Efficiency MC Questions

GCE A-LEVEL ECONOMICS

1 In 2014 the luxury car maker Rolls-Royce Motor Cars Ltd gained full ownership of car engine supplier RRPS, after completing a buy-out costing £1.93 billion.

The benefits of this acquisition to Rolls-Royce are likely to be gained from

(1)

A a private finance initiative

B horizontal integration

C forward vertical integration

D backward vertical integration

E conglomerate integration

Answer

Explanation

(3)

Question Number	Answer	Mark
1	Key: D	**(1)**
	Vertical integration – merging with firms at different stages of the production process (1) Backwards – towards the raw materials (1) Application to context/benefits to Rolls Royce, e.g. full control, cutting out the mark up (1) why engines are previous stage of production (1) Knock out of incorrect options up to 2 marks available. For example: It is not B because it is not merging with a firm at the same stage of production (1) It is not C because this would have involved buying a business at next stage such as car sales dealership (1)	**(3)**

2 A firm which prints greetings cards records its short run costs. It observes that the average cost per card decreases as more are produced, although the marginal cost is rising. It follows that

(1)

A there are economies of scale

B the law of diminishing returns has not yet set in

C the fixed costs are zero

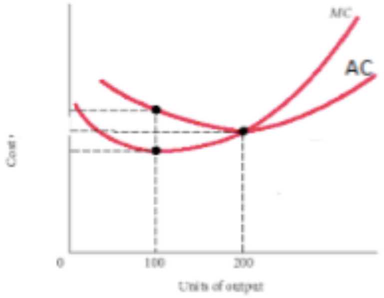
D marginal costs rise whenever average costs fall

E marginal costs are below average costs

Answer ☐

Explanation

(3)

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>2</td><td>Key: E</td><td>(1)</td></tr>
<tr><td></td><td>Definition/formula of marginal (cost of producing one more unit) or average cost (1)
Explanation that if marginal cost is below average cost it pulls down the average cost (1).
Explanation of the short run, e.g. there is at least one fixed factor or there are fixed costs (1).
Rising marginal costs means that the law of diminishing returns has set in(1)
Diagram illustrating range where MC<AC (1) with MC rising while AC falling clearly demonstrated (1) with arrows or sections of the curve marked as follows:


Knock out of incorrect options up to 2 marks available. For example:
A is wrong as economies of scale occur in the long run where more factors of production can be changed (1)

Not B as the rising marginal costs imply diminishing returns have set in (1)

Not C because there will be fixed costs, with examples or definition of fixed costs (1)</td><td>(3)</td></tr>
</table>

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3 A firm faces the following cost and revenue schedule. (Spaces have been left for your working.)

Output per day	Total revenue (£)	Average revenue/ Marginal revenue (£)	Total cost (£)	Average cost (£)	Marginal cost (£)
0	0		12	–	–
1	10		22	22	10
2	20			14	
3	30			11	
4	40			10	
5	50			10	
6	60			13.5	

The firm is attempting to maximise profit. From this information it can be concluded that the firm is operating under conditions of

(1)

A monopolistic competition in the short run and will operate at 4 units

B monopolistic competition in the long run and will operate at 5 units

C perfect competition making a supernormal profit at an output of 1 unit

D perfect competition making a supernormal profit at an output of 3 units

E perfect competition making normal profit at an output of 5 units

Explanation

Answer ☐

(3)

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Question Number	Answer	Mark
3	Key: E	(1)
	Definition of normal profit (1) e.g. AR=AC or TR=TC or making just enough profit to keep factors in their current use. Award 1 mark for correct calculation of the columns and filled in up to at least 5 units, for TC (1) AR or MR (1) MC (1) or total profit if added (1). Observation that MC=MR is profit maximisation (1) The firm is a price taker, or faces perfectly elastic/horizontal demand (1) The firm makes normal profits where AR=AC in the long run (1) Defining characteristic of perfect competition, if not included above, e.g. very many firms in the industry, perfect knowledge, no barrier to entry or exit, homogeneous product (1) Diagram showing price taking firm, or perfect competition firm with industry diagram determining the price (1) Total revenue is increasing at a constant gradient indicating firm is a price taker (1) Knock out marks: e.g. it is not A because this is a price taker with horizontal demand curve whereas monopolistic competitor would have downward sloping demand curve due to differentiation (1) D is wrong because £3 loss is made at 3 units	(3)

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Output per day	Total revenue (£)	Average revenue/Marginal revenue (£)	Total cost (£)	Average cost (£)	Marginal cost (£)
0	0	-	12	-	-
1	10	10	22	22	10
2	20	10	28	14	6
3	30	10	33	11	5
4	40	10	40	10	7
5	50	10	50	10	10
6	60	10	81	13.5	31

4 A firm facing a downward sloping demand curve changes its pricing policy from revenue maximising to profit maximising. Which of the following shows the effect on the equilibrium price and output?

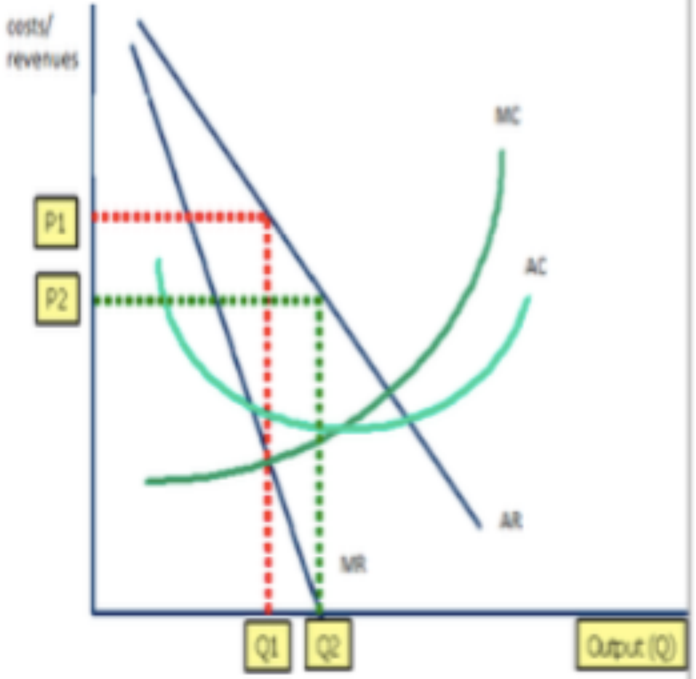
(1)

	Price	Output
A	rise	rise
B	rise	fall
C	unchanged	fall
D	fall	rise
E	fall	fall

Answer ☐

Explanation

(3)

Question Number	Answer	Mark
4	Key: B	**(1)**
	Firm has monopoly power or is a price maker (1). Revenue maximising occurs at MR=0 (1). A change to profit maximising means MC=MR (1) and MC is positive because there are at least some variable costs or MC>0 (1). Use of diagram to illustrate these points, up to 2 marks. **NB** diagram must include correct change in P and Q based on correct equilibria (1+1) e.g. where P1 Q1 is profit max (1 mark) and P2Q2 is revenue max (1 mark):  	**(3)**

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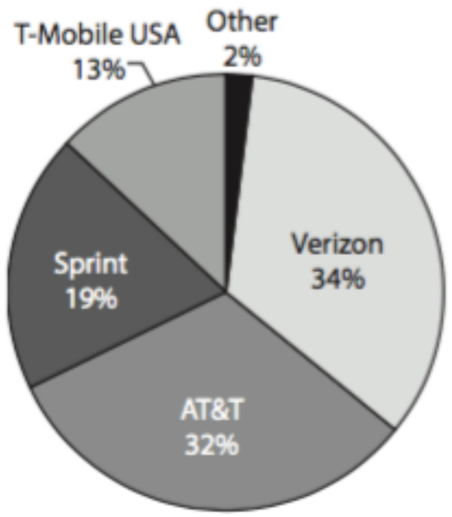
5 The diagram shows the market share of the cell [mobile] phone market in the USA.



In August 2014, after a failed attempt at a merger, a price war broke out between T-Mobile USA and Sprint. Under which market conditions are such price wars most likely to occur?

(1)

A Monopolistic competition in the short run

B Monopolistic competition in the long run

C Markets where there is a low concentration ratio

D A low degree of interdependence between firms

E Oligopoly

Explanation

(3)

Answer ☐

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Question Number	Answer	Mark
5	Key: E	**(1)**
	Oligopoly definition, e.g. a few firms dominate the industry (1) Interdependence (1) Explanation of a price war, e.g. firms react to another firm's price cuts by cutting their own prices (1) Use of data to demonstrate that some firms dominate, e.g. Verizon has 34%, or use of a concentration ratio e.g. the 4-firm CR is 98% (1) Reasons why a price war is likely to occur (1+1). This might be developed using game theory: Use of pay off matrix to show short term reasons for a price war e.g. short term gains by under-cutting rival (1) and the effect, e.g. both firms lose revenue(1) Kinked demand curve (1) if interrupted MR curve is illustrated (1) Knock out of D: if (kinked) demand were relatively inelastic in relation to a price cut then this would be a reason NOT to lower price (1)	**(3)**

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6 A bowl of freshly cooked noodles in a Thai market costs 30 baht before 6pm and 60 baht after 6pm every day. What economic reasoning best explains this price change?

(1)

A The demand for noodles is more price inelastic after 6pm

B The cost of making noodles falls after 6pm

C Before 6pm the firms have a high degree of market power

D Firms supplying noodles in this market are aiming for allocative efficiency

E Noodles bought before 6pm can be resold in the same market after 6pm

Answer

Explanation

(3)

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Question Number	Answer	Mark
6	Key: A	**(1)**
	Knowledge mark: **price discrimination** is occurring **or** definition/formula of PED (1) Explanation: When demand is relatively inelastic, price can be raised without significant loss of revenue/demand is unresponsive (1) Two sub-markets have been identified with different elasticities, which is a condition of price/product discrimination (1) Reasoning for higher/lower PED, e.g. there is more choice before 6pm, or people who have been working have higher incomes to spend than the people who can eat out during the day (1+1) Use of **diagram** to illustrate relatively elastic demand before 6pm and relatively inelastic demand after 6pm (1 mark for correct elasticities, 1 mark for correct prices **in each sub-market**) Knock out of E: It cannot be E because if arbitrage is possible then price discrimination is not possible (1)	**(3)**

7 The following table shows the number of new technology 'Tech Companies' based at East End Tech City, a technology cluster located in East London.

Year	Number of Tech Companies
2009	15
2010	85
2011	200
2012	5 000
2013	15 600

(Source: UHY Hacker Young, http://www.uhy-uk.com/news-events/news/londons-silicon-roundabout-remains-top-area-uk-start-ups/)

The data suggest that Tech Companies in East London are experiencing

(1)

A external economies of scale

B high commercial barriers to entry

C financial diseconomies of scale

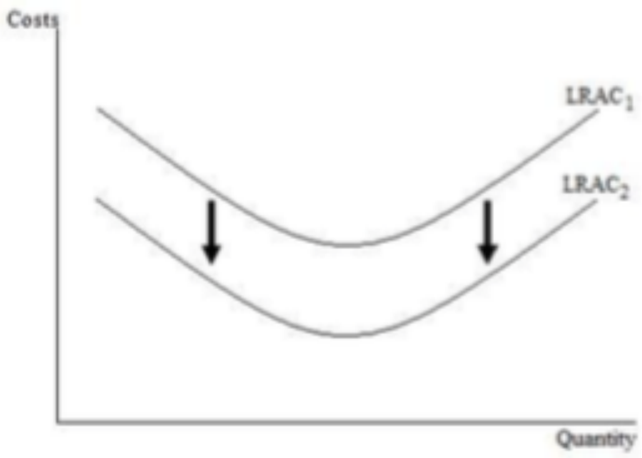
D diminishing marginal returns

E an increasing level of merger activity

Answer ☐

Explanation

(3)

Question Number	Answer	Mark
7	Key: A	(1)
	Definition of **external** economies of scale (1) e.g. benefits to a firm when an industry as a whole grows, or geographical location improves, or benefits of being a large firm while still being a small firm Increasing number of firms suggests firms are being attracted to the industry (1) Firms are likely to be small and benefit from large industry rather than being large themselves (1) Low barriers to entry (1) Profits are acting as a signal to entry (1) Application (1) to likely external economies which might arise in this context – e.g. knowledge sharing, skilled local computer technicians, improved local infrastructure such as super-fast broadband, use of data to show increase in industry size Diagram (1) AC accepted:  	(3)

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8 In 2014 the UK Government announced that there would be a change in the price cap on regulated rail fare increases. The price cap changed from RPI + 1% to RPI + zero. Assuming RPI changes are positive, regulated rail fares will

(1)

A rise by 1% in nominal terms

B rise by 1% in real terms

C remain unchanged in nominal terms

D remain unchanged in real terms

E fall by an amount equal to the changes in RPI

Answer

Explanation

(3)

Question Number	Answer	Mark
8	Key: D	**(1)**
	Definition of a price cap, e.g.: a price cap limits the amount by which firms can increase prices (1) Role of regulator (1) e.g. a surrogate for competition Reason for or function of a price cap (1) e.g. to prevent monopoly exploitation/higher prices, or to stop prices rising more than a certain amount RPI+k or 1% explanation (1) e.g. to allow firms to invest in rail infrastructure Explanation that **real** terms have had the effects of inflation removed, that is, the RPI element is in the equation so that the inflation impact can be ignored (1) Explanation that **nominal** terms means current prices, or that prices are rising in line with inflation (1) The reduction in price cap means that the rail operating companies have less scope for raising prices (1) The price cap increases consumer surplus at the expense of producer surplus (1) The regulator perceives that there are efficiency gains to be made/less investment to be made compared to the previous period (1) Knock out e.g. B rise 1% real terms was the annual increase in the previous regulated period not the current period (1)	**(3)**

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