



Department Of Civil Engineering

Mid Term Examination (Fall Semester 2020)

Subject: Applied Mathematics-1

Duration: 180 Minutes

Instructor: Anwar Shamim

Total Marks: 30

Semester: B.Tech 1st Semester

Note: Attempt all questions. Manage your time properly.

Q.No. 1

(5+5)

(a) Solve the system with two variables by Inversion method.

$$X - 2y = 1$$

$$3X + y = 10$$

(b) Solve the system with two variables by Inversion method.

$$X - 3y = 0$$

$$2X + y = 7$$

Q.No.(02)

(02+02+02+02+02)

Find the Integration of the following.

a. $\int (x^2 e^x) dx$

b. $\int (5x^2 + x^{-2} + 15x + 3) dx$

c. $\int (5x^2 + x^{-2} + 15) dx$

d. $\int (x^{-3} \log x) dx$

e. $\int (x \log x) dx$

Q.No.(03)

(02+02+02+02+02)

Find the Integration of the following

a. $z^2 - 16z + 61 = 2z - 20$

b. $12x^2 = 25x$

c. $u^2 - 5u - 14 = 0$

d. $z^2 - 11z + 24 = 0$

e. $w^2 + 13w + 12 = 0$