the value of f(x) is required for a value of x outside the range of the given data, the procedure is called *1 point*

- interpolation
- extrapolation
- guessing
- regression

No, the answer is incorrect.
Score: 0
Accepted Answers:
extrapolation

13) Find y(35) using Stirling's formula. y(20) = 512, y(30) = 439, y(40) = 346, y(50) = 243. *1 point*

- 395

- 390
- 400
- 385

No, the answer is incorrect.
Score: 0
Accepted Answers:
395

14) Using central difference formula find y(1.22) given y(1) = 0.84147, y(1.1) = 0.89121, y(1.2) = 0.93204, y(1.3) = 0.96356, y(1.4) = 0.98545, y(1.5) = 0.99749. ***1 point***

- 0.9553
- 0.9391
- 0.8889
- 0.9139

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.9391

15) Using Lagrange's formula find y(19) given that y(11) = 14646, y(17) = 83526, y(21) = 194486, y(23) = 279846. ***1 point***

- 130198
- 130189
- 130891
- 130981

No, the answer is incorrect.
Score: 0
Accepted Answers:
130198