

SIR SYED UNIVERSITY OF ENGINEERING & TECHNOLOGY
COMPUTER SCIENCE DEPARTMENT

SPRING 2021

NUMERICAL ANALYSIS (CS-319)

Quiz 2

Semester: 5th

Maximum Time to solve and upload: 90 minutes

Date: 8th May 2021

Batch: 2019

Max Marks: 3

Instructions:

- You **must** provide solution of both questions in HANDWRITTEN. The scanned pages must be submitted in PDF file format (Use any suitable Mobile Application for Scanning).
- Recheck before submitting it on **VLE** to correct any content or language related errors.
- You must upload your answer via the **VLE** platform **ONLY in given time**.
- In question S represents sum of last three digits of your roll number and D represents the last digit of your roll number, so if your roll number is 2019-BSCS-100 then take $S=1+0+0=1$ and $D=0$, similarly $S=1+0+2=3$ and $D=2$ for 2019-BSCS-102. All should follow the same rule according to their roll number.

Q.# 1 Construct a divided difference table for $f(x) = x^3 - 2x + 1$ if $x = 0, 2, 5, 7, D + 8$. Take D as given in instructions. [1 mark]

Q.# 2 Use Newton Forward Difference Interpolation formula to find a polynomial that satisfy the given data, Hence estimate $f(S)$. Take S as given in instructions. [2 marks]

x	0	2	4
y	-3	1	13