MANAGERIAL ECONOMICS TEST 2

Date: 14/05/2014 Time: 1 hour Lecturer: K. Kavezeri Marks: 40

INSTRUCTIONS TO CANDIDATES
• Answer all questions

QUESTION 1
Okahao Electronics Ltd. estimated that the total annual cost of producing digital calculators is given by the equation:

\[ TC = 500 + 3\,150Q - 8Q^2 + 0.004Q^3 \]

The market price of digital calculator is constant.

a) What is the shutdown level of output? [6]
b) What is the minimum price the firm can accept? [3]
c) What type of market structure is this firm likely to belong to? [1]
d) State any two characteristics of this type of market. [2]

QUESTION 2
In a perfectly competitive market, industry demand is:

\[ P = 425 - Q \]

and industry supply is:

\[ P = 125 + 2Q \]

(Supply is the sum of the marginal cost curves of the firms in the industry).

a) Determine price and output under perfect competition. [6]
b) Now suppose that all the firms collude to form a single monopoly cartel. (There is no change in the demand or cost conditions of the industry). What price and total output would the cartel set? [7]
c) Compare the monopoly outcome with the competitive outcome in part (a). [2]

QUESTION 1
1. State the two main assumptions of the kinked demand curve model. [2]
2. An oligopolistic firm faces a kinked demand curve with segments given by:

\[ P = 50 - 0.5Q \text{ and } P = 60 - Q \]

The firm has a constant marginal cost, \( MC = $23 \).

a) Determine the profit-maximizing level of output and price. [5]
b) Derive the marginal revenue equations and calculate the (upper and lower) limits within which marginal cost may vary without affecting either the profit-maximizing output or the price. [6]

The End