

Ref. No.

M.A.

Paper - VIII

ECONOMICS Sem II

(07)

Date

1. What is determinant Discuss different characteristics of determinant

(2) What do you mean by Rank of a matrix Find the Rank of the following matrix

$$A = \begin{bmatrix} -1 & 1 & 2 \\ 1 & -1 & 2 \\ -1 & 1 & 10 \end{bmatrix}$$

$$B = \begin{bmatrix} 0 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix}$$

(3) Given the matrix $A = \begin{bmatrix} 7 & 3 & -3 \\ 2 & 4 & 1 \end{bmatrix}$

Calculate ~~$(A^{-1}A)$~~ and ~~$(A+A)$~~ ~~$A'A$~~ ~~$(A'A)$~~
and $(A'A)^{-1}$

(4) Find the inverse of each of the following matrix

a $A = \begin{bmatrix} 3 & 2 \\ 1 & 0 \end{bmatrix}$

(ii) $B = \begin{bmatrix} 7 & 7 \\ 3 & -1 \end{bmatrix}$

→ Discuss the basic features of Linear Programming Problem

⑥ Minimize the following cost function

$$C = 6x_1 + 24x_2$$

subject to $x_1 + 2x_2 \geq 3$ and

$$x_1 + 4x_2 \geq 4$$

and

$$x_1 \geq 0 \text{ + } x_2 \geq 4$$

⑥ If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ ~~prove~~ then find $A^2 - 5A + 7I$

→ Write a brief essay on input-output analysis

⑧ What do you mean by difference equation. Discuss its application in economics