

## **Economics Questions By Topic:**

# Business Objectives (3.2.1) Mark Scheme

**A-Level Edexcel Theme 3** 

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#### **SECTION A**

Question Number	Answer	Mark
1(a)	Knowledge 2, Application 2	
	Knowledge/Understanding: (up to 2 marks)  1 mark for identifying each correct price/output level e.g. Identify profit maximisation position: for example,	
	where MC=MR or output level 25 or price £17 (1)	
	Identify revenue maximisation position: for example, where MR=0 or output level 36 or price £12 (1)	
	Application: (up to 2 marks) Calculate total profit at profit maximisation position: for example, total revenue – total cost = total profit: £425 – £200 = £225 (1) OR	
	£17-£8=£9, £9 ×£25 = £225 (1) <b>OR</b>	
	Calculate total profit at revenue maximisation position: £432 - £324 = £108 (1)	
	OR $£12-£9=£3, £3 ×£36 = £108$ (1)	
	£108 -£225 = - <b>£117</b> or <b>£117</b>	
	Award full 4 marks for -£117 or fall of £117 or £117	
		(4)

Question Number	Answer	Mark
1(b)		
	The only correct answer is B	
	<b>A</b> is not correct because sales maximisation occurs when AC equals AR which is at an output higher than revenue maximisation	
	<b>C</b> is not correct because AC is higher at sales maximisation output than revenue maximisation	
	<b>D</b> is not correct because abnormal profit is removed and only normal profit is now made	(1)

Question Number	Answer	Mark
2	С	
		(1)

Question Number	Answer						Mark	
3	Key: D							
	Explanation correct (1) (1) Total p the MC and	MR calcula rofit calcula	ations corre	ect (1) TC o ect (1) ider	calculations	s correct		
	Q	Р	TR	MR	TC	MC		
	0	20	0	-	30	-		
	1	18	18	18	32	2		
	2	16	32	14	35	3		
	3	14	42	10	39	4		
	4	12	48	6	45	6		
	5	10	50	2	55	10		
	columns w need for M Q		TR	IR column a Total Profit	and therefo	ore no		
	0	20	0	-30	30	_		
		18	18	-14	32	2		
	2	16	32	-3	35	3		
	3	14	42	3	39	4		
	4	12	48	3	45	6		
	5	10	50	-1	55	10		
	Note that the mark for filling the column is awarded as long as there is sufficient data for making an observation. For example the MC column can stop at 6 because this is where it equals MR.						(3)	



Question	Answer	Mark
Number		
4	Key: B	(1)
	Key: B  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):	(1)
	P1 AC P2 AR MR Q1 Q2 Output (Q)	
		(3)

Question number	Answer	Mark
5	Correct option B (1mark)	(4)
	Definition profit satisficing (making enough profit to keep shareholders happy/sufficient/just enough/target/fixed amount) (1) Reasoning, e.g. they may have other objectives (1) It may mean long run profit maximisation (1) Reason why this occurs e.g. divorce of ownership from control, principal agent problem (1)	
	Diagram to illustrate minimum profit as range of output levels (1)	
	Application – people may be shareholders for other reasons than profit e.g. winning matches, attendance at matches, brand development (1 + 1)	
	Example of knock out: It's not C as profit maximising is where MC=MR It's not A as low dividends are likely to make share prices fall (or other logical reasons why share prices change)	



Question Number	Answe	Answer					
6	Correct	t Option D	(1 mark)				(4)
	Output per week	Total revenue (£millions)	Average revenue (£millions)	Total cost (£millions)	Average cost (£millions)	Marginal cost (£millions)	
	0	0	-	10	-	-	
	1	40	40	25	25	15	
	2	60	30	34	17	9	
	3	78	26	52	17.3	18	
	4	96	24	96	24	44	
	5	105	21	150	30	54	
	Definition sales maximisation AC=AR or TC=TR; or selling as much as you can without making a loss (1) Identification that at sales maximisation there are normal profits or no supernormal profits/loss (1) Filling in columns with correct AR, TC, AC, TR-TC or total profit (1 mark for each correct column up to 4 units is sufficient): (1 + 1+ 1)						
		n showing <i>A</i> is at £96 m		C <u>or</u> £24 m	illion AR/A0	C (1)	

Question	Answer	Mark
Question Number 7	Definition of <i>monopoly power</i> (not monopoly alone): firm has power to set prices or output/ firm is a price setter or price maker (1);  Explanation of sales max: selling as much as possible without making a loss (1); where AR = AC (1); or maximising sales subject to the <i>constraint</i> of making AR=AC (normal profit) (1);  Explanation: explanation of normal profit, e.g. just enough profit to keep resources/firms in their current use (1); market share increased at expense of competitors (1); a lower price means that more is demanded (1);  Reasons for this objective: to remove competition (1); limit pricing (1); long run profit maximisation by removing competition or gaining loyalty (1);  Diagram showing fall in price and/or higher output (1) at AC=AR (award AC=AR point only if not defined or otherwise used in answer) (1);	Mark (4)



Question	Answer	Mark
Number		
8	Definition of marginal revenue (1);  Diagram marks or equivalent verbal analysis: annotation of diagram or separate diagram showing parabola shaped TR (1); MR crossing horizontal axis where TR reaches the maximum (1) or at output 500 (or close) (1); relationship between AR(=D) and MR, e.g. if the demand curve is downward sloping the MR curve will be below it and steeper (1); relationship between MR and TR, e.g. if MR>0 then TR is rising (1); relationship between AR and/or MR and price elasticity of demand (PED) e.g. if PED is elastic MR is positive (1); if PED is inelastic MR will be negative (1);  Application mark: revenue rising from £2400 at output 400 to £2500 at output 500 (1); £5 is revenue maximising (1)  Example of knock out mark: it is not E because there is no	
	Example of knock out mark: it is not B because there is no indication that the firm is operating at 500 units.	(4)



Question Number	Answer	Mark
9	C Definition/identification mark: revenue maximisation: MR=0 is revenue maximisation or verbal identification that the firm cannot make any more money (1) Annotation of diagram or as written analysis: Total	(4)
	revenue is 0KHZ/shading of this area (1) with output at 0Z (1).  Diagram: parabola shaped TR, upside-down U (1) and if this is connected to MR=0 or Z on the question (1)	
	Application: There will be empty spaces in the car park (1) but if car park is full total revenue is lower (1).	
	Further explanation marks: use of marginal analysis, e.g. if prices were cut total revenue would fall, and if prices were raised total revenue would fall (1)	
	If calculation is shown, to scale, then award for total revenue, output and knockout marks, as appropriate (up to 3 marks).	
	Example of elimination mark: Knock out of B as this is sales maximisation (1)  Knock out of A as this would mean there is no revenue (1)	



Question Number	Answer							Mark
10	C Definition of profit maximisation, e.g. MC=MR (1 mark)  Calculation of Total Revenue (TR) column (1 mark) Calculation of Marginal Revenue (MR) column (1 mark) Calculation of Total Costs (TC) column (1 mark) Calculation of Total Profits column (1 mark)  Firm is price maker, or downward sloping demand curve (1 mark)  Application mark: MC=MR when they are both £6  Allow answers to be written between cells rather than in cells (technically correct, which makes output 2.5 profit max) (1 mark for correct inference of output 2.5 or 3)							(4)
	Quantity	Price (£)	Total Reven ue (TR)	Marginal revenue (MR)	Total costs (£)	Margin al costs (MC)	Total Profit (TR- TC)	
	0 1 2 3 4	11 10 9 8 7	0 10 18 24 28	- 10 8 6 4	5 9 14 20 28	- 4 5 6 8	-5 1 4 4 0	
	5	6	30	2	38	10	-8	



Question	Answer	Mark
Number		
11	E	
	Definition of marginal profit e.g. the increase in profit	
	when one more unit is sold or the difference between MR	
	and MC or MR-MC=0 (1) with MC=MR (verbally or as diagram)(1) and marginal analysis of this point with	
	diagram showing TR and TC (1) with the greatest positive	
	difference (1) marginal analysis showing what happens before and after MC=MR (1 + 1)	
	Diagram (up to three marks) might include elements of the	
	following: Vertical line connects profit maximisation with	
	MC = MR (1) Gradient of total profit curve is zero where marginal profit is zero (1)	
	Costs/ Revenues	
	Q <sub>1</sub> Qmax Q <sub>2</sub> Output (Q)	
	Profit	
	тс	
	Costs/ Revenues	
	ŤR	
	0 Q <sub>1</sub> Qmax Q <sub>2</sub> Output (Q)	
	Costs/	
	Revenues	
		(4)
	MR	
	Q <sub>max</sub> Output (Q)	
	Allow along outs of this discuss of the second to the second of the second to the second of the seco	
	Allow elements of this diagram (you are unlikely to see all of this), or other versions showing the	
	difference between MC and MR as marginal profit, or	
	shading area of total profit.	



Question	Answer	Mark
Number		
12	С	
	Identification of revenue maximisation as MR=0 or diagram showing MR crossing horizontal axis (1 mark)	
	Diagram showing TR max at MR = 0 (1 mark)	
	The flowers are going to be discarded the cost is effectively zero (1 mark)	
	The firm makes as much money as possible ignoring the costs since the costs are no longer recoverable (1 mark)	
	If flowers are sold there is additional revenue or if flowers are not sold revenue from them is zero (1 mark) Therefore by selling flowers that would otherwise be discarded, profits are made or losses reduced. (1 mark)	
	Demand is relatively elastic (1 mark)	
	Reference to second-degree price discrimation is allowed (but not required for this specification) (1 mark)	
	It will cost money to dispose of wasted stock (1 mark)	
	Alternative approach: the firm is profit maximising (1 mark), but MC = 0 (1 mark), and if MC = MR then MR = 0 (1 mark).	(4)



Question Number	Answer	Mark
13	<ul> <li>Definition of satisficing, e.g. satisfying or sufficing different stakeholders, making just enough profit to survive, making enough profits to keep shareholders happy, firms have multiple and possibly conflicting interests (1 mark)</li> <li>Identify stakeholder and/or an objective (1 mark)</li> <li>Reason for stakeholder's objectives e.g. shareholder wants to maximise profits because their dividends depend of them (1 mark)</li> <li>Diagrammatic analysis: costs/revenue diagram showing at least two objectives of firms, or profit diagram showing a satisficing range of profit (1 mark)</li> </ul>	(4)

Question Number	Answer	Mark
14	<ul> <li>Definition: sales maximisation is at output at which AR = AC which may be in diagrammatic form (1 mark)</li> <li>Diagram showing outputs or prices for equilibria (1 mark)</li> <li>Explanation that under sales maximisation lower prices or profits will deter new entrants or increase market share of the existing firm (1 mark)</li> <li>Normal profits only will be earned (1 mark)</li> <li>Accept analysis of limit pricing (1 mark)</li> <li>Long run analysis e.g. sales max might equal long run profit max (1 mark)</li> </ul>	(4)

**END OF SECTION A** 



#### **SECTION B**

Question Number	Indi	Mark	
15	К	nowledge 2, Application 2, Analysis 2	
	Case	e for principal agent problem being significant.	
		of interest between the principal (shareholder) and the EOs/directors/managers) creates problems for Thomas	
	Moral hazard – no consequences for the failings of management results in high-risk behaviour		
	Chief Executive incentivised by £500 000 bonus and £8.5 million salary possibly linked to sales or market share rather than the long-term profitability of Thomas Cook		
To increase sales or market share the Chief Executive may have focussed on mergers with other Travel businesses, provided wars with competitors or investing in buying new hotels are planes rather than keeping costs low and paying off debts.			
	redu soug	f Executive may have prioritised a greener image by cing emissions or better pay to avoid pilots striking and ht to satisfice shareholders instead reducing the long-profitability of Thomas Cook	(6)
Level	Mark	Descriptor	
	0	A completely inaccurate response.	
Level 1	1–2 Displays isolated or imprecise knowledge and understanding terms, concepts, theories and models.  Use of generic or irrelevant information or examples.  Descriptive approach which has no link between causes and consequences.		_
Level 2	3-4	Displays elements of knowledge and understanding of principles, concepts and theories.  Applies economic ideas and relates them to economic properties context, although does not focus on the broad element question.  A narrow response or the answer may lack balance.	problems in
Level 3	5-6	Demonstrates accurate knowledge and understanding concepts, principles and models.  Ability to link knowledge and understanding in context relevant and focused examples which are fully integrate Economic ideas are applied appropriately to the broad the question.	using ed.



Question Number	Indicative	Indicative content				
15 continued	Case against 'principal agent problem'  Employee share-ownership schemes address the problem. £4m of the CEO's £8.5m earning is in shares – so as an employee he is motivated by profit maximisation, bringing him in-line with shareholders. His shares are now worthless  CEO worked "exhaustively" to rescue Thomas Cook and create a long-term strategy. By owning planes and hotels they would have assets and not borrow to rent. In the long-run Thomas Cook could have moved its sales more on-line  Shareholders have lost capital value but the CEO has lost his job, earnings and his reputation  Shareholders can hold the CEO accountable at their AGM, reject pay and bonus awards and place the CEO on a short-term contract to avoid the long-term contract short-term gain problem  Other factors that caused closure – fuel prices, competition.					
Level	Mark	Descriptor				
	0	No evaluative comments.				
		Identification of generic evaluative comments without s evidence/ reference to context.  No evidence of a logical chain of reasoning.	upporting			
appropriate reference to context.		Evaluation recognises different viewpoints and/or is crit				

**END OF SECTION B** 



#### **SECTION C**

Question Number	Indicative content	Mark
16	<ul> <li>Knowledge 4, Application 4, Analysis 8</li> <li>Explanation of revenue maximisation (for example, output position where MR=0) and profit maximisation (for example, output position where MR=MC).</li> <li>Diagrammatic analysis may be offered depicting the two business objectives.</li> </ul>	
	NB revenue maximisation discussion may be considered as KAA and profit maximisation as EV or vice-versa. Mark the best approach as KAA and the other as EV.	
	<ul> <li>Revenue maximisation:</li> <li>This could be more appropriate in large firms with a separation of ownership from control e.g. supermarkets / oligopoly.</li> <li>Directors may have salaries linked to revenue growth rather than profits.</li> <li>Directors may seek greater security through larger market share rather than higher profits.</li> <li>Revenue maximisation may be less likely to draw attention of competition authorities, as price and profits will be lower.</li> <li>Accept a game theory approach if relevant.</li> <li>Short term need for cash e.g. to avoid bankruptcy or fund attractive new opportunities</li> </ul>	
	NB for a Level 4 response, candidates must refer to a specific INDUSTRY in their answer.	
	<ul> <li>Evaluation 9 Profit maximisation can be used as a counter argument to points above: <ul> <li>Profit maximisation could be more appropriate in smaller firms where there is no separation of ownership from control e.g. small independent grocery stores / monopolistic competition.</li> <li>Profit maximisation could be more appropriate in a monopoly market with high entry barriers so little possibility of competition.</li> <li>Rational business owners are expected to seek to maximise profits. Role of shareholders in expecting high share prices and dividend.</li> </ul> </li></ul>	
	<ul> <li>Other points include</li> <li>Depends on the type of industry e.g. hairdressing or banking may have different goals.</li> <li>A contestable market may influence the objectives.</li> <li>Business owners and directors are not always rational.</li> <li>Conflicting objectives by different pressure groups within firms may lead to a compromise objective such as profit satisficing.</li> </ul>	(25)



•	Difficulty in firms achieving revenue maximisation or profit
	maximisation in terms of calculating marginal revenues and
	marginal costs from production.

- Revenue maximisation and profit maximisation may require frequent price changes which may lead to falling customer demand.
- Lack of continuity in small businesses means profit maximisation may not be sustained even if a business objective.

Knowledge, application and analysis		
Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1-4	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models.  Use of generic or irrelevant information or examples.  Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	5-8	Displays elements of knowledge and understanding of economic principles, concepts and theories.  Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question.  A narrow response or superficial, two stage chains of reasoning only.
Level 3	9-12	Demonstrates accurate knowledge and understanding of the concepts, principles and models.  Ability to apply economic concepts and relate them directly to the broad elements of the question with evidence integrated into the answer.  Analysis is clear and coherent, although it may lack balance. Chains of reasoning are developed but the answer may lack balance.
Level 4	13-16	Demonstrates precise knowledge and understanding of the concepts, principles and models.  Ability to link knowledge and understanding in context using appropriate examples. Analysis is relevant and focused with evidence fully and reliably integrated.  Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.



Evaluation			
Level	Mark	Descriptor	
	0	No evaluative comments.	
Level 1	1-3	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.	
Level 2	4-6	Evidence of evaluation of alternative approaches which is unbalanced leading to unsubstantiated judgements.  Evaluative comments with supporting evidence/reference to context and a partially developed chain of reasoning.	
Level 3	7-9	Evaluative comments supported by relevant reasoning and appropriate reference to context.  Evaluation recognises different viewpoints and is critical of the evidence provided and/or the assumptions underlying the analysis enabling informed judgements to be made.	

**END OF SECTION C** 

