

## 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 <br> Knowledge/Understanding: (up to 2 marks) <br> 1 mark for identifying each correct price/output level e.g. <br> Identify profit maximisation position: for example, where MC=MR or output level 25 or price $£ 17$ (1) <br> Identify revenue maximisation position: for example, where $M R=0$ or output level 36 or price $£ 12$ (1) <br> Application: (up to 2 marks) <br> Calculate total profit at profit maximisation position: for example, total revenue - total cost $=$ total profit: $\begin{equation*} £ 425-£ 200=£ 225 \tag{1} \end{equation*}$ <br> OR $\begin{equation*} £ 17-£ 8=£ 9, £ 9 \times £ 25=£ 225 \tag{1} \end{equation*}$ <br> OR <br> Calculate total profit at revenue maximisation position: $\begin{equation*} £ 432-£ 324=£ 108 \tag{1} \end{equation*}$ <br> OR $\begin{equation*} £ 12-£ 9=£ 3, £ 3 \times £ 36=£ 108 \tag{1} \end{equation*}$ $£ 108-£ 225=\mathbf{- £ 1 1 7} \text { or } £ \mathbf{1 1 7}$ <br> Award full 4 marks for $\mathbf{-} £ 117$ or fall of $£ 117$ or £117 | (4) |
| Question Number | Answer | Mark |
| 1(b) | The only correct answer is B <br> A is not correct because sales maximisation occurs when AC equals $A R$ which is at an output higher than revenue maximisation <br> $\boldsymbol{C}$ is not correct because AC is higher at sales maximisation output than revenue maximisation <br> D is not correct because abnormal profit is removed and only normal profit is now made | (1) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{2}$ | C |  |



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


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


| Question Number | Answer |  |  |  |  |  | Mark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | Correct 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 $A C=A R$ or TC=TR; or selling as much as you can without making a loss (1) <br> Identification that at sales maximisation there are normal profits or no supernormal profits/loss (1) <br> 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): ( $1+1+1$ ) <br> Diagram showing $A C=A R$ (1) <br> Output is at $£ 96$ million TR/TC or $£ 24$ million AR/AC (1) |  |  |  |  |  |  |



| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{8}$ | A |  |
|  | Definition of marginal revenue (1); <br> Diagram marks or equivalent verbal analysis: annotation of <br> diagram or separate diagram showing parabola shaped TR (1); MR <br> crossing horizontal axis where TR reaches the maximum (1) or at <br> output 500 (or close) (1); relationship between AR( $=\mathrm{D}$ ) and MR, <br> e.g. if the demand curve is downward sloping the MR curve will <br> be below it and steeper (1); relationship between MR and TR, <br> e.g. if MR>0 then TR is rising (1); relationship between AR and/or <br> MR and price elasticity of demand (PED) e.g. if PED is elastic MR <br> is positive (1); if PED is inelastic MR will be negative (1); |  |
| Application mark: revenue rising from $£ 2400$ at output 400 to <br> f2500 at output 500 (1); $£ 5$ is revenue maximising (1) |  |  |
| Example of knock out mark: it is not E because there is no <br> consideration of any costs. <br> Example of knock out mark: it is not B because there is no <br> indication that the firm is operating at 500 units. | (4) |  |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{9}$ | C |  |
|  | Definition/identification mark: revenue maximisation: <br> MR=0 is revenue maximisation or verbal identification <br> that the firm cannot make any more money (1) <br> Annotation of diagram or as written analysis: Total <br> revenue is OKHZ/shading of this area (1) with output <br> at 0Z (1). <br> Diagram: parabola shaped TR, upside-down U (1) and <br> if this is connected to MR=0 or Z on the question (1) | (4) |
| Application: There will be empty spaces in the car  <br> park (1) but if car park is full total revenue is lower  <br> (1). Further explanation marks: use of marginal analysis, <br> e.g. if prices were cut total revenue would fall, and if <br> prices were raised total revenue would fall (1) |  |  |
| If calculation is shown, to scale, then award for total <br> revenue, output and knockout marks, as appropriate <br> (up to 3 marks). <br> Example of elimination mark: Knock out of B as this <br> is sales maximisation (1) |  |  |


| Question Number | Answer |  |  |  |  |  |  | Mark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Definition of profit maximisation, e.g. MC=MR (1 mark) <br> Calculation of Total Revenue (TR) column (1 mark) <br> Calculation of Marginal Revenue (MR) column (1 mark) <br> Calculation of Total Costs (TC) column (1 mark) <br> Calculation of Total Profits column (1 mark) <br> Firm is price maker, or downward sloping demand curve (1 mark) <br> Application mark: $\mathrm{MC}=\mathrm{MR}$ when they are both $£ 6$ <br> 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 <br> (£) | Total Reven ue (TR) | Marginal revenue (MR) | Total costs ( $£$ | Margin al costs (MC) | Total Profit (TRTC) |  |
|  | 0 | 11 | 0 | - | 5 | - | -5 |  |
|  | 1 | 10 | 10 | 10 | 9 | 4 | 1 |  |
|  | 2 | 9 | 18 | 8 | 14 | 5 | 4 |  |
|  | 3 | 8 | 24 | 6 | 20 | 6 | 4 |  |
|  | 4 | 7 | 28 | 4 | 28 | 8 | 0 |  |
|  | 5 | 6 | 30 | 2 | 38 | 10 | -8 |  |


| Question Number | Answer | Mark |
| :---: | :---: | :---: |
| 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 $M C=M R(1+1)$ |  |
|  | Diagram (up to three marks) might include elements of the following: Vertical line connects profit maximisation with $M C=M R(1)$ Gradient of total profit curve is zero where marginal profit is zero (1) |  |
|  |  |  |
|  |  |  |
|  | $\begin{array}{c\|c\|c\|c} \begin{array}{c} \text { Costsl } \\ \text { Revenues } \end{array} & \mathbf{i} & 1 & 1 \\ & 1 & 1 & 1 \end{array}$ |  |
|  |  |  |
|  |  | (4) |
|  | 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 <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{1 2}$ | C <br> Identification of revenue maximisation as MR=0 or diagram <br> showing MR crossing horizontal axis (1 mark) <br> Diagram showing TR max at MR =0 (1 mark) <br> The flowers are going to be discarded the cost is effectively <br> zero (1 mark) <br> The firm makes as much money as possible ignoring the costs <br> since the costs are no longer recoverable (1 mark) <br> If flowers are sold there is additional revenue or if flowers are <br> not sold revenue from them is zero (1 mark) <br> Therefore by selling flowers that would otherwise be <br> discarded, profits are made or losses reduced. (1 mark) |  |
| Demand is relatively elastic (1 mark) <br> Reference to second-degree price discrimation is allowed (but <br> 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 = (1 mark), and if MC = MR then MR =0 (1 mark). |  |  |$\quad$ (4) |  |
| :--- |


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


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

## SECTION B

| Question Number | Indicative content |  | Mark |
| :---: | :---: | :---: | :---: |
| 15 | Knowledge 2, Application 2, Analysis 2 <br> Case for principal agent problem being significant. <br> Conflict of interest between the principal (shareholder) and the agent (CEOs/directors/managers) creates problems for Thomas Cook: <br> - Moral hazard - no consequences for the failings of management results in high-risk behaviour <br> - Chief Executive incentivised by $£ 500000$ bonus and $£ 8.5$ million salary possibly linked to sales or market share rather than the long-term profitability of Thomas Cook <br> - To increase sales or market share the Chief Executive may have focussed on mergers with other Travel businesses, price wars with competitors or investing in buying new hotels and planes rather than keeping costs low and paying off debts <br> - Chief Executive may have prioritised a greener image by reducing emissions or better pay to avoid pilots striking and sought to satisfice shareholders instead reducing the longterm profitability of Thomas Cook |  | (6) |
| Level | Mark | Descriptor |  |
|  | 0 | A completely inaccurate response. |  |
| Level 1 | 1-2 | Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. <br> 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 economic principles, concepts and theories. <br> Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. <br> A narrow response or the answer may lack balance. |  |
| Level 3 | 5-6 | Demonstrates accurate knowledge and understanding of the concepts, principles and models. <br> Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question. |  |


| Question Number | Indicative content |  | Mark |
| :---: | :---: | :---: | :---: |
| 15 <br> continued |  | Evaluation 4 <br> Case against 'principal agent problem' <br> ployee share-ownership schemes address the oblem. $£ 4 \mathrm{~m}$ of the CEO’s $£ 8.5 \mathrm{~m}$ earning is in shares so as an employee he is motivated by profit aximisation, bringing him in-line with shareholders. shares are now worthless <br> O worked "exhaustively" to rescue Thomas Cook d create a long-term strategy. By owning planes d hotels they would have assets and not borrow to nt. In the long-run Thomas Cook could have moved sales more on-line areholders have lost capital value but the CEO has st his job, earnings and his reputation areholders can hold the CEO accountable at their M, reject pay and bonus awards and place the CEO a short-term contract to avoid the long-term ntract short-term gain problem her factors that caused closure - fuel prices, mpetition. | (4) |
| Level | Mark | Descriptor |  |
|  | 0 | No evaluative comments. |  |
| Level 1 | 1-2 | Identification of generic evaluative comments without supporting evidence/ reference to context. <br> No evidence of a logical chain of reasoning. |  |
| Level 2 | 3-4 | Evaluative comments supported by relevant reasoning and appropriate reference to context. <br> Evaluation recognises different viewpoints and/or is critical of the evidence. |  |

END OF SECTION B


|  | -Difficulty in firms achieving revenue maximisation or profit <br> maximisation in terms of calculating marginal revenues and <br> marginal costs from production.  <br>  Revenue maximisation and profit maximisation may require <br> frequent price changes which may lead to falling customer <br> demand. <br> Lack of continuity in small businesses means profit <br> maximisation may not be sustained even if a business <br> 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. <br> 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. <br> Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. <br> 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. <br> Ability to apply economic concepts and relate them directly to the broad elements of the question with evidence integrated into the answer. <br> 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. <br> Ability to link knowledge and understanding in context using appropriate examples. Analysis is relevant and focused with evidence fully and reliably integrated. <br> Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning. |


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

## END OF SECTION C

