Department of Electrical Engineering
Program: B.E. (Electrical)
Semester – Summer 2016

MS-121 Linear Algebra

Assignment – 4	**Due Date: 25/08/2016**
Marks: 20	**Handout Date: 19/08/2016**

Question # 1:

Perform the following operations on the given matrices:

$$A = \begin{bmatrix} 2 & 1 & 0 & 3 \\ -1 & 0 & 2 & 4 \\ 4 & -2 & 7 & 0 \end{bmatrix}, \quad B = \begin{bmatrix} -4 & 3 & 5 & 1 \\ 2 & 2 & 0 & -1 \\ 3 & 2 & -4 & 5 \end{bmatrix}, \quad C = \begin{bmatrix} 2 & 1 \\ 3 & 5 \end{bmatrix}$$

i. $A + B$
ii. $(A + B)^T$
iii. $C + B$
iv. $3(A \times B)$
v. $2tr(C)$

Question # 2:

Solve the following system of equations with Gauss Jordan Elimination (Reduced Row Echelon Form):

$$\begin{cases} x + y + 2z = 8 \\ -x - 2y + 3z = 1 \\ 3x - 7y + 4z = 10 \end{cases}$$

Question # 3:

Compute the inverse of following 2 x 2 matrices:

i. $B = \begin{bmatrix} 2 & -3 \\ 4 & 4 \end{bmatrix}$
ii. $B = \begin{bmatrix} -3 & 7 \\ 1 & -2 \end{bmatrix}$

Good Luck