1.17 Price Discrimination and the Theory of Contestable Markets: Test Pack

Total Marks

AQA 7136 · Calculators not allowed · about 25 minutes

Name: _____ Date: ____ / ____ / _____

Answer all questions. Fully explain any diagrams you are asked to draw. Spend about 25 minutes in total.

1 Multiple choice on the basic condition for price discrimination in a UK market context. Context: a local rail operator considering different fares for commuters and leisure travellers.

(a) Tick the single best answer and give one short reason why the other options are incorrect, in the context of a rail operator setting different fares. **(1)**

(Total for Question 1 is 1 mark)

2 Short calculation/example. Context: A potential entrant faces an investment with £2 million sunk cost and expected annual profit of £0.5 million if the incumbent keeps price at a high level. Explain, using numerical reasoning, whether the presence of the £2 million sunk cost makes quick hit-and-run entry attractive. Assume discounting is not required for this short-run decision.

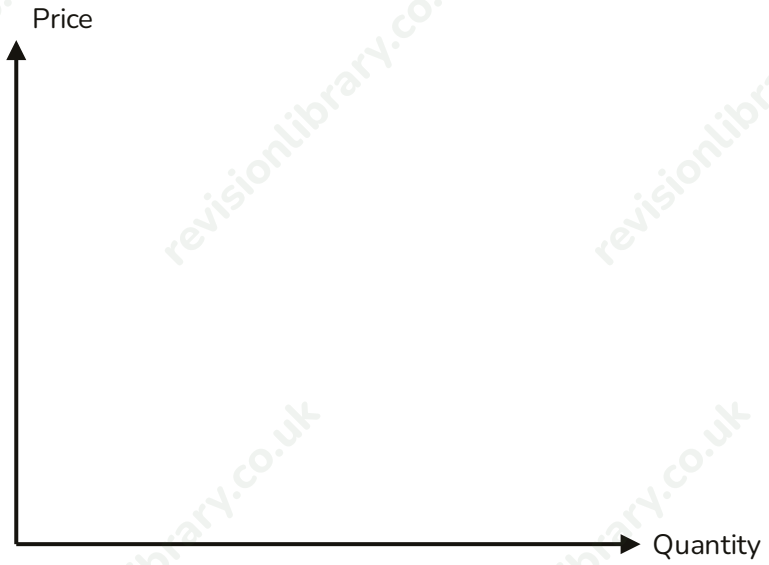
(Total for Question 2 is 4 marks)

3 Explain, with brief examples, the four conditions that must be present for a firm to practise successful price discrimination in a UK service market such as rail or cinema.

(Total for Question 3 is 4 marks)

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4 Diagram task. Context: A monopolist rail operator, BritRail, serves two market segments: Group A are commuters with relatively inelastic demand, Group B are leisure travellers with more elastic demand. Draw a diagram splitting the market into two segments to illustrate third-degree price discrimination. On your diagram label price and quantity axes, draw two separate downward-sloping demand curves D_A and D_B with D_A steeper than D_B, show a common marginal cost curve MC cutting across both markets, draw marginal revenue curves MR_A and MR_B below each demand curve, mark the points where $MC = MR_A$ and $MC = MR_B$, draw vertical lines up to the demand curves to show prices P_A and P_B, and indicate that $P_A > P_B$. Explain briefly in words the steps shown by the diagram and why P_A is greater than P_B.



(Total for Question 4 is 6 marks)

5 State and briefly explain the meaning of 'sunk cost' in the context of contestable markets, using an example such as specialised platform investment for a new entrant rail operator.

(Total for Question 5 is 2 marks)

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Mark scheme · 1.17 Price Discrimination and the Theory of Contestable Markets: Test Pack

Question 1

(a) selects the correct option: the firm must have some market power to set different prices — **B1**

(a) Answer: The firm must have some market power to set different prices.

Question 2

states that entrant must recover the £2 million sunk cost from expected profits to make entry worthwhile — **M1**

computes time to recover: £2 million / £0.5 million per year = 4 years — **A1**

interpretation: 4 years to break even makes hit-and-run unattractive if incumbent can reprice quicker or if entrant cannot stay that long — **B1**

notes caveat: if sunk cost were zero or much smaller, hit-and-run would be more attractive; hence sunk costs reduce contestability — **B1**

Answer: At £0.5 million annual profit, it would take 4 years to recover the £2 million sunk cost, making quick hit-and-run entry unattractive compared with zero-sunk-cost scenarios.

Question 3

market power, e.g. some degree of monopoly so the firm can set prices above marginal cost — **B1**

ability to segment markets, e.g. separate peak and off-peak travellers or student versus adult ticket categories — **B1**

different price elasticities of demand between segments, e.g. commuters less price sensitive than leisure travellers — **B1**

prevention of resale between segments, e.g. non-transferable railcards or ID checks on student discounts — **B1**

Answer: Market power; ability to split the market into segments; differing price elasticity of demand across segments; prevention of resale between segments. Examples: rail peak/off-peak segmentation, student ID required for discounted tickets.

Question 4

axis labels: Price on vertical axis and Quantity on horizontal axis correctly labelled — **B1**

two demand curves drawn and labelled D_A and D_B, with D_A steeper (less elastic) than D_B — **B1**

common MC curve drawn and labelled crossing the diagram — **B1**

two marginal revenue curves MR_A and MR_B drawn below respective demand curves and labelled — **B1**

points where MC = MR_A and MC = MR_B marked, with verticals to demand curves showing prices P_A and P_B — **B1**

brief explanation: correctly explains that firm sets output in each segment where MC equals the segment MR, reads price from the segment demand curve, and that the less elastic group faces a higher price $P_A > P_B$ — **B1**

Answer: Diagram showing D_A steeper than D_B, MC crossing both MR curves, MC=MR_A and MC=MR_B marked, verticals to prices P_A and P_B with $P_A > P_B$. Explanation: firm equates MC with each segment MR to choose QA and QB, then charges the price on each demand curve; less elastic group yields a higher price.

Question 5

defines sunk cost: a cost that cannot be recovered if a firm exits the market — **B1**

gives an example and brief explanation, e.g. bespoke platform signalling installed by an entrant that cannot be resold, so it deters hit-and-run entry — **B1**

Answer: Sunk cost is a cost that cannot be recovered on exit, for example bespoke platform signalling or specially branded infrastructure paid for by a new rail entrant that cannot be resold, which makes entry less contestable.

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