Question 1

Consumers in Thailand are snapping up crocodile meat due to a significant increase in the price of pork which is a staple in the Thais' diet. This was due to African swine flu affecting pigs in the country and a post-pandemic economic recovery.

(a) With reference to the above events, explain the likely changes in the consumer expenditure on pork and crocodile meat in Thailand. [10]

Question analysis

Command Word	Explain (consumer expenditure)	Give economic reasoning
Content Required	Changes in consumer expenditure (P x Q), non-price demand and supply factors	
Context	Market for pork and crocodile meat in Thailand	
Approach	1. Explain the change in consumer expenditure on pork due to disease and economic recovery; and 2. Explain the change in consumer expenditure on crocodile meat due to changes in the price of pork (substitute)	

Introduction	• Consumer expenditure refers to the amount spent on a particular good or service. It is calculated by price multiplied by quantity of a good.	Define key term of question
Requirement 1: Market for Pork	• The market for pork has been affected by the African swine flu and the post-pandemic economic recovery. • The emergence of African swine flu has affected the ability of pork producers to supply pork. Pigs affected by the disease would not be suited for sale and as the disease can be contagious, this can easily affect other pigs in the farms. This would lead to a ↓supply of pork. • The post-economic recovery refers to Thailand enjoying economic growth after a period of recession or slowdown. There would be a rise in national income leading to greater purchasing power. Pork is likely to be considered a normal good with a positive value YED as it is considered a staple. This means as income increases, the demand for pork would increase as well. • A fall in supply of pork would lead to a shortage of pork. This would cause upward pressure on prices. As the price rises, utility-maximising consumers, constrained by their budget, reduce quantity demanded, and the units of output that can only be produced at higher marginal cost now become profitable at higher prices, incentivising firms to increase quantity supplied to capture the positive marginal profits.	Explain the change in supply and demand for pork. State and explain assumptions e.g., normal good Provide a detailed market adjustment process

	• The process will continue until the price eventually reaches P1 where quantity demanded exactly balances quantity supplied and the shortage is removed, removing further pressure on the market to adjust. The new equilibrium quantity rises to Q1. • As pork is a staple food in Thailand, the demand is likely to be price inelastic (PED<1) based on its high degree of necessity (or due to its low substitutability with other meats). A rise in price of pork would result in a less than proportionate fall in quantity demanded of pork. This means that given a fall in supply, the consumer expenditure on pork would rise as the increase in expenditure due to the increase in price is larger than the fall in expenditure due to the less than proportionate fall in quantity. • The rise in demand would lead to an increase in price and quantity of pork. This would cause expenditure to rise. • Both the shifts in demand and supply have led to a rise in expenditure, contributing to an overall increase in expenditure on pork.	Analysis of change in expenditure should be rigorous (including the use of PED) Link back to the question
Requirement 2: Market for crocodile meat	• Consumers in Thailand are switching over to crocodile meat as the price of pork rises. This suggests that pork and crocodile meat are considered substitutes, as they are both sources of protein, with a cross elasticity of demand that is positive (XED>0). • With a rise in pork prices, this would lead to a fall in quantity demanded of pork as consumers switch to an alternative protein such as crocodile meat. There is a ↑demand for crocodile meat. • Given the rise in income due to the economic recovery, there would also be a rise in demand for crocodile meat, assuming it is a normal good as well. • Given the overall increase in demand, there would be a rise in consumer expenditure as there is an increase in both price and quantity of crocodile meat.	Explain the change in demand for pork, include the explanation of the relationship between both markets. Link back to the question

LORMS

L3	Answer is relevant to the context provided and the changes in consumer expenditure using the demand and supply framework for both the markets for pork and crocodile meat are rigorously analysed with appropriate use of elasticity concepts where relevant.	8 – 10

L2	Answer is relevant to the context and either lacks scope, i.e., only one market is analysed, or lacks rigour, i.e., consumer expenditure is assertive, lacking in use of relevant economic concepts. There may also be some errors present in the explanation.	5 – 7
L1	Answer is irrelevant and/or there are gross conceptual errors in the explanation.	1 – 4

(b) Discuss the policy options the Thai government can implement to address the rising price of pork. [15]

Question analysis

Command Word	Discuss (policy options)	Provide multiple perspectives (policies)
Content Required	Policies that address rising prices of a good	
Context	Market for pork in Thailand	
Approach	1. Explain at least 2 policies that would address then rising price of pork in Thailand. There should be scope demonstrated in selecting the policy options e.g., demand-related, supply-related or price control policies. 2. Provide an evaluative conclusion on the policy options.	

Introduction	• Given that pork is a staple in Thailand, the government may be concerned about the rising prices. The government may thus consider options to arrest/reduce the price increases.	
Option 1: Increasing supply via subsidies	• The government could consider providing indirect subsidies for pork. This involves payments from the government to pig farmers to reduce the unit cost of producing pork. This would lead to an increase in supply of pork, addressing the shortage created. • A rise in the supply of pork would lead to a surplus causing price of pork to fall. • Strengths: This would work quickly and not reduce consumption of pork. • Limitations: The use of indirect subsidies is a costly policy. However, given that demand for pork is price inelastic, the extent of the subsidy required would be small to achieve a significant fall in price of pork. Thus, this would mean the cost to the government may not be so large. The susceptibility to disease would is still present, which would reduce the effectiveness of the policy to raise supply given the time required.	Define, Provide an example and explain how the policy works. Explain the strengths/ limitations of the policy option

	Alternative supply-related policies: Investment by the government to increase the supply of pork (long-term) e.g., allocating more land, R&D to reduce the impact of swine flu on pig farms.	
Policy 2: reducing demand via developing other substitute proteins	• As seen in the preamble, consumers would switch to other protein alternatives given the rising price of pork. The government could also consider expanding the production of alternative proteins to reduce the demand for pork, and keep pork prices low. • The government could explore expanding the production of other traditional proteins such as chicken or beef, and can also look into less traditional options such as crocodile meat. By raising the supply of these alternatives, this would reduce the price of the alternatives. Consumers will then switch over from pork to these alternatives, reducing the demand for pork which reduces the pork prices. • Strengths: Developing/expanding alternatives would make the country more resilient to diseases that are specific to certain proteins. • Limitations: Depending on the method of expanding production, the policy may take a long time to affect pork prices. The effectiveness of the policy also depends on the choice of alternative. The closer the alternative is as a substitute of pork, the greater the XED value is. This would mean that the demand and price for pork would fall to a larger extent. The effectiveness also depends on the PES of pork. The more price inelastic the supply of pork, the more effective the policy is to reduce the increase in price given the fall in demand for pork. Given that the pig stocks are affected by the disease and the time taken to rear new stock, the supply is likely to be price inelastic.	Define, Provide an example and explain how the policy works. Explain the strengths/ limitations of the policy option
Option 3: Price Ceiling/ Max Price	• Lastly, the government could use a price ceiling keep pork prices low. A price ceiling is the maximum price that a good can be legally sold at. • For the price ceiling to be effective, the price ceiling has to be set below the market equilibrium. This will limit the price of pork from increasing further. • Strengths: Work quickly to reduce price. • Limitations: Results in permanent shortage of pork which could lead to illegal sales of pork at prices above the price ceiling. This would render the policy ineffective. The extent of the shortage is dependent on value of PED and PES of pork.	Define, Provide an example and explain how the policy works. Explain the strengths/ limitations of the

		policy option
Conclusion	• The most effective policy would be one that could work quickly to reduce the price. Overall, the use of indirect subsidies and price ceiling would be the most effective approaches as they work quickly, unlike policies aimed at the long-term development of alternative proteins or the expansion of pig farming. • However, the permanent shortage resulting from a price ceiling and the fall in consumption of pork may sway the government towards using indirect subsidies instead of price controls. Indirect subsidies avoids the problem of permanent shortages and does not reduce the consumption of pork. • To ensure a more long-term solution to the problem, and to increase the resilience of Thailand to future price increases, the use of short-term policy like indirect subsidies should be complemented with policies that focus on the long-term development of alternative proteins. This long-term approach would have the added benefit of ensuring that the future protein-specific diseases does not cripple the country's access to staples.	Conclusions can include a ranking of the options based on clear use of criteria and/or judgments on the use of the various policy options

LORMS

L3	Responses demonstrated rigorous analysis of at least 2 policy options to address the rising price of pork. The choice of policies should demonstrate scope (a range of policy types). Explanation of policies should be accompanied by the limitations.	8 – 10
L2	Responses are either lacking scope (1 policy only) or lacking in explanation (e.g., lacking rigour in explanation and/or limitations of policies). There may be some inaccuracies in the explanation.	5 – 7
L1	The answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. There may be basic errors of theory or an inadequate development of analysis.	1 – 4

E3	For an answer that builds on appropriate analysis to evaluate policy options, that recognizes unstated assumptions and evaluates their relevance, and that synthesizes economic arguments to arrive at well-reasoned judgements and decisions regarding the options available to address the rising price of pork in Thailand.	5

E2	For an answer that makes an attempt at evaluation or a conclusion that answers the question but does not explain the judgment or base it on analysis.	3 – 4
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration	1 – 2

Question 2

a) Explain how a profit maximising firm sets prices, and why under certain conditions, different prices may be charged for the same good. [10]
b) Discuss whether lowering prices is the best strategy a firm can adopt to reduce the competition that it faces. [15]

a) Explain how a profit maximising firm sets prices, and why under certain conditions, different prices may be charged for the same good. [10]

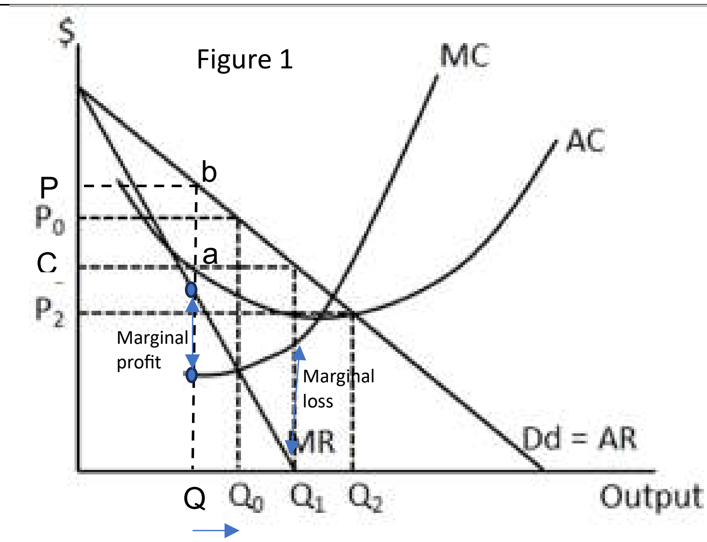
<u>Question Analysis</u>

Part 1: Command word:
Explain how -> use economic reasoning to explain the process
Concepts:
Profit-maximising firm set prices (on the DD curve) at profit maximising output (MR = MC)
Context
No specific context. Use appropriate exemplifications.
Approach
R1: Assuming that a firm can set its own prices and adopts single-pricing, explain how it will restrict its o/p and produce at MR = MC; and then set the highest price possible based on its DD curve to maximise profit. Draw a diagram to illustrate.

Part 2: Command word:
Explain why -> using economic reasoning to explain the case
Concepts:
Profit-maximising firm may adopt price discrimination when conditions are met to increase its profit further.
Context
No specific context. Use appropriate exemplifications.
Approach
R2: State the conditions (firm is a price-setter, can segregate the market based on PED & (3) prevent resale across markets) and explain why when these conditions are met, the firm can charge different prices for the same good (i.e adopt price discrimination) to increase its profit further.

Answer

Introduction	Assuming that firms are price-setters, they will charge the highest price possible based on the demand for their product at the profit-maximising output level, to maximise their profit, and if certain conditions are met, charge different pricing for the same good to increase their profit. The profit-maximising output is determined using the marginalist principle, which states that economic agents will weigh the marginal cost (MC) against the marginal benefit (MB) of consuming or producing an additional unit of good/service and stop consumption/production only when MC=MB.	Provide overview and define key terms – marginalist principle
Body: R1: Explain how a profit-maximising firm set prices (on the DD curve) at profit maximising output (MR = MC)	A profit maximising firm will restrict o/p and produce at MR = MC; and assuming that it is able to set its own prices and adopts single-pricing, will set the highest price possible based on its DD curve to maximise profit**.** <u>Define profit and state the profit-maximising condition.</u> Profit is calculated based on the difference between total revenue and total costs. Assuming a firm to be rational and profit-maximising, it will produce up to the point where marginal revenue (MR) equals marginal cost (MC) and MC cuts MR from below. <u>Explain how MR will fall as output increase if the firm is a price setter and how MC will always increase at output increases due to the law of diminishing marginal returns.</u> Referring to Figure 1, assume that the firm is a price setter, ie it is able to influence the price of a good by altering its own output. However, facing a downward-sloping demand curve, it can only control either its price or output but not both. Assuming standard pricing, to sell more units of output, it has to lower its price on the last unit and all previous units. Hence its marginal revenue or revenue from selling an additional unit of output is below its price [MR < P] and will fall as output rises (MR curve lies below the demand curve)**.** On the other hand, the marginal cost or the cost of producing an additional unit of output rises as output level rises due to the law of diminishing marginal return.	Point Explain Diagram



Explain

<u>Explain how a profit-maximising firm will restrict its o/p to produce at the level where MR = MC; and assuming that it adopts single-pricing, will set the highest price possible based on the DD curve to maximise profit.</u>

Referring to Figure 1, the profit-maximising firm producing at output level below Qo will increase its output as marginal profit can be gained given that the revenue earned from the last extra unit of good (MR) exceeds the cost of producing this extra unit of good (MC), i.e. MR > MC at Q. This continues until output level Qo where MR = MC, the last unit of output produced and sold adds as much to the firm's revenue as it does to the firm's costs. At this output level, it is not possible to increase profits further by adjusting the level of output. The firm will not increase output beyond Qo as it will be making a marginal loss since the MC of producing an extra output is greater than the MR earned from its sale.

To maximise profit, the firm will then charge the good at price level P, the highest price consumers are willing to pay for Qo units of output as indicated by its demand curve. Assuming that it is producing on its AC curve and incur an average cost of C at Qo, the profit gained is PCab.

Link

A single-pricing profit-maximising firm will set the highest price possible based on its DD curve at the profit-maximising output level (where MR=MC) to maximise profit.

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<td>Body:
R2: Explain how a profit-maximising firm may adopt price discrimination when conditions are , to increase its profit further.</td>
<td>If a firm can be certain conditions, it will be able to charge different prices for the same good and increase its profit further.

<u>State the conditions.</u>
Selling the same good at different prices for reasons <u>not associated with differences in cost of production</u> is known as price discrimination. Firms practice price discrimination to increase its profit and will be able to do so if the following conditions are met:

• The firm can set price, i.e. it is a price setter.
• The firm can distinguish the price elasticity of demand across individuals/groups.
• The firm can separate/segment the markets at low or no cost and prevent resale between the different markets.

<u>Explain why if these conditions are met, the firm can charge different prices for the same good (i.e adopt price discrimination) to increase its profit further.</u>

If the firm can set price, it can charge different prices to different consumers.

If the firm can distinguish the price elasticity of demand across individuals/groups, it can charge a higher price in the market where demand is more price inelastic and a lower price where the demand is more price elastic. For instance, customers may be grouped according to:
• geographic markets e.g. price of college textbooks sold within US and outside US
• product use markets e.g. Microsoft office software for business users v.s. educators and students
• customer types e.g. senior citizens and students enjoy lower ticket prices at theme parks, cinemas and performances

If the firm can segment the market based on observable characteristics at low or no cost and can prevent the resale between the different markets such that consumers cannot buy goods in the cheaper market and resell it in the more expensive market, it can ensure that price equality will not be restored and it can continue to charge different prices for the same good to different consumers based on their different willingness and ability.</td>
<td>Point

Explain</td>
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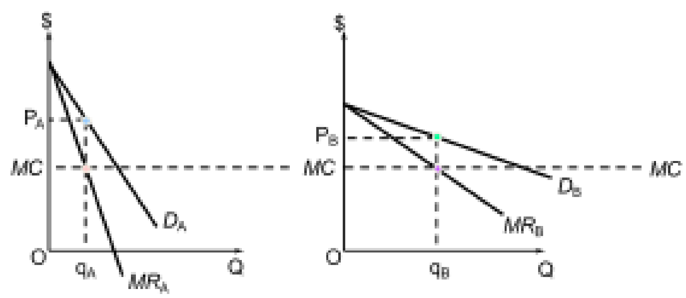
<u>Explain how by charging different prices for the same good, the firm can increase its profit further.</u>

The firm will still determine total output at MC=MR. However, it can decide how to divide the total output into the different groups. As the market is segmented, there are different demand curves for the different groups. Referring to figure 2, each group will have a different level of willingness and ability to pay for a good as their PED will differ (this naturally results in different MR values as well).

Given a constant MC across both markets but with differing MR, the firm will produce up to OqA in market A where MC=MRA and to OqB in market B where MC=MRB. The profit-maximising firm will then charge the highest possible price in each market given the respective demand – a higher price of OPA in market A where demand is more inelastic and a lower price of OPB in market B where demand is more elastic, to maximise its profit.



If the necessary conditions are met, the firm can and will charge different prices for the same good to increase its profit further.

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<td>Conclusion</td>
<td>In summary, a rational firm who aims to maximise profit will use the marginalist principle to determine its output level and then charge the highest price possible, be it Single or multi-pricing, to maximise its profits. However, a firm may decide to lower its price strategy to reduce competition too.</td>
<td>Summary of points

Link to part (b)</td>
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LORMS

L3	There is a thorough knowledge of facts and theory with an excellent ability to describe and explain in a precise, logical, reasoned manner. There is excellent use of appropriate examples relating a firm setting its prices to max profit, and why under certain conditions, different prices may be charged for the same good.	**8 – 10**
L2	The answer is relevant, although the theory may be incompletely explained, e.g. candidate may have explained how a profit maximising firm sets output instead of prices and /or why under certain conditions, different prices may be charged for the same good but not both.	**5 – 7**
L1	The answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. There may be basic errors of theory or an inadequate development of analysis, e.g. e.g. using DD-SS framework to explain equilibrium price when the question is from firm's POV or not knowing the profit-maximising condition and the conditions to practice price discrimination.	**1 – 4**

(b) Discuss whether lowering prices is the best strategy a firm can adopt to reduce the competition that it faces. [15].

<u>Question Analysis</u>

Command Word
- Discuss whether: Analyse from at least 2 perspectives, highlighting the limitations of each before making a judgment using economic reasoning.

Concepts
- Firms' behaviour: Include both price and non-price strategies.
- Firms' aim: To reduce competition.

Context
- More appropriate to discuss in the context of firms competing in an oligopoly where firms are mutually inter-dependent and likely to engage in strategic behaviour to reduce competition or a monopoly trying to maintain its monopoly power. . Use appropriate exemplification to support explanation of each perspective.

Approach
- State how the level of competition is determined by the no. of competitors, the degree of barriers to entry as well as the extent of product difference which affects the availability substitutes. The lower the no. of close substitutes, the lower the level of competition.
- R1: Explain how lowering price can be a good strategy to reduce competition using strategic pricing strategies such as predatory pricing and limit pricing. Highlight the

limitations/adverse consequences of lowering prices as a strategy to reduce competition (may start a price war -> losses which is not sustainable) • R2: Explain non- price strategies that a firm can adopt to reduce competition, eg. R&D and advertising etc to raise BTE (via raising brand loyalty) to lower competition; or collusive pricing strategy like price-fixing through cartel or price leadership. Highlight their limitations / adverse consequences (illegal; need Govt's approval etc) • E: Make a judgement on whether 'lowering prices' is indeed the best strategy to reduce competition. If yes, why and under what conditions? If no, why not?

Answer

Introduction	The ultimate goal of all firms is to maximise profit. The the lower the level of competition, the higher the possibility to making profits. The level of competition within an industry is determined by the no. of competitors, the degree of barriers to entry as well as the extent of product difference.	Identify the aim of the firms and highlight what will reduce the level of competition.
R1: Lowering prices to reduce competition	Lowering prices can be a strategic move to lower the level of competition by eliminating existing competitors and preventing the entry of new competitors. This can be done through pricing strategies such as limit pricing and predatory pricing. **Limit pricing** is the practice of charging a price below the firm's profit-maximising price (Po) (refer to Figure 1 in part a) and producing a quantity greater than that at which marginal revenue equals marginal cost in order to deter entry. For instance, assume that a firm is making very large supernormal profits and attracting entry of new firms into the market • To prevent potential competitors from entering: The incumbent firm may deliberately limit its price and profits earned so as not to attract new entrants. • In the figure 2 below, the average cost curve (AC) for the firm and its potential competitor is drawn. The incumbent firm being more established, thus more able to reap economies of scale would enjoy a lower AC curve than its potential competitor. • The potential competitor, if it wants to compete successfully, must either charge the same or a lower price than the incumbent firm. • As long as the incumbent firm does not charge a price higher than P_L, its competitor will not be attracted into the industry due to its limited ability in earning supernormal profits.	Point Explain Example

- Hence by limiting its price, the firm can lower the competition.

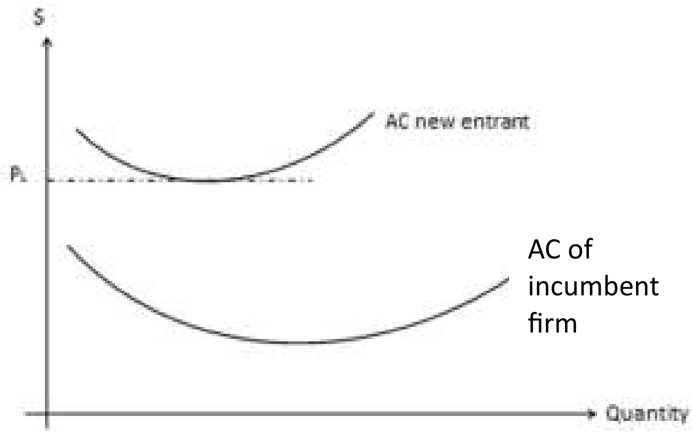


Figure 2

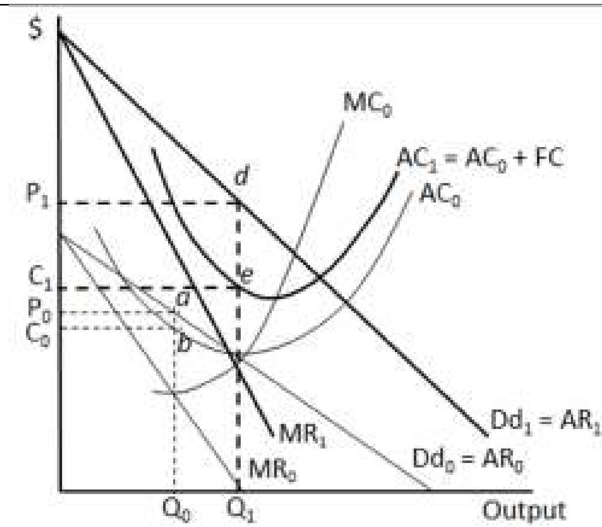
Predatory pricing is the firm's attempt to drive existing competitors out of the industry to reduce the level of competition.

- It might require the firm to charge a price below its cost although economists have not come to an agreement on which cost to use as a yardstick – marginal cost or average variable cost.
- The main purpose is to force existing competitors into earning subnormal profits in the long run and leave the industry hence reducing the level of competition.

Limitations

- Limit pricing assumes that the incumbent firm incurs a significantly lower AC compared to its potential competitor to be able to earn at least normal profit while deterring the new firms from entering and reducing competition. In reality, this may only be true in certain industry with significant iEOS. If the cost differences between the incumbent and new firms is small, this strategy may not be feasible in deterring new firms from entering and the level of competition cannot be reduced **without the incumbent firm making a loss.**
- Predatory pricing requires the firm to have sufficient reserves to sustain itself over a long period of time while earning subnormal profits. This requires firms to have accumulated profits

	over the years **If not, the incumbent firm itself may be driven to bankruptcy if a price war erupts.** Lowering prices such as limit pricing and predatory pricing can be a strategic move to lower the level of competition by eliminating existing competitors and preventing the entry of new competitors.	Link
R2: Non-price Strategies to reduce competition	A firm can adopt non-price strategies to reduce competition too. Strategies such as R&D and advertising etc aim to raise BTE (via raising brand loyalty) to lower competition. **<u>Non-Price Strategies</u>** A firm's' desire to avoid mutually-destructive price competition can adopt non-price strategies such as advertising, location, research and development (R&D), packaging and sales promotions (lucky draws, free gifts, membership schemes) to create product differentiation, reduce the closeness of substitutes and drive its competitors out of the market, hence reducing the level of competition. Advertising and R&D can help generate a higher demand and reduce both cross and price elasticity of demand (through creating brand awareness and brand loyalty) for a firm's product. Referring to Fig 3, the firm's demand will shift out from Dd0 to Dd1, and correspondingly its MR. At the same time, AC rises from AC0 to AC1 from the increase in fixed cost. The marginal cost, however, does not change – the cost to produce an additional unit of output is unaffected by this lump-sum spending. The profit-maximising output increases from Q0 to Q1 while price rises from P0 to P1.	Point Explain with examples

	 **Figure 3: Effect of non-price competition on output** The consumers may develop brand loyalty and begin to see other brands less favourably and less of a close substitute. If the competitors' DD curve fall so drastically that TR can no longer covers its TC, the competitor will make losses and shut down -> hence reducing the level of competition within the industry. The high cost of R&D and advertisement can also act as a strategic barrier to entry by raising market penetration costs hence reducing the level of competition. **Limitations** Both above strategies do not come cheap. They add to the firm's fixed cost and shift the entire AC curve upwards – at every unit of output produced, cost per unit is now higher. The effectiveness of the strategy is dependent on consumers' taste and preference. If the increase in demand is not significant, firm may not be able to reduce the level of competition despite incurring the cost. Non-price strategies such as R&D and marketing could be used by a firm to reduce competition by raising BTE.	Link
R3: Merger and acquisition to reduce compeition	A firm may choose to reduce competition through merging with its competitors or even acquiring it. This is beneficial in industries where there are substantial internal economies of scale to be reaped, the minimum efficient scale is large. With the LRAC continuously falling	Point Explain

	over a large range of output, firms in these industries need to be large to keep their unit cost down. Through the merger / acquisition, the firm can lower its average cost and charge lower prices, under-cuting their competitors whose unit COP are higher, and further reducing the competition if the remaining competitors make losses and shut down. Additionally, through allowing the enlarged firms to charge lower prices, the IEOS enjoyed by large firms act as strategic entry deterrence. **Limitations** Instead of enjoying IEOS, the firm may find itself facing IDOS due to the incompatibility of corporate cultures of the two entities coming together. With IDOS, total cost increases more than proportionately to the increase in output. In the worst-case scenario where the merger/ acquisition adds more to the firm's cost than it does to its revenue, profits fall. If the firm has the means to reduce competition through merger and acquisition, their behaviour tend to attract the attention of the regulators. For example, if it is deemed by the authorities to result in a loss of competition in the market which could lead to the loss of efficiency and consumer welfare, the government could step in to block the merger (antitrust laws). which leads to the loss of efficiency and consumer welfare. Mergers and acquisition could be used to reduce competition by reducing the no. of competitors.	 Link
Conclusion	**[Overall Stand]** Lowering prices is certainly not the best strategy a firm can adopt to reduce competition due to the uncertainty of outcome and possible unintended consequences. **[Substantiation]** [RI] Lowering prices is at best a short-term strategy to reduce competition from the firm's perspective as it cannot be sustained over the long run. It should be adopted by a firm only if it is the dominant firm with a huge market share and its average cost significantly lower than its competitors. It should also have huge past accumulated supernormal profit to sustain its losses.	 Summative conclusion Play down the significance of lowering prices which you have assessed to be not the

	Regardless, it may lead to retaliation if a price war breaks out and the competitors are similar in standing (ie has the same cost structure and market share) -> end up in a lose-lose situation -> there would in a fall in price for all the firms without any increase in output -> fall in profit and may incur losses instead. There could be a fall in the quality of the goods too as firms cut cost to cut price -> worsen economic welfare from the society's perspective. [R2] In comparison, non-price strategies such as R&D is a better long-term strategy to reduce competition, from the society's perspective as it will lead to dynamic efficiency. Dynamic efficiency is a situation in which firms are technologically progressive (investing in R&D for the purpose of product and process innovation) to meet the changing needs and wants of consumers over time. Product innovation gives rise to new products being introduced into the market helps expand consumer choice. Having a wide variety of goods in the market means that consumers will be able to find goods that better cater to their individual tastes and preferences. Process innovation drives productivity growth. This helps to lower the marginal and average costs which can potentially bring down prices and hence benefiting consumers too. Whichever form it takes on, dynamic efficiency raises consumer welfare.	best way to reduce competition. Play up the significance of non-price strategies which you have assessed to be better than lowering prices in lowering competition.

LORMS

L3	There is a thorough knowledge of facts and theory with an excellent ability to discuss the various perspectives in a precise, logical, reasoned manner. There is excellent use of appropriate examples to support how a firm uses price and non-price strategies to reduce competition and their limitations in achieving their goal.	**8 – 10**
L2	The answer is relevant and two-sided, although the theory may be incompletely explained, e.g. candidate may have only discussed how one strategy can be adopted to reduce the competition, with the other strategy only discussed in a cursory manner. Or it could be a one-sided response explaining how either price or non-price strategy could be used to reduce competition. There could be incomplete analysis on how the strategies work but without specifically linking it to reducing competition.	**5 – 7**

L1	The answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. There may be basic errors of theory or an inadequate development of analysis.	**1 – 4**

E3	For an answer that builds on appropriate analysis to evaluate whether 'lowering prices' is indeed the best strategy to reduce competition, recognises unstated assumptions and evaluates their relevance, and that synthesises economic arguments to arrive at well-reasoned judgement.	5
E2	For an answer that attempt at evaluation or a conclusion that answers the question but does not explain the judgment or base it on analysis.	3 – 4
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration	1 – 2

Question 3

While e-cigarettes have seen a rise in popularity in recent years, there are concerns about its use as a gateway to smoking among young people. E-cigarette makers have been accused of false advertising that misleads adolescents about the nicotine content and addictiveness of its products.

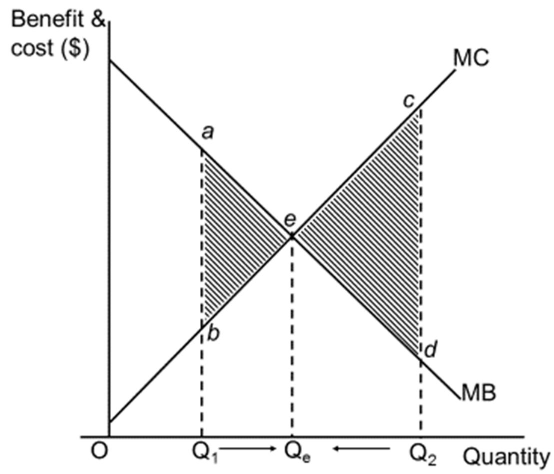
(a) Explain how a rational consumer may go about making decisions whether to consume e-cigarettes, and how false advertising may affect social welfare [10]

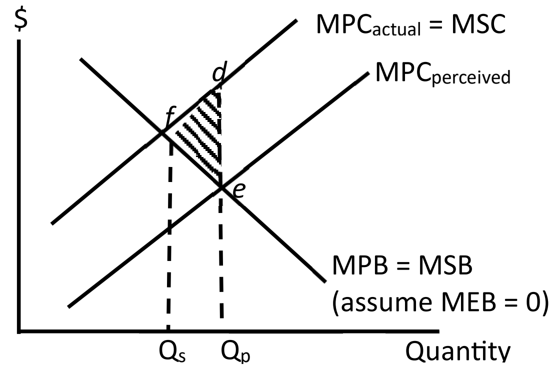
<u>Question Analysis</u>

Command word	Explain how	Explain the <u>process</u>
Content required	- A *rational* consumer… making decisions - False advertising… affect social welfare	Marginalist principle Market failure
Context	E-cigarettes, no specific country	
Approach	R1: Students should use the marginalist principle to explain how consumers decide if and how many e-cigarettes to consume. R2: Students should explain how information failure as a result of false advertising (whether from the underestimation of the actual MPC or from supplier-induced demand) may lead to market failure.	

Answer

Introduction	Consumers aim to maximise utility and they can achieve this by using the marginalist principle, which states that economic agents will weigh the marginal cost (MC) against the marginal benefit (MB) of consuming or producing an additional unit of good/service and stop consumption/production only when MC=MB. However, such rational decision-making may have a negative impact on social welfare, especially when it is affected by false advertising, which may lead to information failure.	Define key terms – marginalist principle Highlight source of market failure
Body: Requirement 1	A rational consumer will weigh his marginal private benefit (MPB) against his marginal private cost (MPC) of consuming e-cigarettes to decide if and how many e-cigarettes to consume. The MPB of consuming e-cigarettes may be stress relief, which may lead to increased productivity and higher wages at work, which the MPC of consuming e-cigarettes may be the financial cost of the e-cigarette itself, as well as the medical cost incurred from health problems associated with smoking e-cigarettes. When MPB > MPC: there is a net gain from consuming an additional e-cigarette, and the rational decision is to consume that additional unit. Referring to Figure 1, at Q1, marginal benefit (aQ1) exceeds marginal cost (bQ1), yielding a net gain of ab from the consumption of that unit of the good. In fact between Q1 and Qe, marginal benefit exceeds marginal cost. Increasing consumption from Q1 to Qe would add Q1aeQe to total benefit while only Q1beQe to total cost, yielding a net benefit or economic welfare of abe. In other words, restricting consumption (or production) to Q1 would mean forfeiture of economic welfare (or welfare loss) of abe. When MPB < MPC: consuming that additional e-cigarette brings about a net loss, and the rational decision is to refrain from consuming that additional unit. At Q2, marginal cost (cQ2) exceeds marginal benefit (dQ2), yielding a net loss of cd from the consumption of that unit of the good. In fact, with marginal cost exceeding marginal benefit between Qe and Q2, consumption these units of output would add QeecQ2	Point Explain

	to total cost while only QeedQ2 to total benefit, yielding a net loss of economic welfare of edc. In other words, cutting back consumption (or production) to Qe would avoid this loss of economic welfare.  Only when MPB exactly equals MPC, the consumption of the last unit of e-cigarettes adds as much to the consumer's benefit as it does to cost and there can be no more additional gains to be had. At this point, the net benefit is maximized.	Diagram Link
Body: Requirement 2	However, false advertising may distort this decision-making process and affect social welfare. As consumers do not have complete and accurate information about the product they are consuming (since false advertising may mislead adolescents about the nicotine content and addictiveness of its products), they may underestimate the actual marginal private cost of consuming e-cigarettes. Their perceived MPC is lower than the actual MPC – as a result, they will consume up to QP, the point where the last unit output consumed brings them as much benefits as it costs them to consume it, i.e. where MPBperceived = MPC. However, if consumers had full and accurate information about the actual private costs of e-cigarettes, they would have consumed up to QS, where MPBactual=MPC. Assuming the absence of externalities, this is also the point where social welfare is maximized. Consumers, making decisions based on perceived costs and benefits, will therefore consume more than the socially optimal level.	Point Explain Diagram

	 There is thus overconsumption of QSQP units of e-cigarettes in the free market. The last unit consumed (QP) adds more to society's cost than it does to society's benefit, indicating that society's welfare is reduced as a result of overconsumption. The overconsumption of QSQP units results in the society incurring an additional cost of QSfdQP while enjoying the additional benefit of QSfeQP. Since the additional cost to society is greater than the additional benefit, the society experiences a welfare loss or deadweight loss given by the area def. *(Students may also explain about supplier-induced demand as an alternative answer)*	Link
Conclusion	In summary, a rational consumer who aims to maximise his/her utility will use the marginalist principle to decide if and how much e-cigarettes he/she should consume. However, because of the presence of false advertising, there may be a need for the government to intervene.	Summary of points Link to part (b)

LORMS

L3	Answer is relevant and well-developed in both requirements; the explanations are analytical and supported with diagrams and real-world examples.	8 – 10
L2	Answer is relevant; however, answer may be under-developed (in either requirement) (e.g. answer may not clearly explain *why* marginalist principle states that consumers will consume up to MB=MC to maximise utility, OR why false advertising will affect social welfare)	5 – 7
L1	Answer is largely irrelevant (e.g. a pre-prepared answer on externalities leading to market failure) or there are gross conceptual errors present in the answer.	1 – 4

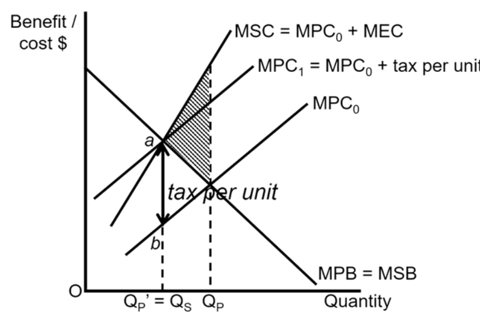
(b) Discuss the factors that a government should consider in its decision to intervene in the market for e-cigarettes. [15]

Question Analysis

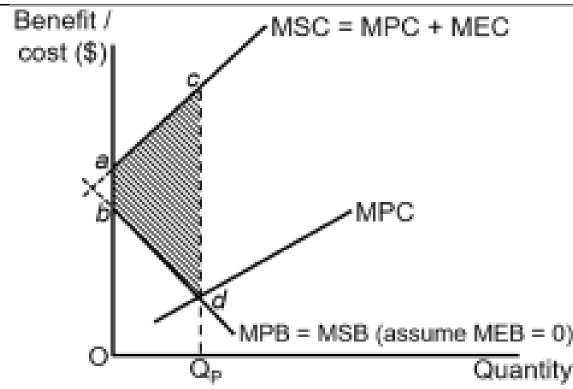
Command word	Discuss the factors	Present multiple factors
Content required	- Decision to intervene	Market failure policies Factors that affect which policy is used
Context	E-cigarettes, no specific country	
Approach	R1/R2: Students need to explain at least <u>two</u> factors that would influence a government's decision to choose *one policy over another*, in their intervention in the market for e-cigarettes. Tip: Pick factors that enable you to bring in a <u>range</u> of policies (from market-based solutions, to command-and-control policies).	

Answer

Introduction	A government seeks to maximise social welfare for the betterment of society. In the market for e-cigarettes, not only does the presence of false advertising prevent consumers from accessing accurate and complete information (as examined in part (a)), e-cigarettes could also be a gateway to smoking among young people, generating negative externalities that worsen market failure. Hence there is a need for the government to intervene with relevant policies such as taxes, bans, regulations and public education. However, in deciding which policies to implement, the government may have to consider the (i) root cause of the market failure, whether it is caused by negative externalities or information failure or both (ii) the size of the marginal external cost (MEC) and (iii) the certainty of outcome.	Identify goal of the government Explain briefly why a govt needs to intervene Overview
Factor 1: The **root cause** of the market failure	In its decision to intervene in the market for e-cigarettes, the government has to first identify the **root cause** of the market failure. Besides information failure as mentioned in part (a), there could also be the presence of negative externalities generated from the consumption of e-cigarettes. The exposure to secondhand aerosols from e-cigarettes is associated with increased risk of bronchitis symptoms and shortness of breath among young adults,	Point

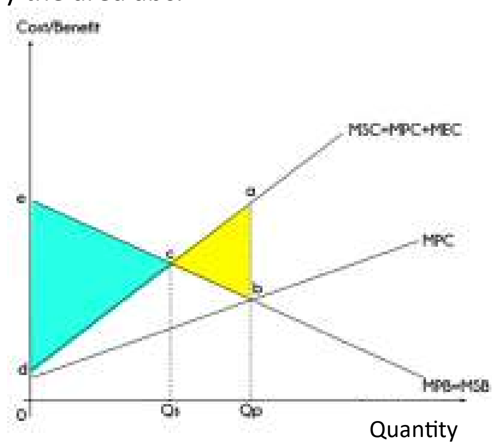
	especially among those who do not smoke or vape themselves. This impact on third parties generates a divergence between marginal private cost (MPC) and marginal social cost (MSC), with MSC > MPC at all output levels. As a result, this leads to an overconsumption in the market for e-cigarettes and an associated welfare loss. If the root cause of the market failure is due to the presence of negative externalities, the government can implement an indirect tax on e-cigarettes (equivalent to the MEC at Qs) that increases its cost of production and therefore its price. This will increase the MPC of consumption, forcing consumers to internalize the negative externality in their decision-making. Consumers will now maximise their net benefit at where MPC'=MPB, at Qs, removing the deadweight loss.  However, if the root cause of the market failure is due to information failure as a result of false advertising, then the government may do better to choose a policy that directly tackles false advertising. The government may use legislation to compel firms to provide more information to consumers, or to prohibit and restrict false and misleading advertisement. On top of this, the government may want to directly provide more complete and accurate information to consumers themselves. This can be in the form of television advertisements, pamphlets and road shows. Government campaigns to provide information to consumers on the harmful effects of consuming e-cigarettes will enable consumers to adjust the perceived MPC upwards towards actual MPC to reduce consumption, moving it closer towards the socially optimal level.	Explain <u>how</u> factor affects policy choice: taxes vs legislation/ public education

	For example, the Health Promotion Board in Singapore launched a campaign back in 2019 to educate young people and parents on why e-cigarettes are unsafe for use. During the campaign, a lively presenter blended a tasty looking fruity milkshake at a colorful juice bar as part of a presentation, but then added some car fuel to the mix. The stark contrast in the scene attempted to bring across clearly the message of how seemingly appealing and flavorful vaporizers can hide dangerous chemicals. Such campaigns leverage on consumers' saliency bias, which refers people's tendency to focus on information that is more prominent and over other less prominent but equally relevant pieces of information. This allows consumers to retain and recall such information with ease when making consumption decisions later on. Hence, considering the root cause of the market failure is important in enabling the government to pick appropriate policies to implement.	Example Advantage: Leverage on saliency bias Link
Factor 2: Extent of market failure	Even when the government is certain that the root cause of the market failure is due to negative externalities, the **size of the negative externalities generated** may also affect the choice of policy. When the size of the MEC generated from the consumption of e-cigarettes is extremely large, such that the marginal social cost (MSC) exceeds the marginal social benefit (MSB) at all output levels (as shown in the diagram below), the government may want to implement a complete ban instead of using indirect taxes to reduce consumption. This is because there is no positive quantity of e-cigarettes to be consumed that will maximise societal welfare. In this case, it is much better for the government to ban the good, since any consumption of the good will result in welfare loss. In the free market, the deadweight loss that results is given by the shaded area below.	Point Explain <u>how</u> factor affects policy choice: taxes vs ban



However, when the size of the MEC generated from the consumption of e-cigarettes is not large enough to warrant a ban, banning the good may result in a greater deadweight loss as compared to the free-market outcome.

In the figure below, banning the good and forcing consumption to fall to zero will result in a forgone societal welfare given by area cde, as the MSB>MSC over quantities not consumed as a result of the ban. This deadweight loss generated by the ban is even greater that the deadweight loss generated in the free market, given by the area abc.



Example

For example, while countries such as Argentina, Bhutan, Brazil, Cambodia, Costa Rica, Ethiopia, India, Japan, Laos, Mauritius, Mexico, Nepal, Oman, Panama, Qatar, Singapore, Sri Lanka, Thailand, Turkey, Uganda, Uruguay and Venezuela have banned e-cigarettes, others have not. This can be due to the different estimation of the MEC generated from the consumption of e-cigarettes.

Link

	Hence, considering the size of the MEC is important in enabling the government to pick appropriate policies to implement.	
Factor 3: The certainty of outcome	Finally, besides the root cause of the market failure and the size of the MEC generated, the government may also want to consider the certainty of outcomes. The certainty of outcomes varies between policies; if the government prefer a policy with a more certain outcome, they may want to choose to implement policies such as taxes, bans or legislations, as compared to public education, where the outcome is less certain (even if it does target the root cause of the market failure). This is because the public may not be receptive to such campaigns or may be desensitized to these messages over time. Furthermore, public education may take a long time to get the message across as it is not easy to change people's mindsets and habits. In comparison, taxes, bans or legislations lead to more certain outcomes with proper monitoring and enforcement. The government can conduct regular checks and set the fines for people who do not comply high enough such that the cost of non-compliance (likelihood of being caught x fines paid) exceeds the benefits. For example, the sale of e-cigarettes is banned in 25 countries; market authorisation is required in 17 other countries. In countries permitting the sale of e-cigarettes, minimum age-of-purchase policies are common. Hence, we can see that countries do not only rely on public education to discourage consumption of e-cigarettes due to the lack of certainty in terms of outcomes; very often, there are other policies implemented as well.	Point Explain Example Link
Conclusion	**[Stand]** The most important factor that a government should consider in its decision to intervene in the market for e-cigarettes is the <u>root cause</u> of the market failure. **[Substantiation]** - The size of the negative externalities generated only becomes important if the government is clear about what is the main cause of the market	Summative conclusion Play down the significance

	failure. For example, if the main cause of the market failure is due to false advertising, then the size of the MEC generated is less of a concern as the overconsumption of e-cigarettes is more due to information failure than it is due to negative externalities. - Similarly, certainty of outcomes is important only if the situation is urgent and the government is pressed to resolve the market failure immediately. While e-cigarettes may be a 'gateway to smoking' among young people, the smoking habit usually takes a while to develop and hence the government may not be that concerned that the certainty of outcomes for different policies vary. - Root cause of the market failure is the most important factor to consider because it increases the effectiveness of policies implemented in tackling the market failure. For example, even if the government adopts a heavy-handed approach and bans e-cigarettes, there is still likely going to be a black market for it (despite monitoring and enforcement) because consumers simply do not understand the risks associated with vaping. In this case, it is far more effective to use public education at the same time to educate consumers on the true costs of e-cigarettes.	of alternative factors Play up the significance of the factor you have chosen as the most important

LORMS

L3	Answer is relevant and well-developed in both requirements; the explanations are analytical and supported with diagrams and real-world examples.	8 – 10
L2	Answer is relevant; however, answer may be under-developed (in either requirement) (e.g. answer may not clearly explain *how* factor identified can help the government choose one policy over another)	5 – 7
L1	Answer is largely irrelevant (e.g. a pre-prepared answer on policies resolving negative externalities without highlighting factors a government may consider) or there are gross conceptual errors present in the answer.	1 – 4

E3	For an answer that (so far as required by the question) builds on appropriate analysis to evaluate contemporary issues, perspectives and policy choices, that recognizes	5

	unstated assumptions and evaluates their relevance, and that synthesizes economic arguments to arrive at well-reasoned judgments and decisions.	
E2	For an answer that makes some attempt at evaluation or a conclusion that answers the question 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.	1 – 2

Question 4

UK's central bank, the Bank of England, has raised interest rates for the fourteenth consecutive time as it warned that the cost of borrowing will remain high. While the Bank of England acknowledges that the hike will make things 'difficult' for many, the move was necessary to bring inflation down.

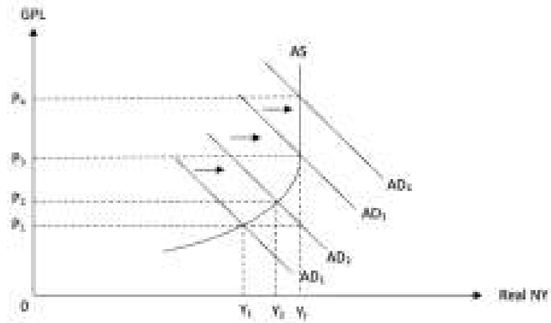
(a) Explain one domestic and one international factor that may increase an economy's rate of inflation. [10]

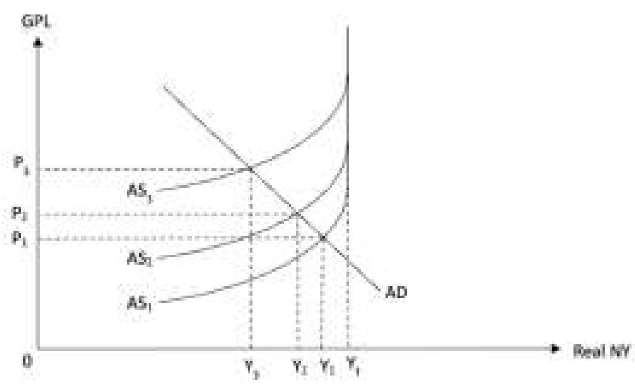
Question Analysis

Command word	Explain	Explain the reasoning
Content required	- Domestic… international factor - Increase… rate of inflation	Internal and external causes of inflation Explain how this causes a faster increase in GPL
Context	No specific country	
Approach	R1: Students should explain an internal cause of demand-pull or cost-push inflation R2: Students should explain an external cause of demand-pull or cost-push inflation Tip: Make sure you have both demand-side and cost-side causes of inflation covered!	

Answer

Introduction	Inflation refers to an increase in a country's general price level (GPL). This can be caused by a persistent increase in AD (demand-pull inflation) or an increase in the unit cost of production, causing AS to fall (cost-push inflation). Such causes may arise domestically or internationally, not only causing the GPL to rise, but to rise faster than before.	Define key terms Overview

Requirement 1: Domestic factor (Demand-pull inflation)	One domestic factor that may increase an economy's rate of inflation may be an increase in consumption expenditure (C_D), leading to a persistent increase in AD that exceeds AS when the economy is near or at full employment, causing upward pressure on prices.	Point
	The increase in C_D may be because positive expectations about future income; consumers may expect higher income in the future because of the post-pandemic recovery around the world and therefore increase their spending now. Having previously postponed spending on vacations, entertainment, and restaurants as a result of the pandemic, consumers may also therefore be spending more now as part of "revenge spending".	Example
		Diagram
	An increase in AD, results in unplanned disinvestment as firms draw down stocks to meet the unanticipated increase in AD. In response to the unplanned disinvestment, firms increase output in the next production cycle in attempt to restore their inventories to their optimal level. As firms enter the factor market to demand for more factors of production. Holding the supply of factors of production constant, the increased competition for factors of production bids up factor prices. This increases the unit cost of production and firms, to protect their profits, pass on part of the higher costs to buyers by raising prices of final goods and services. In the figure above, the increase in AD from AD0 to AD1, holding AS constant, is accompanied by an increase in the general price level from P0 to P1 even while real national income increases from Y1 to Y2, towards the full employment level of Yf. Demand-pull inflation worsens as the economy approaches full employment. If AD continues to increase, e.g. from AD2 to AD3 and further to AD4, in the absence of available spare capacity, the shortage created can no longer be met by increase in production. The economy adjusts to a new equilibrium fully through	Explain

	increase in the general price level (to P4), without any increase in real national income which remains at the maximum level of Yf. Therefore a faster increase in C_D will lead to a further increase in AD, which translates to a higher inflation rate in an economy.	 Link
Requirement 2: International factor (Cost-push inflation)	One international factor that may increase an economy's rate of inflation may be an increase in unit cost of production because of external supply shocks. The Russia-Ukraine crisis has disrupted oil and natural gas supplies, pushing up global energy prices significantly since Russia is the world's largest gas exporter and one of the top three oil producers in the world. Consequently, energy-importing countries will experience an economy-wide increase in unit cost of production as energy is an essential factor of production in many production processes.  When firms experience increases in unit cost of production independent of AD factors, the same output will be supplied by firms only at higher prices. In the figure above, this is represented by the upward shift of the AS curve from AS1 to AS2. Firms respond to the higher unit cost by partly decreasing output and partly increasing price of final goods and services to protect their profits. As firms cut back production, demand for factors of production also fall. Ceteris paribus, unemployment increases. Overall, the general price level rises from P1 to P2 and real national income falls from Y1 to Y2, further below the full employment level of real national income Yf.	Point Example Diagram Explain Link

	A faster increase in unit cost of production will lead to a further fall in AS from AS2 to AS3, which translates to a higher inflation rate in an economy.	
Conclusion	Both domestic and international factors can contribute to an increase in inflation rate in an economy. When GPL is rising faster than before, it may be an indication for the central bank and the government to step in and implement appropriate policies.	Summary Link to part (b)

Students can also highlight external factors causing demand-pull inflation (e.g. rising incomes in trading partners' economies) and internal factors causing cost-push inflation (e.g. shrinking workforce as a result of falling birth rates and an aging population).

LORMS

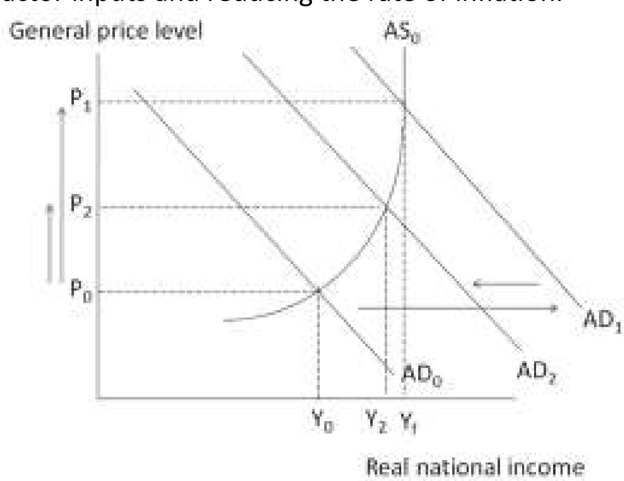
L3	Answer is relevant and well-developed in both requirements; the explanations are analytical and supported with diagrams and real-world examples. No reference to faster increase in GPL – capped at 8m	8 – 10
L2	Answer is relevant; however, answer may be under-developed (in either requirement) (e.g. answer may not clearly explain *how* an increase in AD and/or a fall in AS led to a rise in GPL, or how factor highlighted is a domestic/international factor)	5 – 7
L1	Answer is largely irrelevant (e.g. an answer focusing on the impacts of inflation rather than the causes of it) or there are gross conceptual errors present in the answer.	1 – 4

(b) Discuss whether an increase in interest rates is the most appropriate policy to bring inflation down in an economy. [15]

Question Analysis

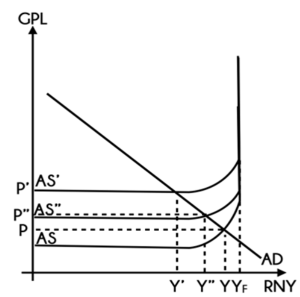
Command word	Discuss whether	Multiple perspectives
Content required	- An increase in interest rates - Most appropriate policy - Bring inflation down	Contractionary monetary policy At least one other policy
Context	No specific country	
Approach	R1/R2: Students need to explain at least two policies that would reduce inflation in an economy.	

Answer

Introduction	A government has 4 macroeconomic aims, one of which is price stability. When there is rising inflation in an economy, it may be an indication for the government to engage in appropriate policies such as contractionary demand-management policies like fiscal or monetary policies, or supply-side policies like cost-cutting measures. Whether increasing interest rates is the most appropriate policy to bring inflation down depends on the root cause of the inflation as well as the country's economic characteristics.	Overview
Requirement 1: An increase in interest rates	Thesis: An increase in interest rates may be an appropriate policy to bring inflation down in an economy. When the central bank raises interest rates, this is known as a contractionary monetary policy. This decreases AD since the rise in interest rate raises both the opportunity cost of using savings for consumption, and the cost of borrowing for purchases on credit. Either way, it discourages consumption, including consumption of domestically-produced goods and services (Cd). At the same time, the higher interest rate raises the cost of borrowing relative to the expected return on investment, creating a disincentive for firms to borrow to finance their investment. Overall, the decrease in Cd and I will cause AD to decrease. As AD decreases, this moderates the increase in AD (AD0 to AD2 instead of to AD1, relieving the competition for factor inputs and reducing the rate of inflation.  	Point Explain Diagram Example

	With inflation rising around the world in 2022, major central banks have been working hard to bring prices back down and stabilize their economies. Central banks in the 10 most-developed economies, including the UK, have raised interest rates, with the highest policy rate increased to beyond 3%.	
	<u>Anti-Thesis 1: An increase in interest rates may not be an appropriate policy to bring inflation down in an economy</u>. The effectiveness of an increase in interest rates in bringing down inflation in an economy depends on the interest elasticity of consumption and investment. During periods of economic booms, households and firms may be highly optimistic about the future – an eruption of "animal spirits" could start a virtuous circle of entrepreneurial risk-taking and investment. When firms are optimistic about the future market conditions, i.e. they expect higher rate of return on investment, they would increase investment. Hence, even if interest rate were to be increased, it would not reduce consumption and investment significantly – consumption and investment are interest-inelastic. This would therefore reduce the effectiveness of monetary policy. This may explain why the Bank of England has had to increase interest rates for the 14th consecutive time, indicating that earlier rounds of lifting policy rates have had minimal impact in reining in the increase in AD. Besides its limited effectiveness, an increase in interest rates is also likely to make things difficult for many, as mentioned in the preamble. For example, homeowners on a variable rate residential mortgage (i.e. their interest payments vary according to prevailing interest rates) will have to pay more in interest payments as a result of the interest rate hike. This will significantly affect their standard of living as homeowners find themselves having to dip into past savings in order to keep up with interest payments, or even to take up a second job to make ends meet, substantially increasing stress and working hours.	 Point – interest-inelasticity Explain Example Point – unintended negative consequences Explain Link

	Hence the government may have to consider alternative policies to bring inflation down.	
Requirement 2: Other policies	<u>Anti-Thesis 2: An increase in interest rates may not be an appropriate policy to bring inflation down in an economy; there are other policies which may also be appropriate</u>. Alternatively, the government may consider implementing a contractionary fiscal policy, where they cut government spending (G) or increase taxes in order to reduce the increase in AD. A fall in G directly reduces AD since G is a component of AD; a rise in personal income tax reduce disposable income, which leads to a fall in C_D, while a rise in corporate income tax reduce post-tax profits, which in turn reduces the amount that can be re-invested, leading to a fall in investment (I). Together, the fall in C_D, I and G will lead to a fall in AD. This slows down the rate of increase in AD thereby relieving the pressure on factor markets and moderating the extent of price increase. Similar to contractionary monetary policy, this causes AD to increase to AD2 instead of AD1, relieving the competition for factor inputs and reducing the rate of inflation. Both contractionary fiscal and monetary policies potentially involve trade-offs with other macroeconomic goals, such as economic growth. If the government is too aggressive with its contractionary policies in its bid to rein in inflation, this could potentially cause too large a fall in AD, leading to a multiplied fall in real national income and a consequential rise in unemployment. For economies that are suffering from cost-push inflation rather than demand-pull inflation, demand-management policies are also ineffective as it does not address the root cause of the inflation. For example, as mentioned in part (a), an international factor that may contribute to inflation is external supply shocks, leading to an increase in prices of imported factor inputs; reducing AD does nothing to help mitigate this.	Point Explain Counter-argument: Unintended negative consequences Counter-argument: May not address root cause
	If the root cause of the inflation is due to an increase in unit cost of production, the government may consider	Point

	implementing supply-side policies such as cost-cutting measures.	
	Cost-cutting measures, by reducing unit cost, brings about a downward shift of the AS – firms are willing to supply the same output at lower prices. The reduction in unit cost of production leaves firms with larger profits, incentivising them to increase output by putting to use previously unemployed resources (including labour). At the same time, in competitive markets, firms pass on part of their cost savings to consumers by lowering the prices of final goods and services. In the diagram, the increase in AS from AS' to AS'' leads to an increase in real national from Y' to Y'', moving closer to the full employment level Y_f, while at the same time bringing general price level down from P' to P''. If the economy was initially experiencing high inflation, this will help to relieve inflationary pressure.	Explain
		Diagram
	For example, the Jobs Support Scheme (JSS) was introduced in the Unity Budget in February 2020 to provide wage support for employers to retain their local employees during this period of economic uncertainty in Singapore. Under the JSS, the Government co-funds a proportion of the first $4,600 of gross monthly wages paid to each local employee. The level and duration of support each employer receives depends on the sector in which the employer operates.	Example
	One key benefit of supply-side policies is that unlike demand-management measures, it does not result in a trade-off between macroeconomic goals; as seen above, the moderation of inflationary pressure is achieved together with economic growth and a fall in unemployment.	
	However, this policy is feasible only when the recession is short-lived. It is not possible for the government to continue to give out such sums when recession is	Counter-argument:

	protracted. The greater government spending could result in a budget deficit and may adversely impact the government's ability to spend on other areas e.g. healthcare and education. *(Students may also explain about supply-side policies to enhance long-run growth potential as a response to accommodating future increases in AD and thereby mitigating demand-pull inflation)*	Unintended negative consequences
Synthesis	**[Stand]** Whether an increase in interest rates is the most appropriate policy to bring inflation down in an economy really depends on the root cause of the inflation, as well as the country's economic characteristics. **[Substantiation]** - An increase in interest rates may be appropriate if the root cause of the inflation is demand-pull in nature. If the root cause of the inflation is cost-push, then it may be more appropriate to employ supply-side policies as it can directly tackle the increase in unit cost of production. - That said, even when the source of inflation is demand-pull, whether it is more appropriate to engage in contractionary fiscal or monetary policy may depend on the proportion of homeowners that are already on fixed vs variable mortgages. The larger the proportion of homeowners that are on variable mortgages, the harder the interest rate hike will bite. In such a case, the government may want to consider engaging in fiscal policy instead. Hence increasing interest rates is not the most appropriate policy. - Raising interest rates is also not the most appropriate when the country is more reliant on (and therefore susceptible to changes in) external demand. For example, the sources of inflation in small and open economies such as Singapore are more likely due to international factors rather than domestic factors; conversely, relatively larger economies such as the UK may be more affected by domestic factors. Hence raising interest rates may be more appropriate for countries like the UK.	Summative conclusion Justify why it depends on root cause Justify why it depends on a country's economic characteristics

LORMS

L3	Answer is relevant and well-developed in both requirements; the explanations are analytical and supported with diagrams and real-world examples.	8 – 10
L2	Answer is relevant; however, answer may be under-developed (in either requirement) (e.g. answer may not clearly explain *how* policy may tackle demand-pull or cost-push inflation using policy tools) One-sided response (no limitations) – capped at 6m	5 – 7
L1	Answer is largely irrelevant or there are gross conceptual errors present in the answer.	1 – 4

E3	For an answer that (so far as required by the question) builds on appropriate analysis to evaluate contemporary issues, perspectives and policy choices, that recognizes unstated assumptions and evaluates their relevance, and that synthesizes economic arguments to arrive at well-reasoned judgments and decisions.	5
E2	For an answer that makes some attempt at evaluation or a conclusion that answers the question 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.	1 – 2

Question 5

In 2022, the countries with the largest trade deficits include the United States, the United Kingdom, and India.

(a) Explain the impact of a rising trade deficit on consumers and producers. [10]

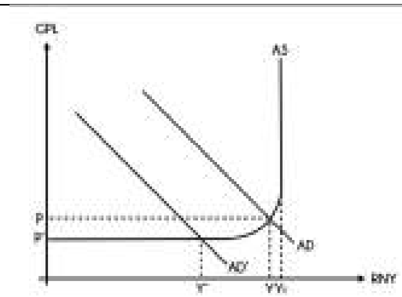
Question Analysis

Command word	Explain	Explain the reasoning
Content required	- Rising trade deficit - Impact on consumers and producers	The effect of a fall in X-M Impact on consumers and producers can be measured by: - Standard of living (consumers) - Profits (producers)
Context	No specific country	

Approach	R1: Students should explain the impact of a rising trade deficit on consumers in terms of their standard of living. R2: Students should explain the impact of a rising trade deficit on producers in terms of their profits.

Answer

Introduction	A trade deficit occurs when the export revenue received from goods and services (X) is less than the import expenditure on goods and services (M). When there is a rising trade deficit, this implies that X-M is falling; this could be either due to a fall in X or a rise in M or some combination of both.	Define key terms
	This has impacts on both consumers and producers within an economy, which this essay will explore.	Overview
Requirement 1: Impact on consumers	A rising trade deficit will have largely negative impacts on consumers.	Point
	Ceteris paribus, AD will decline when both domestic and foreign consumers demand for less of the goods and services produced (fall in Cd and X). As AD falls, ceteris paribus, firms add unsold goods back to their inventories as a result of the unanticipated decrease in demand. The unplanned investment signals to firms to decrease output in the next production cycle so as to restore their inventories to the optimal level and, in so doing, demand less factor inputs (including labour) and paying out less factor income. As national income falls, income-induced consumption (Cd) decreases, causing another round of decrease in AD, setting off the reverse multiplier effect where the fall in spending results in a fall in income received which causes further cuts in spending. At each successive round, the decrease in income-induced consumption gets smaller because of the leakages in the form of saving, taxes and imports. Eventually the multiplier process will end and a new equilibrium national income is attained when the fall in injections has been entirely leaked out. In the diagram, a leftward shift of AD from AD to AD' leads to a decrease in real NY from Y to Y', moving further away from the full employment level Yf, ceteris paribus. There is hence negative growth where real national income has fallen. Accompanying that is a rise in cyclical unemployment.	Explain impact on RNY

	 Ceteris paribus, this will cause a worsening of a country's material and non-material standard of living (SOL). The fall in real national income implies that less output is produced, which means that there is less available for consumption, leading to a fall in material SOL. At the same time, the fall in output reduces the derived demand for labour, causing an increase in unemployment within an economy, increasing the stress and anxiety associated with job loss and a possible increase in social instability. Furthermore, a rising trade deficit in the BOT means that there is an increasing net outflow of the country's currency. This results in an excess supply of the country's currency in the foreign exchange market, putting downward pressure on a country's currency, causing it to depreciate against other currencies (assuming the country operates on a free floating exchange rate). As the currency weakens, the price of imports in domestic currency terms rises. For countries with high reliance on imports for raw materials and intermediate goods such as Singapore, unit cost of production rises, stoking cost-push inflation, eroding consumers' purchasing power as the same amount of money can now buy fewer goods and services, further reducing their material SOL. Hence, due to the fall in SOL, a rising trade deficit has a detrimental effect on consumers. *Possible to also say that consumers experience a rise in SOL from an increase in consumption of imports, although the improvement in SOL is likely temporary.*	Diagram Explain impact on external value of currency Link
Requirement 2: Impact on producers	A rising trade deficit will also have largely negative impacts on producers. A rising trade deficit can indicate a loss in export competitiveness in the world market, reducing the	Point Explain impact on profits as a

<table>
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<td></td>
<td>demand for the firm’s good, leading to a fall in AR and MR experienced by the firm.</td>
<td>result of fall in AR/MR</td>
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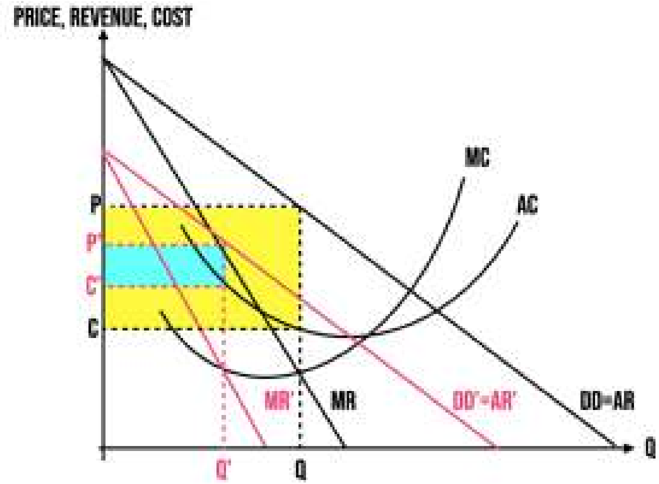
<td>
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<td>The exporting firm initially produces at where MC=MR, at Q, to maximise its profits. With a loss in competitiveness of its goods and services, this causes the demand faced by the firm to fall from DD to DD’. Consequently, there is also a change in its profit-maximising output, as the firm now maximises its profit at where MC=MR’, at Q’. There is a fall in profits received by the firm.</td>
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<td>As mentioned earlier, a rising trade deficit puts downward pressure on the currency’s external value, causing the currency to depreciate. If the firm is dependent on imported factor inputs, this can increase the firm’s costs of production, further squeezing its profitability.</td>
<td>Explain impact on profits as a result of rise in AC/MC</td>
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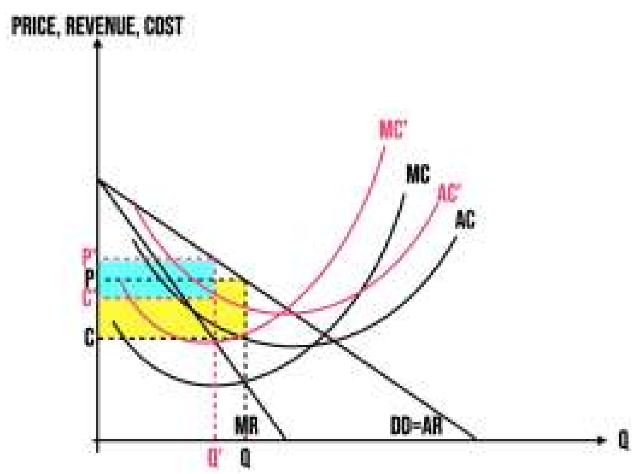
<td>
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	The exporting firm initially produces at where MC=MR, at Q, to maximise its profits. With an increase in cost of production as a result of currency depreciation causing imported factor inputs to be more expensive when expressed in domestic terms, this causes the firm's MC and AC to both increase. Consequently, there is also a change in its profit-maximising output, as the firm now maximises its profit at where MC'=MR, at Q'. There is a fall in profits received by the firm. Hence, because of the squeeze on profitability, a rising trade deficit largely implies a negative impact on producers. *Possible to also say that producers experience a rise in profits from the improvement in export price competitiveness as a result of the currency depreciation (i.e. the trade deficit auto-corrects)*	Link
Conclusion	Because of the negative impact on both consumers and producers, the government may want to intervene with appropriate policies to reduce the size of this deficit.	Summary and link to part (b)

LORMS

L3	Answer is relevant and well-developed in both requirements; the explanations are analytical and supported with diagrams and real-world examples.	8 – 10
L2	Answer is relevant; however, answer may be under-developed (in either requirement) (e.g. answer may not clearly explain *how* the rising trade deficit affects consumers (in terms of SOL) or producers (in terms of profits) using AD/AS or firm analysis)	5 – 7
L1	Answer is largely irrelevant (e.g. an answer focusing on the causes of a rising trade deficit rather than the impacts of it) or there are gross conceptual errors present in the answer.	1 – 4

(b) Discuss alternative policies that may be employed to reduce a country's trade deficit. [15]

Question Analysis

Command word	Discuss	Multiple perspectives
Content required	- Alternative policies - Reduce a country's trade deficit (i.e. cause an increase in X-M)	One expenditure-reducing policy One expenditure-switching policy
Context	No specific country	
Approach	R1/R2: Students need to explain at least <u>two</u> policies that would lead to an increase in X-M in an economy.	

Answer

Introduction	To reduce a country's trade deficit, a government may employ either expenditure-reducing or expenditure-switching policies. Expenditure-reducing policies aim to reduce import expenditure to correct the trade deficit, while expenditure-switching policies aim to switch domestic consumer expenditures from foreign goods to domestically-produced goods to reduce the country's import expenditure, as well as to switch foreign consumer expenditures from goods produced abroad to goods produced at home to increase the country's export revenue to correct the trade deficit.	Define key terms
Requirement 1: Expenditure-reducing policies	<u>Thesis 1: Expenditure-reducing policies may be employed to reduce a country's trade deficit.</u> Expenditure-reducing policies include contractionary demand-management policies (fiscal and interest rate centred monetary policies). Under contractionary fiscal policy, the government may either cut its spending (thereby reducing G) or raise direct taxes such as personal income tax or corporate income tax (thereby reducing C and I). Under contractionary interest-rate policy, the central bank may implement an interest-rate hike in order to reduce C and I. Either way, such policies aim to decrease AD through C, I or G. By reducing AD and national income, import expenditure (M) decline. The extent of the decline in M in response to reduction in NY depends on the marginal propensity to import (MPM). To the extent that the underlying cause of the trade deficit is a high relative	Point Explain

	inflation rate, contractionary demand-management policies address the root cause by bringing down domestic inflation rate. For simplicity's sake, suppose the policies bring down the general price level. A reduction in export prices, assuming export demand to be price elastic, brings about a more than proportionate increase in the quantity demanded of exports. As the same time, the fall in the general price level at home induces a switch from imports to domestically-produced substitutes. With export revenue (X) increasing and M falling, BOT position improves.	
	<u>Anti-thesis 1: Expenditure-reducing policies may not be appropriate.</u> Adopting contractionary policies may correct the trade deficit but worsen the unemployment situation in the economy – hence a trade-off in macroeconomic objectives may occur. The fall in AD as a result of the contractionary policies causes the economy to operate further away from full-employment output; as output falls, the derived demand for labour also declines, leading to an increase in unemployment. Of the three countries mentioned, India registered the highest rate of economic growth in 2022 and therefore can best afford to adopt such a policy; for countries such as US and UK, given their sluggish economic growth post-pandemic, they may decide against adopting contractionary policies. The effectiveness of such policies in reducing the trade deficit is also uncertain and depends on elasticities. For example, the effectiveness of deflationary policies in correcting a trade deficit depends on the marginal propensity to import (MPM). The smaller the MPM, the smaller the fall in import expenditure given a fall in income level and hence the more limited the success of a deflationary policy in correcting the deficit. The effectiveness also depends on the price elasticity of demand for exports and the degree of substitutability between imports and domestically-produced substitutes. The lower the PED and XED, the less effective the policies will be in correcting the deficit.	Point – Trade-offs Explain Example Point – Limited effectiveness Explain

	<u>Thesis 2: Expenditure-switching policies may be employed to reduce a country's trade deficit.</u> Expenditure-switching policies include currency devaluation and the use of supply-side policies to enhance export competitiveness. Devaluation of a country's currency (or allowing the currency to depreciate) will make exports cheaper in foreign currency terms and imports more expensive in domestic currency terms. Such price changes cause the quantity demanded for the country's exports to rise and the quantity demanded for imports to fall. Assuming the Marshall-Lerner condition holds, i.e. $\lvert PED_X + PED_M \rvert > 1$, the price changes in X and M will induce large enough changes in Qd in the opposite direction to cause TR_X to increase relative to TE_M, reducing the size of the trade deficit.	Point Explain
Requirement 2: Expenditure-switching policies	<u>Anti-thesis 2: Expenditure-switching policies may not be appropriate.</u> The effectiveness of such policies in reducing the trade deficit is also uncertain. Tastes and preferences take time to adapt, consumers need time to source for substitution and it takes time for the price changes to pass through the supply chain. As such, demand is likely to be inelastic in the short run and the Marshall-Lerner condition might not hold. In this case, devaluation could lead to a worsening of the trade deficit before any eventual improvement as demand becomes more price elastic over time. This is known as the J-curve effect. Devaluation might cause imported factors of production to be more expensive which might raise the costs of production in certain sectors within the economy and hence cause a spill-over effect on the rest of the economy. It might also trigger a wage-spiral as a result of higher cost of living due to more expensive imports. Once inflation sets in, exports will once again be made more expensive and imports relatively cheaper, thus defeating the original aim of devaluation.	Point – Limited effectiveness Explain
	<u>Thesis 2: Expenditure-switching policies may be employed to reduce a country's trade deficit.</u>	Point

	A government may also employ supply-side policies that aim to increase price and non-price competitiveness of exports. This can be done through increasing domestic productivity through R&D, improvement in technology, training and infrastructure development, to lower unit cost of production, allowing domestic producers to reduce their prices. This will help to reduce the demand for imports (assuming a high degree of substitutability); and improve export competitiveness. Assuming demand for exports to be price elastic -- a reduction in export prices will bring about a greater than proportionate increase in quantity demanded, raising export revenue. Supply-side policies such as financing R&D can bring about both process and product innovation. While process innovation helps lower unit COP, product innovation results in improved quality of exports or even the development of new product types, opening up new markets. As demand for exports rises, ceteris paribus, so does export revenue.	Explain
	<u>Anti-thesis 2: Expenditure-switching policies may not be appropriate.</u> The use of supply-side policies may involve high cost and place a strain on the government budget and hence may not be appropriate for countries who are also simultaneously suffering from a budget deficit (i.e. they are suffering from a twin deficit). Such government spending would also incur an opportunity cost, forgoing spending on other areas of the economy which may similarly require the government's attention, such as education and healthcare. Amongst the three countries, India has the lowest level of public debt (as a % of GDP), while the UK government has accumulated the highest public sector net debt in more than 60 years, and the US government has spent more money than it takes in every year since 2001. Some economists warned that the US debt-to-GDP ratio is too high, while India's public debt is largely deemed to be sustainable. Hence India is more likely to be able to engage in such supply-side policies.	 Point - High cost Explain Example

	Additionally, the success of any R&D or training efforts is by no means guaranteed; additionally, such supply-side policies also have a long gestation period – for example, workers need time to undergo training – and hence it is not intended to be a quick fix to a country's trade deficit problem.	Point – Limited effectiveness Explain
Synthesis	**[Stand]** Expenditure-switching policies may be better than expenditure-reducing policies in reducing a country's trade deficit. **[Substantiation]** - This is because unlike expenditure-reducing policies, expenditure-switching policies do not involve a trade-off in macroeconomic objectives. Instead, it is very likely that the use of expenditure-switching policies can achieve multiple macroeconomic objectives simultaneously. For example, supply-side policies are also crucial in helping an economy achieve sustained growth since it can help increase a country's productive capacity to accommodate future increases in AD. - It is important to consider the root cause of a country's trade deficit to select an appropriate and effective solution. To the extent that the underlying cause of the trade deficit is a loss of competitiveness, supply-side policies form part of the economic restructuring process to (1) regain comparative advantage, or (2) develop new areas of comparative advantage. Currency devaluation merely addresses the symptom of the issue but does not tackle the root cause. While it may be employed in the short run to buy time for supply-side policies to have an effect, countries should not rely on currency devaluation to artificially give their exports an edge, as this is likely to result in retaliation. Comparatively, supply-side policies are unlikely to be objectionable since it does not "unfairly" disadvantage any other country in the process.	Summative conclusion Compare between expenditure-reducing and expenditure-switching policies Compare within the expenditure-switching policies: devaluation vs supply-side.

Students can also highlight other expenditure-switching methods, such as protectionistic measures like tariffs.

LORMS

L3	Answer is relevant and well-developed in both requirements; the explanations are analytical and supported with diagrams and real-world examples.	8 – 10
L2	Answer is relevant; however, answer may be under-developed (in either requirement) (e.g. answer may not clearly explain *how* policy may tackle the trade deficit by getting domestic consumers to reduce import expenditure or by getting both domestic and foreign consumers to switch expenditure towards purchasing domestic goods) One-sided response (no limitations) – capped at 6m	5 – 7
L1	Answer is largely irrelevant (i.e. it does not explain how a country's trade deficit may be reduced) or there are gross conceptual errors present in the answer.	1 – 4

E3	For an answer that (so far as required by the question) builds on appropriate analysis to evaluate contemporary issues, perspectives and policy choices, that recognizes unstated assumptions and evaluates their relevance, and that synthesizes economic arguments to arrive at well-reasoned judgments and decisions.	5
E2	For an answer that makes some attempt at evaluation or a conclusion that answers the question 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.	1 – 2

Question 6

a) Explain how embracing globalisation helps an economy alleviate the problem of scarcity. [10]

Introduction

Globalisation is the increasing integration of economies around the world, particularly through the movement of goods, services, capital, people (labour) and knowledge (technology) across international borders.

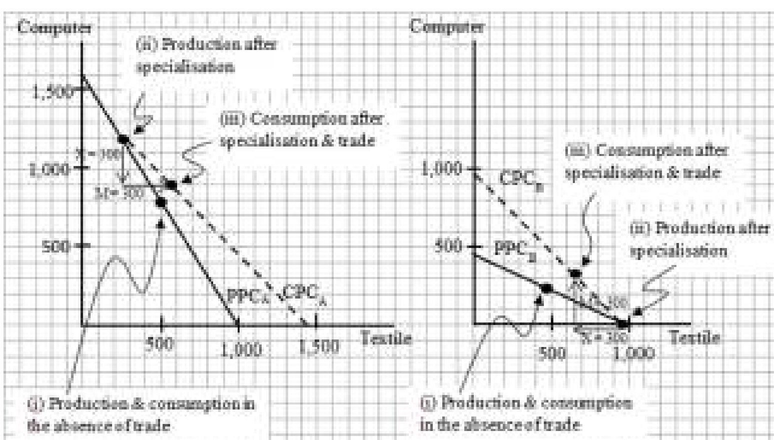
Scarcity refers to the fundamental economic problem where the world has limited resources and people have unlimited wants and needs. The presence of scarcity is often illustrated by the combinations of output unattainable by an economy outside its production possibility curve.

Body

R1: Globalisation includes international trade; free trade allows an economy to consume beyond its production possibility curve (PPC), thus alleviating some scarcity.

Different countries have different endowments of factors of production and different levels of technological attainment; different countries have certain advantage in the production of different goods. A country has a comparative advantage in the production of a good if it can produce the good at a lower opportunity cost than its trading partner. The Law of Comparative Advantage states that if countries specialise in the products in which they have comparative advantage, then trade could be mutually beneficial to all countries. Each country is able to increase its output and by trading the output with another country both countries can gain.

The benefits of trade can be illustrated using the PPC and consumption possibility curve (CPC).



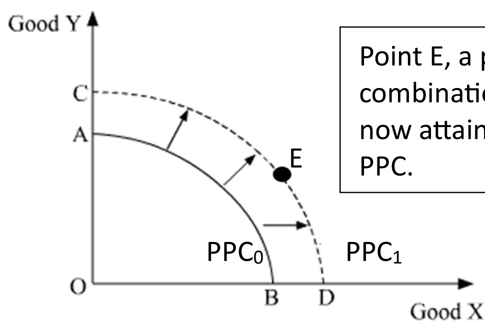
To produce 1 unit of textile, Country A has to give up 1.6 units of computers whereas Country B has to give up only 0.5 units of computers. Country B is said to have a comparative advantage over Country A in producing textile. On the other hand, Country A has comparative advantage over Country B in producing computers.

Suppose Country A partially specializes in computers while Country B completely specialises in the production of textiles. Also assume that two countries agree on a terms of trade that is

1 unit of computer = 1 unit of textile. Referring to the diagram above, it can be seen that with specialisation and trade based on a mutually beneficial terms of trade, both Country A and B consumes more units of computer and textile than before trade.

Since the level of consumption for both goods increases for both countries beyond their PPCs, both countries gain from specialisation and trade when comparative advantage is present, and it is possible for both countries to alleviate scarcity when they embrace globalisation.

R2: Globalisation includes capital and labour flows, and assuming that there is net inflow of capital and labour, an economy's PPC will shift outwards.
Other than international trade, embracing globalisation also allowed movement of capital goods and labour (knowledge). As a result, the country will have increase in the quantity (and quality) of resources. That will mean that the PPC can actually shift outwards to encompass more output combinations outside the original PPC.



Point E, a previously unattainable combination of Goods X and Y are now attainable due to the expanded PPC.

This means a previously unattainable combination of goods (X and Y) can now be attained, thus alleviating scarcity.

Through international trade and augmenting resources, embracing globalisation will allow economies to alleviate scarcity as they are able to achieve a larger (combination of) output than before (shown on CPC and larger PPC, where a previously unattainable combination of output is now attainable).

LORMS

Levels	**Description**	**Marks**
3	- Able to fulfil both requirements of essay - Made good use of PPC to illustrate the effects of trade and resource flow into an economy - Applied the concept of comparative advantage and gave succinct explanation on impact of trade on PPC, with clear links to differences in opportunity cost of production in different countries - Answered the question by explicitly showing how a previous unattainable combination of output is now attainable - Understood (implicitly) the meaning of alleviation of scarcity, where scarcity will always be present	8-10

2	- Able to fulfil both requirements of essay - Made use of PPC to illustrate the effects of trade and resource flow into an economy - Applied the concept of comparative advantage and attempted to explain impact of trade on PPC due to differences in opportunity cost of production in different countries with some errors - Implicitly answered the question by explicitly showing how a previous unattainable combination of output is now attainable (includes use of the AD-AS analysis instead of PPC) - One requirement well explained but lacking in another (low L2)	5-7
1	- Major conceptual errors with little coherent explanation - Not linking theory of comparative advantage to PPC and scarcity	1-4

b) Assess the view that globalisation will hinder sustainable growth in an economy. [15]

<u>Introduction</u>

Sustainable economic growth refers to a rate of growth which can achieved without causing significant other significant economic problems (such as depleted resources and environmental problems), particularly for future generations. It implies a positive and stable growth rate over an extended period of time.

This concept recognises that there is a trade-off between rapid economic growth presently and future growth. The current rapid growth may exhaust scarce resources and cause environmental degradation which will undermine future growth.

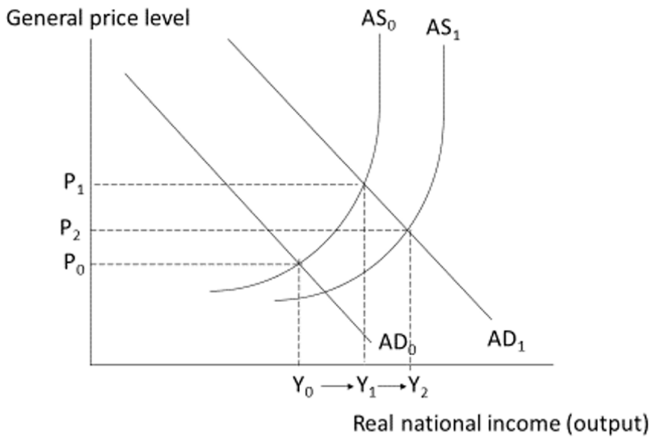
<u>Body</u>

(R1) Thesis: globalisation will not hinder sustainable growth in an economy.

With the increase in trade and FDI flows due to globalisation, assuming increase in (X-M) and net inflow of FDI, there will be an increase in AD (where economy is operating before full employment). This will trigger the multiplier effect. Firms see an unplanned disinvestment and are incentivised to produce more. Hence, they will hire more factors of production, including labour.

As a result, factor income increases, leading to an increase in induced consumption. As consumption increases, firms will see further unplanned disinvestment, and hire more factors of production. Factor income increases further, leading to increase in consumption again. This will lead to multiple rounds of increase until the sum of all increasing leakage from the withdrawals equals to the initial injection which is the increase in export revenue. There is actual growth in the economy.

The increased FDI inflows will contribute to increase in knowledge transfer and technology. In addition, globalisation also includes the flow of labour into an economy, leading to augmentation of talent pool and competitive wages that drives productivity and work effort. All these leads to an increase in AS, which leads to potential growth, thus sustained growth.



On sustainable growth:
With the improvement in technology and more advanced capital, firms will achieve higher efficiency in production; this reduces wastage of resources and/or firms use less resources to produce the same quantity of goods. In addition, technology such as green technology, and improvements in processes such as recycling will also contribute to sustainable growth as reduced rate of utilising non-renewable resources or to reduce pollution.

The increase in real GDP allows government to collect more tax revenue. More funds can be directed to the preservation or management of renewable resources such that they are utilised at a sustainable rate.

(R2) Antithesis: globalisation will hinder sustainable growth in an economy.
There is volatility involved when trading with other countries. An economy embracing globalisation is highly susceptible to contagion effect, where recessions in its trade partner countries will cause a decline in its own AD. When trade partners experience recession, their purchasing power will decrease, and they will buy less from the given economy, leading to fall in X and eventually real national income. Economic growth in the short run will be affected.

While an economy can enjoy huge FDI inflows through embracing globalisation, MNEs are also known to be ‘footloose’. These MNEs exploit and use up resources and may not transfer knowledge and technology to the host economy. Once they have exhausted the resources, they will simply leave in search of elsewhere. Sustained growth of the economy is affected and that there will be lack of sustainable growth as future generations are adversely affected.

Brain drain can also occur as highly educated and skilled people leave the less developed country in search of a better life in another country. This slows down potential growth of economy experiencing brain drain. Its sustained growth is affected, and there may be intergenerational effects as people remaining in the country will not be as well-educated and not as well paid. The government gets less tax revenue to fund the healthcare and education expenditure for the future generations.

On sustainable growth:

Increase in production due to growth through globalisation will lead to more resources utilised, including those that are non-renewable (some renewable but take time to be replenished). Without proper accounting of social costs, the utilisation of these resources often leads to market failure, where the presence of negative externalities in production leads to over-production. Industrial activities increase the emission of greenhouse gases, contributing to climate change and increasing floods or droughts. Land, sea and air pollution will eventually cause less resources to be available for use, thus threatening the shrinking of PPC (or AS) over time. Productive capacity of an economy could be reduced.

The increased economic activity also creates more logistics and packaging, further contributing to air pollution and the production of huge quantities of waste that need to be processed. The impact on climate and environment will hinder sustainable growth.

Evaluation

Globalisation presents vast opportunities for countries to grow and develop. There has been empirical evidence detailing how globalisation has contributed to the rapid development of economies. However, embracing globalisation does not assure the sustainable growth of an economy.

Priority:

In developing countries characterised by very low per capita income where large swathes of population live below the poverty line, countries tend to adopt a "growth at all costs" attitude. Raising incomes and poverty alleviation are prioritised, even if it means there will be environmental problems associated with deforestation for agricultural and industrial land, or use of cheap but dirty fuels like coal. It is only when more people get lifted out of poverty and basic needs are satisfied that governments can better afford to take a more holistic view of growth, to move towards sustainable growth. Thus, embracing globalisation should not hinder sustainable growth.

Economic theory:

Climate change and environmental degradation would constrain the expansion of the economy's productive capacity and undermine future growth, thus is it important to pursue sustainable growth in order achieve high and sustained growth in the very long run.

Change in attitudes:

Additionally, the changing attitudes of consumers and workers (particularly those in the advanced economies) have made sustainability and ethical practices profitable. Firms are increasingly motivated to engage in sustainable and ethical sourcing of their factor inputs, as well as to adopt green technology. This present opportunities for more investment and profits to be made across countries. Developing countries, in imposing tougher environmental standards may in fact be more successful exporting to markets in the advanced economies and attracting investments from the multinational companies. Embracing globalisation will no longer conflict with an economy's desire to pursue sustainable growth.

LORMS

Levels	Description	Marks
3	- Able to fulfil both requirements of essay - Made use of appropriate economic analysis to exemplify the effects of globalisation on sustainable growth (including accurately drawn diagrams) - Balanced and accurate analysis (balance between sustained growth that is more short term relative to sustaining the use of growth for generations ahead) - There is also balance between the different aspects of globalisation: trade and FDI flows	8-10
2	- Able to fulfil both requirements of essay - Made use of appropriate economic analysis to exemplify the effects of globalisation on sustainable growth with some inaccuracies - Lop-sided analysis (too much on sustained ONLY, or too much on consideration of future generations but lacking the actual and potential growth) but still largely accurate - Focused largely on international trade but not on other aspects of globalisation (vice-versa) - One requirement well explained but lacking in another requirement (low L2)	5-7
1	- Major conceptual errors with little coherent explanation - Not understanding meaning of sustainable growth and globalisation - Lacks application of economic theory such as AD-AS analysis, multiplier effect	1-4
E3	For an answer that builds on appropriate analysis to evaluate contemporary issues, perspectives, that recognises unstated assumptions and evaluates their relevance, and that synthesizes economic arguments to arrive at well-reasoned judgements and decisions regarding whether globalisation will hinder sustainable growth of an economy.	5
E2	For an answer that makes an attempt at evaluation or a conclusion that answers the question but does not explain the judgment or base it on analysis.	3-4
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration.	1-2