GOVERNMENT POLYTECHNIC, GAYA

Class Test Examination for 1^{st} Semester (Group - I) Students

Course Name : Basic Mathematics
Instructor: Mritunjay Kumar Singh
Class Test Examination: 02

Maximum Marks: 05
Time Allowed: 01 hour
Date: 22 - 09 - 2018

Note: Attempt all problems. The marks of each problem indicated in the right margin.

1. Define Cofactor matrix. Find the Cofactor matrix of the following matrix.

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 3 & 4 & 5 \\ 7 & 8 & 9 \end{bmatrix}$$ [1]

2. Define Inverse of a matrix. Find the Inverse matrix (A^{-1}) of the following matrix.

$$A = \begin{bmatrix} 1 & 0 & 1 \\ 3 & 4 & 5 \\ 2 & 3 & 4 \end{bmatrix}$$ [1]

3. Define determinant of a 2×2 matrix. Using Determinant method of Cramer rule solve the following system oflinear equations:

$$2x + 3y = 10$$
$$x + 6y = 4$$

$$\left[\frac{1}{2} + 1\right]$$

4. Using Matrix method of Cramer rule solve the following system oflinear equations:

$$3x + 2y - 2z = 3$$
$$x + 2y + 3z = 6$$
$$2x - y + z = 2$$

$$\left[\frac{3}{2}\right]$$

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