Suggested answer for 2022 A-Level Paper 2 Question 1

Economists usually begin their analysis of decision-making by firms by assuming that the objectives of a firm is to maximise their profit. In reality, however, there are many different objectives that a firm might adopt.

a) Explain the likely effects on a firm's price and output when its objective changes from profit maximisation to profit satisficing. [10]
b) Discuss the most appropriate strategy that a firm could adopt if its objective was to reduce the competition that it faces. [15]

Part (a) - Question Analysis

Approach	**Command Word**	Explain
	Question Type	Cause and effect
	Start point	Objective of firm
	End Point	Price and output
Content and Context	**Content**	• Marginalist principle • Profit satisficing
	Context	None

Introduction
State essay approach: Traditional economic theory suggest that rational producers will seek to maximize profits when making decisions using the **marginalist principle**. However, a firm may only seek to achieve a level of profits that is satisfactory, instead of the maximum level possible due to various factors such as imperfect information.

Body Point 1: Explaining a profit-maximizing firm's price and output level

- A firm, such as Apple, will produce up to a point where **marginal revenue (MR) equals to marginal costs (MC) to maximize profits.**
- Marginal revenue is the additional revenue gained from selling an additional unit of Apple product such as iPhone, and revenue is obtained by price multiplied by quantity.
- Marginal cost is the additional cost incurred from producing an additional unit of Apple product, which include wages paid to workers and manufacturing costs such as costs of raw material for the different components of iPhone and costs of machinery to assemble the iPhone.
- With reference to Figure 1, if Apple produces iPhone only up to Q1 where MR > MC, his profits can be increased by producing additional unit of iPhone as it will add more to his revenue than the costs. Hence, to maximize profits, a rational producer will increase production until MR = MC at Qm.
- On the other hand, if Apple produces iPhone at Q_s where MC > MR, the additional production has decreased its overall profits. Thus, to maximise profits, Apple should decrease production until MR = MC at Q_m.

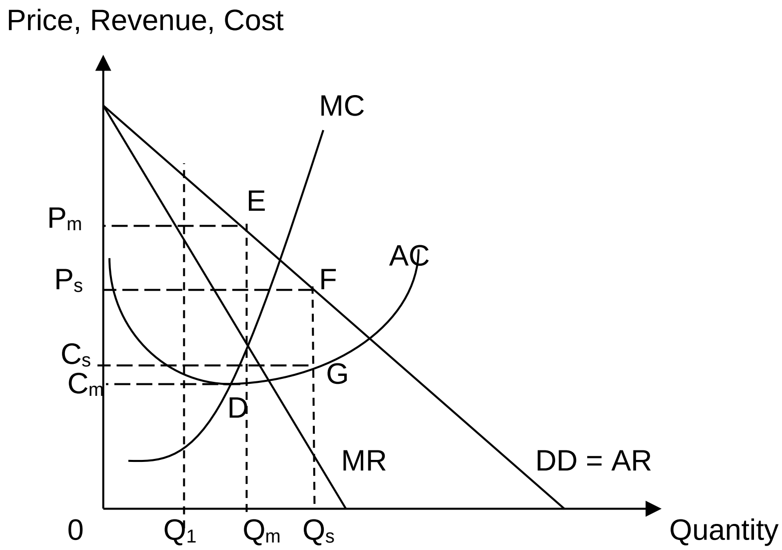

Figure 1: Price and Output of a Firm

- The Marginalist principle states that an economic agent should pursue an activity up to the point where Marginal Benefit (MB) = MC. Thus, at Q_m where MR = MC, there is no incentive for the producer to either increase or reduce production hence **the profit-maximising firm will produce at the output Q_m, with a price of P_m, earning a supernormal profit of area P_mEDC_m.**

Body Point 2: Explaining a profit-satisficing firm's price and output level

- Profit-satisficing behaviour arises due to the separation of ownership and management. While the owners wish to maximum profits, the employees (managers and workers) might aim for a minimum level of profit that is just enough to satisfy the owners (and shareholders) rather than maximise profits.
- Managers might not have **perfect information** about the firm's costs and revenue to produce at the point where MR = MC too especially in a fast-paced business environment where business conditions are ever changing. For example, during the COVID-19 pandemic, surviving in challenging conditions became the primary objective for many firms, instead of profit maximising.
- When a firm changes its objective from profit maximisation to profit satisficing, it usually involves **setting lower prices in a bid to increase revenue & market share.** Hence the firm might set the **price at Ps instead of Pm and selling at output Qs**. This results in a satisfactory level of **supernormal profits of area P_sFGC_s**, which is smaller than area PmEDCm.
- However, it must be noted that there is no unique price and output that a firm will set when its objective is profit satisficing. It depends on the minimum requirement set by the owner/shareholders and how much information is available. It also depends on the threat of competition. The greater the threat of potential competition, the lower the price the firm will set to deter entry.

Conclusion

In conclusion**, a firm's price will likely decrease, while output will likely increase when its objective changes from profit maximisation to profit satisficing.**

<u>Mark Scheme</u>

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Full display of AO1, AO2 and AO3 skills: For an answer that shows well-developed explanation of the pricing and output level of both profit-maximizing and profit-satisficing firms. • clear and accurate explanation of marginalist principle with an appropriate diagram • supported with relevant examples	8-10
L2	Uneven display of AO1, AO2 and AO3 skills: For an answer that shows under-developed explanation of the pricing and output level of profit-maximizing and profit-satisficing firms. • lacks depth of analysis (i.e., limited effective use of relevant economic analysis or gaps in diagrammatic analysis) • lacks scope in explaining either profit-maximizing or profit-satisficing firms • lacks relevant examples	5-7
L1	Limited display of AO1 and AO2 skills: For an answer that shows limited knowledge of how a firm make price and output decision based on its objective. • listing of points, unexplained statements, or descriptive response • many conceptual errors (i.e., using total benefit/costs instead or marginal costs/benefit when explaining marginalist principle, confusion between profit satisficing and revenue maximization, using DD/SS instead of a firm's diagram) • irrelevant response such as on market failure or price mechanism • smattering of points	1-4

Part (b) - Question Analysis

Approach	**Command Word**	Discuss → balanced answer + evaluation
	Question Type	Most appropriate strategy → strategy comparison and evaluation
	Start point	appropriate strategy
	End Point	Reduce competition
Content and Context	**Content**	Strategies to reduce competition
	Context	None

Introduction
State essay approach: A firm may aim for alternative objectives such as profit satisficing when competition is high in the industry. Hence, the firm may employ strategies such as predatory pricing and acquisition to reduce competition in the short run and change objective back to profit maximization after competition level has been reduced.

Body Point 1: Explain how predatory pricing can reduce competition level

- Predatory pricing is practised through **pricing the firm's good below its AC to drive out competitors.**

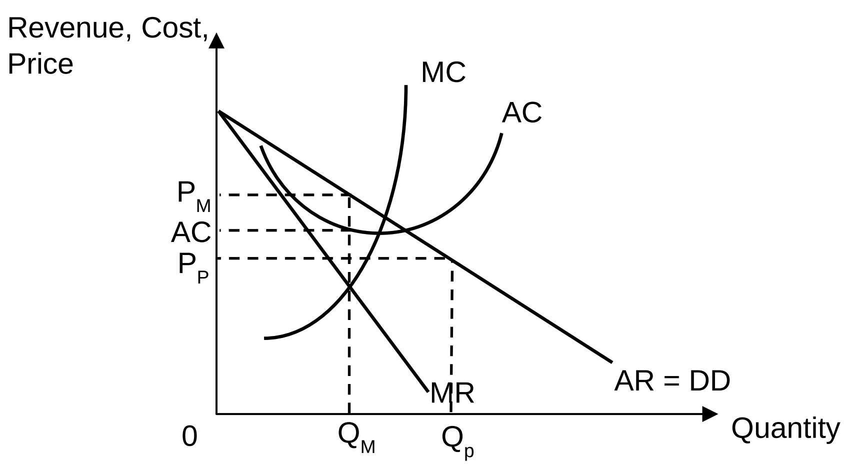

Figure 2: Predatory pricing to reduce competition

- Instead of selling at the profit-maximising price P_M, the firm that practises predatory pricing will now sell its good at a price below AC, for example at price P_P. This ensure that rivals with higher cost condition will not be able to survive as the fall in price will result in a fall in demand for the rival's product which is a substitute. The fall in demand will result in a fall in total revenue, and a fall in profits level, ceteris paribus. If the fall in demand results in AR< AC, the **rival firm will make subnormal profit and shut down in the short run if AR<AVC**.
- For example, Grab would give attractive discounts to attract Uber users while suffering subnormal profits.
- By driving out existing competitors, the firm can increase demand for their own products and reduce price elasticity of demand (PED) due to less substitutes available. Once existing

competitors leave the industry, the firm will then raise prices back to profit-maximising level (base on new AR and MR curves) to earn higher revenue.

Intermediate EV – limitations of predatory pricing

- To prevent the fall in demand, the rival firm will likely match the price decrease, triggering a price war. Hence, the effectiveness of predatory pricing depends on **costs difference** between the two firms. Predatory pricing would not be effective if the firm that practises predatory pricing has a higher AC than its rival, as the rival firm would be able to reduce price more hence capturing a larger market share and survive the price war.
- Predatory pricing would not be **feasible** for firms that does not earn supernormal profits in the past. As predatory pricing involves pricing below AC, the firm would be making subnormal profits, hence it would require for the firm to tap on its past profits to sustain its business until the rival is driven out.

Body Point 2: Explain how acquisition can reduce competition level

- An acquisition refers to a takeover of one firm by another. In so doing, the rival firm is often consumed and ceases to exist, and its assets become part of the acquiring firm.
- For example, The Walt Disney Company acquired 21st Century Fox in 2019. This deal will include film rights to certain franchises previously owned by Fox, including popular Marvel characters such as the X-Men. Another example is Facebook acquiring WhatsApp in 2014.

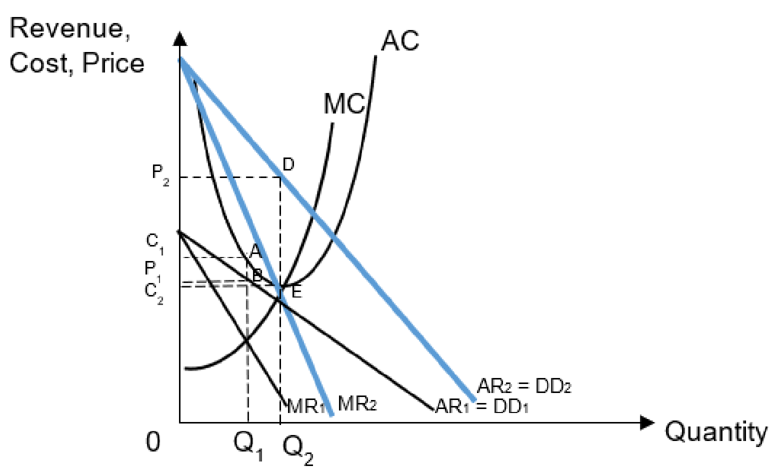

Figure 3: Predatory pricing to reduce competition

- By acquiring rival firms, it could reduce competition directly. The acquiring firm could tap on the ready base of existing consumers of the rival firm. This will increase the acquiring firm's demand and reduce its PED value (allowing it to charge a higher price to increase total revenue) since the degree of competition is reduced. This is shown in figure 3, where DD_1 shifts to DD_2, accompanied by a shift of MR from MR_1 to MR_2. The acquiring firm will now produce at output Q_2 instead of Q_1 where MC = MR_2. Profits has increased from P_1C_1AB to C_2P_2DE.

Intermediate EV – limitations of acquisition

- Similar to predatory pricing, acquisition would not be **feasible** for firms that does not earn supernormal profits in the past as acquisition cost is high. For example, the acquisition cost of WhatsApp is $19billion for Facebook while the acquisition cost of 21st Century Fox is a staggering $73.1billion for Walt Disney.
- Acquisition might be blocked by regulatory body if it is deemed to be anti-competitive. For example, AT&T potential acquisition of T-Mobile was blocked by the USA government due to anti-competition concerns. Therefore, acquisition is not always successful due to government intervention.
- Grab acquisition of Uber's South East Asia business also resulted in Grab being fined $13millions by Competition and Consumer Commission of Singapore (CCCS), reducing it profits.

Other possible strategies to reduce competition: product innovation, advertising → any strategy that help increase market share and reduce PED for the firm

Summative Evaluation

- Acquisition is likely to be the most appropriate strategy to reduce competition as it is the fastest and most direct way to eliminate competition, assuming no government intervention. Hence, acquisition will be the most appropriate strategy in countries where competition law is lax.
- Acquisition would also be most appropriate in industry where there is still significant competition even after the acquisition as the deal would not be deemed too anti-competitive by the regulatory body. The higher the combined market share as a proportion of total market share of the merged firm, the more likely government will intervene.
- The acquisition of a rival firm will also expand the acquiring firm's scale of production, allowing it to reap more significant internal economies of scale. This helps to reduce the firm's average cost and be able to practise predatory pricing more effectively.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Full display of AO1, AO2 and AO3 skills: For an answer that shows well-developed explanation of two strategies that can reduce competition that a firm face • well-supported with diagrammatic analysis • well-supported with relevant examples	8-10
L2	Uneven display of AO1, AO2 and AO3 skills: For an answer that shows under-developed explanation of at least one strategy that can reduce competition that a firm face • lacks depth of analysis (i.e. limited effective use of relevant economic analysis or gaps in diagrammatic analysis) • lacks scope in explanation strategies • lacks appropriate examples	5-7

L1	Limited display of AO1 and AO2 skills: For an answer that shows limited knowledge of the strategies that can reduce competition that a firm is facing • with listing of points, unexplained statements, or descriptive response • many conceptual errors • Smattering of points	1-4

	Evaluation	**Marks**
E3	For an answer that builds on appropriate analysis to evaluate strategies that a firm could adopt if its objective was to reduce the competition that it faces and synthesizes economic arguments to arrive at well-reasoned judgements on which is the most appropriate strategy.	5
E2	For an answer that makes some attempt at evaluation or a conclusion on the most appropriate strategy that a firm could adopt if its objective was to reduce the competition that it faces but does not explain the judgement or base it on analysis.	3-4
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration on the appropriateness of strategy that a firm could adopt if its objective was to reduce the competition that it faces.	1-2

Additional Reference:

- Grab Vs Uber – Breaking Down The Economics Behind Their Price War And Sustainability