

7923/E12

OCTOBER 2006

**Paper II — QUANTITATIVE TECHNIQUES AND
TOPICS IN MODERN ECONOMICS**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Draw the graph of the fraction f given by

$$f(x) = \begin{cases} x & \text{for } 0 \leq x \leq 1 \\ \frac{4-x}{3} & \text{for } 1 \leq x \leq 4 \\ -x+4 & \text{for } 4 \leq x \leq 5. \end{cases}$$

2. Define elasticity of substitution. Show that elasticity of substitution is 1 for Cobb-Douglas production function.

3. What is a production function? Write the properties of Cobb-Douglas production function.

4. Discuss the importance of the concept of elasticity of demand in Economics.

5. Discuss the welfare implications of the theory of Monopolistic Competition.

6. Discuss the cost-benefit as a tool for investment criterion.

7. Solve the following linear programming graphically.

$$\text{Max } Z = 10x_1 + 15x_2$$

$$\text{S.t. } 2x_1 + x_2 \leq 26$$

$$2x_1 + 4x_2 \leq 56$$

$$x_1 - x_2 \geq -5$$

$$x_1, x_2 \geq 0.$$

8. Bring out the uses of Input-Output analysis in Economic Planning.

9. Explain the theory of rational expectation. Discuss how this theory differs from those of Monetary Economists and Keynesians.

10. Given the following transaction matrix, find the Input-Output Coefficients.

		Purchasing Sector		Final Demand
		Agriculture	Industry	
Producing Sector	Agriculture	300	600	100
	Industry	400	1200	400

If the final demands were changed to 200 and 800 respectively, find the gross output to meet the new demand.