

## SES'S L.S.RAHEJA COLLEGE OF ARTS AND COMMERCE

Course: Quantitative Methods - II

Unit: 3 sem II

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## 1. FIND INVERSE BY PIVOTAL REDUCTION METHOD

$$\begin{array}{ccc} 1 & 4 & 0 \\ -1 & 2 & 2 \\ 0 & 0 & 2 \end{array}$$

$$|A| = 1(2) - 4(-2) \\ = 10 \neq 0$$

$$A^{-1} = I$$

$$\begin{array}{ccc|ccc} 1 & 4 & 0 & 1 & 0 & 0 \\ 0 & 6 & 2 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & \frac{1}{2} \end{array} \quad \begin{array}{l} A^{-1} = \\ R_2+R_1, R_3/2 \end{array}$$

$$\begin{array}{ccc|ccc} 1 & 0 & -4/3 & \frac{2}{6} & \frac{-4}{6} & 0 \\ 0 & 1 & \frac{1}{3} & \frac{1}{6} & \frac{1}{6} & 0 \\ 0 & 0 & 1 & 0 & 0 & \frac{1}{2} \end{array} \quad \begin{array}{l} A^{-1} = \\ R_2/6, R_1-4R_2, \end{array}$$

$$\begin{array}{ccc|ccc} 1 & 0 & 0 & 2/6 & -4/6 & 4/6 \\ 0 & 1 & 0 & 1/6 & 1/6 & -1/6 \\ 0 & 0 & 1 & 0 & 0 & 1/2 \end{array} \quad \begin{array}{l} A^{-1} = \\ R_2-1/3R_3, R_1+4/3R_3 \end{array}$$

$$A^{-1} = \begin{array}{ccc} 2/6 & -4/6 & 4/6 \\ 1/6 & 1/6 & -1/6 \\ 0 & 0 & 1/2 \end{array}$$

SOLVE FOLLOWING BY YOUR SELF WITH SAME AS ABOVE METHOD

$$2. \begin{array}{ccc} 5 & 3 & 14 \\ 0 & 1 & 2 \\ 1 & -1 & 2 \end{array}$$

$$3. \begin{array}{ccc} 3 & -1 & 1 \\ -15 & 6 & -5 \\ 5 & -2 & 2 \end{array}$$