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Unit 2 - UNIT - II : Numerical differentiation and Integration

Assessment -- 6

The due date for submitting this assignment has passed.

Due on 2023-04-30, 23:59 IST.

As per our records you have not submitted this assignment.

Simpson's rule

1) Simpson’s 1/3rd rule is applied when n is a multiple *1 point*

- Two
- five
- seven
- none of the above

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

2) The three-eighth rule of Simpson applies if number of subinterval is a multiple *1 point*

- Two
- Three
- Seven
- none of the above

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

3) The error in the simpson's 1/3rd rule is of order *1 point*

- h
- square of h
- cube of h
- fourth power of h

No, the answer is incorrect.
Score: 0
Accepted Answers:
fourth power of h

4) In which of the following numerical methods total number of points must be odd? *1 point*

- Trapezoidal Rule
- Simpson' s 1/3 Rule
- Simpson 3/8 Rule
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Simpson' s 1/3 Rule

5) In application of Simpson’s 1/3rd rule, the interval h for closer approximation should be _____ *1 point*

- even
- small
- odd
- even and small

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

6) using romberg's method find integral 0 to 1 (dx / 1 + x) correct to 3 decimals. h = .25 **1 point**

- 0.697
- 0.769
- 0.679
- 0.967

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.697

7) By Simpson's 1/3 rd formula find integral 0 to 1/2 (x / sinx), h = 1 / 16 becomes------- () **1 point**

- 0.517
- 0.5071
- 0.5701
- 0.1750

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.5071

8) Which of the formula does not require that the interval of integration be divided into an even number of intervals ? **1 point**

- Simpson's formula
- Weddle formula
- Trapezoidal rule
- None of the above

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

9) The value of integral of (sinx - logx + e^x) between 0.2 and 1.4 using Simpson's 1/3 rd rule by taking h = 0.2 will be () **1 point**

- 4.0125
- 4.1205
- 4.5021
- 4.0521

No, the answer is incorrect.
Score: 0
Accepted Answers:
4.0521

10) The degree of accuracy in Simpson's (1/3)rd Rule is **1 point**

- 1
- 2
- 3
- 6

No, the answer is incorrect.
Score: 0
Accepted Answers:
3

11) In Simpson's rule will give exact result, if the entire curve y=f(x) is itself a ____. **1 point**

- Straight line.
- Chord.
- Parabola.
- Tangent line.

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

12) By setting n=2 in Newton-cote quadrature formula we obtain **1 point**

- Trapezoidal rule
- Simpson's three-eighths rule
- Simpson's one-third rule
- Weddle's rule.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Simpson's one-third rule

13) The area of the given data X 1 1.5 2 2.5 3 3.5 4 Y 2 2.4 2.7 2.8 3 2.6 2.1 using Simpson's 1/3rd rule area is _____. **1 point**

- 7.8
- 7.7
- 7.78
- 7.87

No, the answer is incorrect.
Score: 0

Accepted Answers:
7.78

14) The value of integral e^x is evaluated from 0 to 0.4 by the following formula. Which method will give the least error ? ***1 point***

- Trapezoidal rule with h = 0.2
- Trapezoidal rule with h = 0.1
- Simpson's 1/3 rule with h = 0.1
- all the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Simpson's 1/3 rule with h = 0.1

15) The results obtained by using Simpson's rule will be greater than those obtained by using the trapezoidal rule ***1 point***

- provided the intervals are small
- provided the boundary is concave towards the base line
- provided the boundary is convex towards the base line.
- All the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
provided the boundary is concave towards the base line