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91400

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Level 3 Economics 2020

91400 Demonstrate understanding of the efficiency of different market structures using marginal analysis

2.00 p.m. Friday 4 December 2020
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of the efficiency of different market structures using marginal analysis.	Demonstrate in-depth understanding of the efficiency of different market structures using marginal analysis.	Demonstrate comprehensive understanding of the efficiency of different market structures using marginal analysis.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

TOTAL

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QUESTION ONE: Perfect competition – short-run and long-run equilibrium

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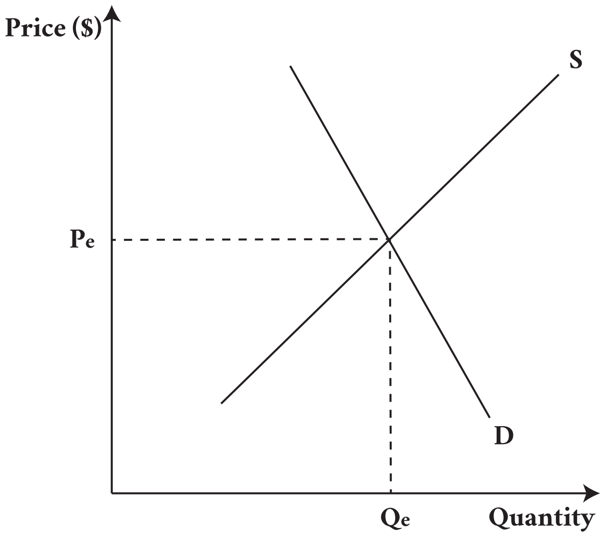
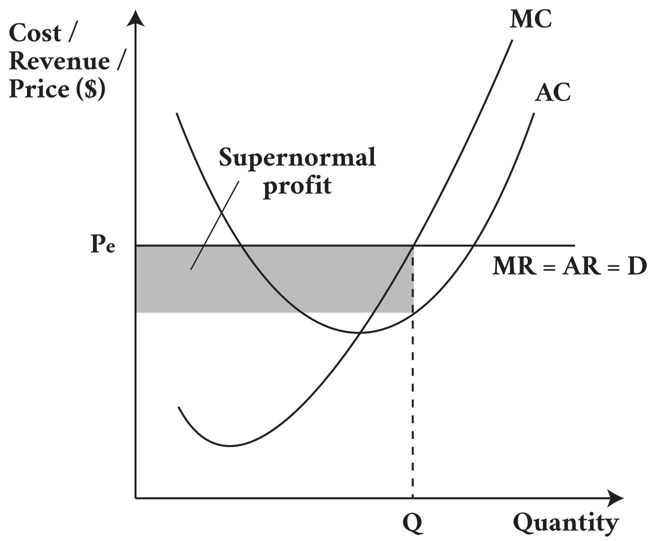
Graph One shows the current situation in a market with perfect competition. Graph Two shows the cost and revenue curves of an individual firm in the perfect competition market, currently making a supernormal profit.

Graph One: A perfect competition market



Graph Two: A perfectly competitive firm



The market is experiencing a major decline in demand. This has led to the firm's economic profit going from supernormal profit to subnormal profit.

(a) (i) On Graph One, show a decrease in market demand that results in the perfectly competitive firm earning a subnormal profit in the short run. Label the new equilibrium price (**P_1**) and quantity (**Q_1**) for the market.

(ii) On Graph Two, shade and label the subnormal profit.

(iii) On Graph Two, label the loss-minimising price (**P_{SR}**) and quantity (**Q_{SR}**).

(b) Using marginal analysis, explain, in detail, the impact on the short-run economic profit and price and output decisions of a perfect competitor following the changes in the market. Refer to Graphs One and Two, and the characteristics of perfect competition.

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(c) (i) On Graph One, show how the market will react to the subnormal profit in the long run. Label any curve shifts, changes in the market equilibrium price (**P_2**), and quantity (**Q_2**).

(ii) On Graph Two, show how the long-run change in the market will affect the long-run profit for the perfectly competitive firm. Label any curve shifts, changes in the loss minimising price (**P_{LR}**), and quantity (**Q_{LR}**).

(d) Using marginal analysis, explain, in detail, the long-run economic profit, price, and output decisions of a perfect competitor following the changes in the market, assuming the firm stays in the market. Refer to Graphs One and Two, and the characteristics of perfect competition.

QUESTION TWO: Natural monopoly – price regulations

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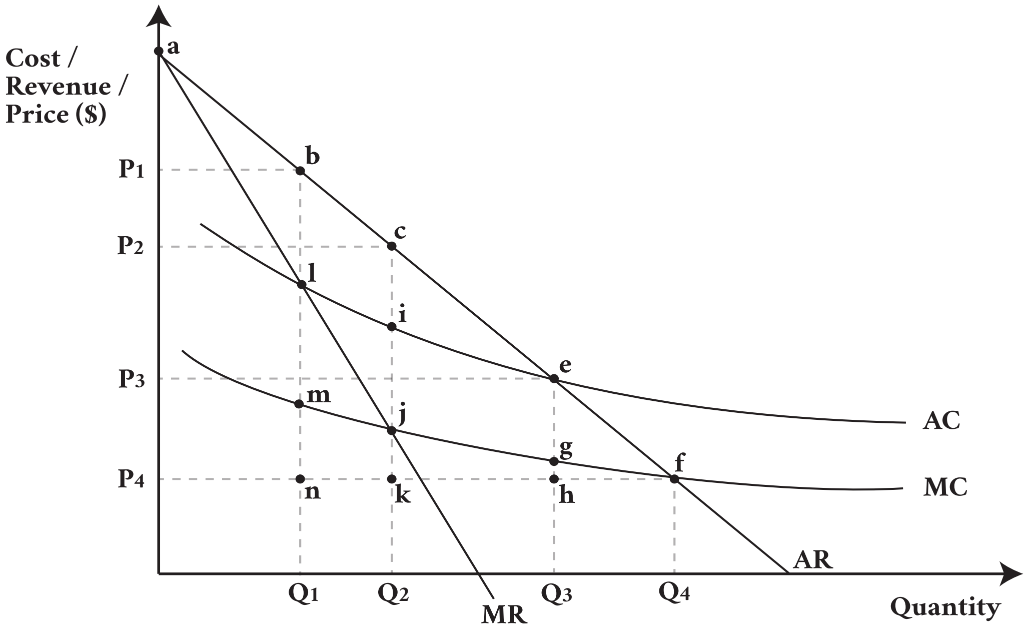
Graph Three: Natural monopoly



(a) (i) Refer to the labels on Graph Three to identify the area of consumer surplus and deadweight loss (if any) when the natural monopoly operates at average cost (AC) pricing and marginal cost (MC) pricing. Pricing at profit maximisation is shown as an example.

Type of pricing	Consumer surplus	Deadweight loss
Profit maximisation	a c P_2	c f j
Average cost pricing		
Marginal cost pricing		

(ii) Refer to the labels on Graph Three to identify the price, output levels and type of profit made when the natural monopoly operates at average cost pricing, and marginal cost pricing. Pricing at profit maximisation is shown as an example.

Type of pricing	Price	Output	Type of profit
Profit maximisation	P_2	Q_2	Supernormal
Average cost pricing			
Marginal cost pricing			

(b) Which of the three pricing alternatives (AC pricing, MC pricing and profit maximisation) would best achieve the Government's objective, which is to improve allocative efficiency and ensure the greatest benefits for consumers?

Justify your choice by explaining, in detail:

- the impact of each pricing option on consumer surplus
- the impact of each pricing option on allocative efficiency.

Refer to Graph Three and part (a) in your answer.

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QUESTION THREE: Monopoly – increase in variable costs

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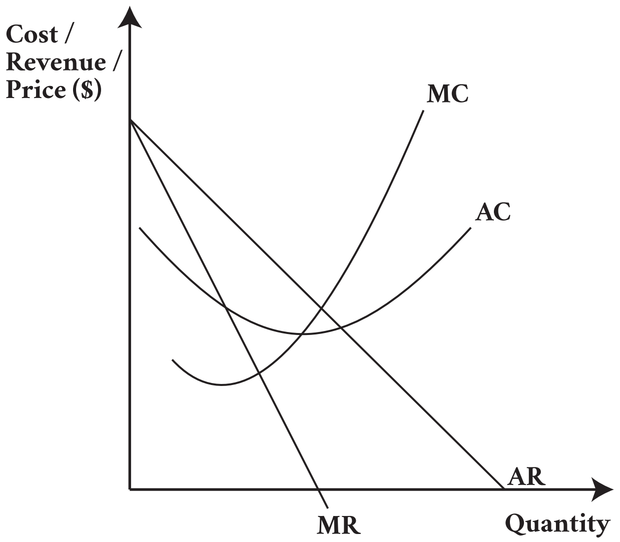
On 1 April 2020, the adult minimum wage increased from \$17.70 to \$18.90 per hour, which has led to increased variable costs for some firms.

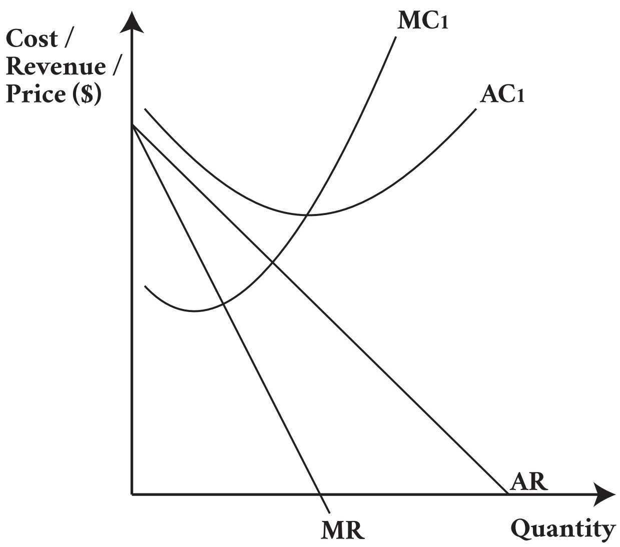
(a) (i) Complete Graph Four by labelling the monopoly's profit-maximising price (P_e) and output (Q_e) before the increase in variable costs. Clearly shade and label the economic profit earned.

(ii) Complete Graph Five to show the impact of an increase in variable costs on the monopoly's profit-maximising price and output. Clearly shade and label the economic profit earned, and the profit-maximising price and output (P_1, Q_1).

Graph Four: Monopoly before an increase in variable costs



Graph Five: Monopoly after an increase in variable costs



(b) Using marginal analysis, explain the impact of an increase in variable costs on the output decision of the monopoly. Refer to Graphs Four and Five in your answer.

(c) Explain, in detail, the impact of an increase in variable costs on a monopoly's profit-maximising price and economic profit, and the long-run viability of its business operations.

In your answer, compare and contrast:

- the pricing decision and economic profit made before the increase in variable costs, and if this economic profit can be sustained in the long run
- the pricing decision and economic profit made after the increase in variable costs, and what might happen in the long run if there are no further changes to costs and revenue.

Refer to the characteristics of a monopoly, and Graphs Four and Five in your answer.

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Extra space if required.
Write the question number(s) if applicable.

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