Assignment 2. Gauss-Jordan   Marks 10

Posted on 20.08.2025 @ 2:30 pm and due on 20.08.2025 @ 5:45 pm

___

1. Prepare a library routine for Gauss-Jordan elimination method using *row pivoting* and check with the system of equations for three variables,   [**5**]

$$
\begin{aligned}
2y + 5z &= 1 \\
3x - y + 2z &= -2 \\
x - y + 3z &= 3
\end{aligned}
$$

2. Given below is a system of linear equations. Use Gauss-Jordon to solve it.   [**5**]

$$
\begin{aligned}
19 &= a_1 - a_2 + 4a_3 + 2a_5 + 9a_6 \\
2 &= 5a_2 - 2a_3 + 7a_4 + 8a_5 + 4a_6 \\
13 &= a_1 + 5a_3 + 7a_4 + 3a_5 - 2a_6 \\
-7 &= 6a_1 - a_2 + 2a_3 + 3a_4 + 8a_6 \\
-9 &= -4a_1 + 2a_2 + 5a_4 - 5a_5 + 3a_6 \\
2 &= 7a_2 - a_3 + 5a_4 + 4a_5 - 2a_6
\end{aligned}
$$