International Islamic University Chittagong

Department of Economics & Banking

Midterm Examination; Spring-2022

Program: BSS (Honors)

Course Code: ECON- 4703 | Course Title: Applied Microeconomics

Time: 1.5 Hours | Full Marks: 30

Answer any THREE of the following questions. All parts of a question must be answered sequentially. Figures in the right margin indicate full marks.

1. (a) What is monopolistic competition? 02

(b) "Product differentiation helps to enjoy substantial discretion in setting price in monopolistic competition". If it is true, define product differentiation and its type. 02

(c) Assume the long run demand and average cost functions of a monopolistically competitive firm below: 06

$$P = 30 - 5Q$$
$$AC = Q^2 - 5Q + 8$$

(i) Determine equilibrium price and quantity.

(ii) Check whether the monopoly solution different from the monopolistically competitive solution.

2. (a) Describe Chamberlin`s concept of excess capacity. What, according to him, is responsible for the emergence of excess capacity under monopolistic competition? Explain. 05

(b) REDLEAF MARKER is running business under monopolistically competitive environment. Demand and cost functions are as follows. 05

$$P = 375 - 10Q$$
$$LAC = 400 - 20Q + Q^2$$

(i) Compute equilibrium price and quantity of the firm.

(ii) Work out the amount of excess capacity.

3. (a) Distinguish between collusive and non-collusive oligopoly. 02

(b) Assume the demand function: 04

$$P = 1000 - 2X \quad (X = X_1 + X_2)$$

(i) Find Cournot output level assuming two firms and zero marginal cost.

(ii) What is the amount of output produced by each firm if there are six firms altogether?

(iii) Find the price and output level under both perfect competition and monopoly.

(c) Assume two types of demand faced by an oligopolistic firm: 04

$$Q = 600 - 60P \text{ (When other firms do not respond to price change) and}$$
$$Q' = 200 - 20P \text{ (When other firms respond to price change)}$$

(i) Find equilibrium price and quantity.

(ii) Find the range in which marginal cost can vary but price remains fixed.

(iii) What will be the profit maximizing price and quantity if marginal cost is 6?

4. (a) What is meant by barometric price leadership? 02

(b) Firms in the group do agree to maximize joint profit rather than individual profit. How can you explicate this statement under collusive oligopoly? 04

(c) Assume the market demand and cost functions of a dominant firm as follows: 04

$$D = 50 - 0.3P \text{ and}$$
$$C = 2X$$

The supply function of small firms:

$$S = 0.2P$$

(i) Determine equilibrium price and output.

(ii) Compute the output of the dominant firm and small firms.