



University of Dhaka
Institute of Information Technology
Bachelor of Science in Software Engineering (BSSE)
3rd Semester Final Examination, 2020 (Held in 2021)
MATH 304: Numerical Analysis for Engineers



Marks: 30

Time: 1 Hour 15 Minutes+
15 Minutes Script Upload Time

Professionalism	Excellence	Respect
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Answer all the questions. The weight of each question is mentioned at the right side

1. Obtain the solution of the following linear simultaneous equations by the matrix inversion method. 6

$$\begin{aligned}2x + 2y &= 6 \\ -2x + y + z &= 3 \\ 3x + z &= 6\end{aligned}$$

2. What is Augmented Matrix? What is difference between Gauss Jordan Method and Gauss Elimination Method? 6

3. Solve the following equations by Gauss-Jordan method. 6

$$\begin{aligned}x + y - z &= 1 \\ x + 2y - 2z &= 0 \\ -2x + y + z &= 1\end{aligned}$$

4. Briefly explain the difference among Central, Backward and Forward Differences. 6

5. Estimate approximate derivative of $f(x) = x^2$ at $x = 1$, for $h = 0.2, 0.1, 0.05$, and 0.01 using first order forward difference formula. 6

GOOD LUCK!

(Please return this question paper with the answer script)