Mid-Term Examination (07-06-2021)

Class: B.E. (chem.)-MBA & B.E. (FT) 6th Sem. / B.E. (chem.) 4th Sem.

Subject: Numerical Methods in Chemical Engineering

Max. Marks: 25 **Time allowed: 1 hr**

Note: Attempt all questions

1. Find a real root of $x^2 + 4\sin x = 0$ correct to 3 decimal places using Newton-Raphson method.

(5)

2. Use Lagrange's interpolation formula to find the value of y when $x = 10$, if the following values of x and y are given

x	5	6	9	11
y	12	13	14	16

(5)

3. From the following table estimate the number of students who obtained marks between 40 and 45

Marks	30-40	40-50	50-60	60-70	70-80
No. of Students	31	42	51	35	31

(10)

4. Evaluate $\int_0^1 \frac{dx}{1+x}$ applying Trapezoidal rule.

(5)