University of Palestine

Course No: CVL 2303
Course Title: Linear Algebra
Date: 17/11/2013
No. of Questions: (4)
Time: 1.5 hours
Using Calculator (yes)

Midterm Exam
2013/2014
Total Grade:

Instructor Name: Dr. Hossam Elaqra
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

Question One:

Solve these equations using Gauss elimination method

$X_1 + 3X_2 + X_3 - X_4 = 3$
$-X_2 + 4X_3 + X_4 = 6$
$X_2 + X_3 - 5X_4 = 16$
$2X_1 + X_3 + X_4 = 1$

Verify your answer using Gauss-Jordan method

Question Two:

Find the inverse of the matrix

3	2	-1	-4
0	-1	8	-5
1	-1	3	-1
2	1	3	-1

Using the inverse, find the values of X, Y, Z and S

10
-3
-4
16

Question Three:

Using LU method (substitution) find the values of X1, X_2, X_3 and X_4

$2X_2 + X_4 = 0$
$2X2 + 2X_2 + 3X_3 + 2X_4 = -2$
$4X_1 - 3X_2 + X_4 = -7$
$6X_1 + X_2 - 6X_3 - 5X_4 = 6$

Question Four:

Using Camer`s rule, solve these equations

$5X_1 - X_2 = 9$
$-X_1 + 5X_2 - X_3 = 4$
$-X_2 + 5X_3 = -6$

End of Questions
Good Luck