17USTAT4NS4 UST/AT/4NS4

B.Sc. Degree Examinations - Even Semester 2021
II Year IV Semester
Numerical Methods

Max Marks: 25

Answer any Five questions (5 * 5 = 25)

1. Illustrate the difference between E and Δ also E and δ
2. Find the value of y at x=28 from the following data

x	20	23	26	29
f(x)	0.3420	0.3907	0.4384	0.4848

3. From the following table find f(x) and hence f(6) using newton's interpolation formula

x	1	2	7	8
f(x)	1	5	5	4

4. Apply Stirling's formula to find y(1.22) from the following data

x	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
y	0.84147	0.89121	0.93204	0.96356	0.98545	0.99749	0.99957	0.99358	0.97385

5. Evaluate $\int_0^2 \frac{1}{x^2+x+1} dx$ to three decimals dividing the range of integration into 8 equal parts using Simpson's rule

6. Using Lagrange's formula of interpolation find y(9.5) given

X	7	8	9	10
y	3	1	1	9

7. Obtain Trapezoidal rule using double intergration.