

EES 200 ASSIGNMENT

INSTRUCTIONS

In groups of max 10 and min 7 attempt all the three questions. No marks for students who will appear in more than one group.

1. You are given the following national income model:

$$Y = C + I + G$$

$$C = 120 + 0.8Y$$

$$I = 100 + 0.1Y$$

$$G = 300$$

Required

- i. Present this model in matrix format (2 marks)
 - ii. Using Cramer's rule, find \bar{Y} , \bar{C} and \bar{I} (3 marks)
2. Given the following marginal revenue function
- $$MR = 40 - 2Q - 3Q^2$$

Find

- i. Total revenue function (TR) (3 marks)
 - ii. Demand function (2 marks)
3. Given the technical –coefficient matrix (A) and final demand (D)

$$A = \begin{bmatrix} 0.05 & 0.25 & 0.34 \\ 0.33 & 0.10 & 0.13 \\ 0.19 & 0.38 & 0 \end{bmatrix} \quad D = \begin{bmatrix} 1800 \\ 200 \\ 900 \end{bmatrix}$$

Required

- i. Explain the economic meaning of the elements 0.33, 0 and 900 (2 marks)
- ii. Explain the economic meaning of second column sum (1 marks)
- iii. Obtain the value of primary input coefficients (2 marks)
- iv. Find the technology matrix. (1 marks)
- v. Find the solution output levels for the three industries. (4 marks)