



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

Faculty of Science & Technology

Department of Mathematics

MAT1205: Integral Calculus and Ordinary Differential Equations

Assignment 1

Q. Estimate the value the following integrals to 3 decimal places using ' n ' subintervals of equal length using **(i) left Riemann sum, (ii) right Riemann sum, (iii) middle Riemann sum and (iv) Trapezoidal rule.**

(a) $\int_0^2 e^{-3x} dx$ ($n = 4$)

(b) $\int_1^7 \frac{1}{\sqrt{x^3+1}} dx$ ($n = 6$)

(c) $\int_3^5 \frac{1}{1-\ln x} dx$ ($n = 4$)

(d) $\int_0^1 \sin(x) \cos(x^2) dx$ ($n = 4$)

(e) $\int_0^1 \sin(x^2) dx$ ($n = 5$).

Instruction of submission:

- Write down the answer on paper.
- Scan and make one pdf file.
- or
- Take photo and compile all photos in one word file.
- Give the name of the file (Section, Name, ID).
- Send assignment by Microsoft TEAMS
- Submit by 17 July Friday.