1. **Smartphone usage is predicted to overtake computer usage in the near future. This is due to advances in smartphone technology and greater affluence.**

   Discuss how the combination of smartphone technology and greater affluence might affect the expenditure by consumers on different models of smartphones. [25]

	Normal-Luxury Models	Normal-Necessity Models	Inferior Models (e.g. 2nd hand lower-end smart phones)
↑in technology	COP falls → Increase in SS → P falls, Q increases. PED>1, with a given fall in price, more than proportionate increase in Q →TE increases.	COP falls → Increase in SS → P falls, Q increases. PED<1, with a given fall in price, less than proportionate increase in Q →TE falls.	COP falls → Increase in SS → P falls, Q increases. Since there are close substitutes to inferior models, PED>1. With a given fall in price, more than proportionate increase in Q →TE increases. [Also accept if student justifies why PED<1 and explains that TE falls].
↑In income	YED>1. Income increases →DD increases by more than proportionate amount → TE increases (by a large amount).	1>YED>0. Income increase →DD increases by less than proportionate amount → TE increases.	YED<0. Income increases, dd falls → TE falls.
Combined effects	↑SS &↑ DD→ TE increases.	↑SS &↑DD→ TE indeterminate	↑SS &↓DD → TE indeterminate.
Evaluation	As YED>0, large shift in dd curve when income increases. This large increase in dd combined with PED>1 → large increase in TE.	If increase in dd > increase in ss → TE increases.	Singapore is a rich developed countries with one of the highest smartphone penetration rates in the world. Fall in dd > increase in ss → TE likely to fall.

L1	Answer merely identifies the different models of smartphones that are available in Singapore and recognizes how advances in smartphone technology and greater affluence affect the market for smartphones. No reference to elasticities of demand.	1-9
L2	Undeveloped answer on how the advances in smartphone technology and greater affluence affect the smartphone markets for the different models of smartphones. There is some reference to PED & YED.	10-14
L3	Answer provides a thorough analysis of the impact of the expenditure on at least two different models of smartphones. There is good reference to PED & YED in the analysis.	15-21
E1	Answer provides an unsubstantiated opinion on the extent of the impact of greater smartphone technology and greater affluence on the different models of smartphones in the Singapore context.	1-2
E2	Answer provides a substantiated opinion on the extent of the impact of greater smartphone technology and greater affluence on the different models of smartphones in the Singapore context.	3-4

2. (a) Explain the various forms of barriers to entry. [8]
(b) Should the government act to reduce barriers to entry whenever possible? [17]

- Define barriers to entry.
- Explain at least three different forms of barriers to entry.

    - Ownership of essential resources

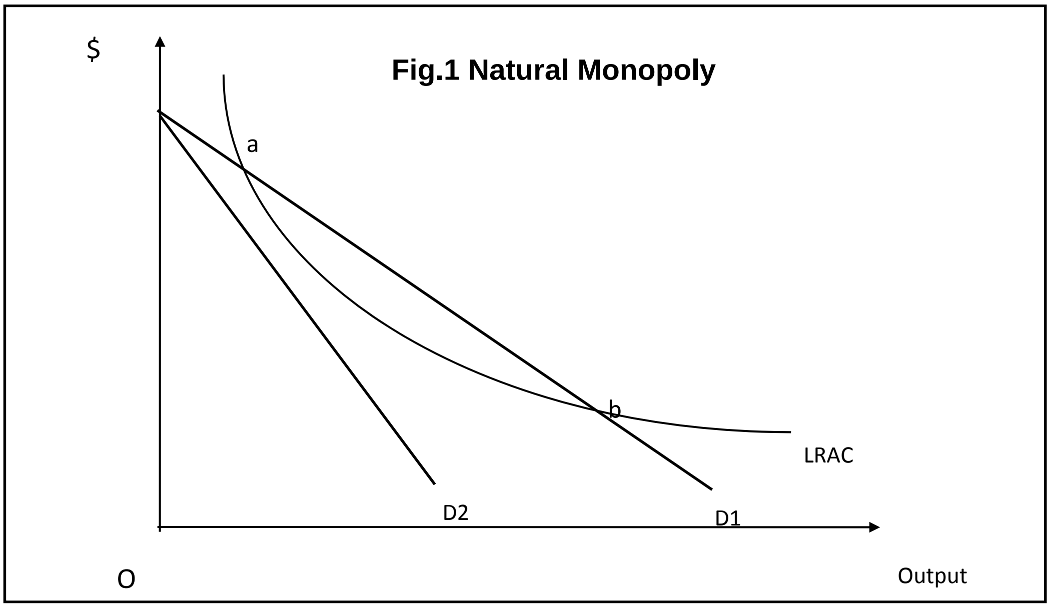
    If one firm owns the resources needed to produce a particular good, it is possible for the firm to keep other firms from entering the industry. For example, Aluminium Company of America (ALCOA) controls almost every source of bauxite, therefore it monopolises the production of aluminium in America till World War II; Debeers either owns most of the world's diamond mines or has effective control of them.

    - Internal Economies of scale

    (i) Natural Monopoly:

    A **natural monopoly** enjoys substantial economies of scale --- the LRAC goes on falling significantly such that minimum efficient scale is at an output which is higher than the total demand in the market/industry, the industry may not be able to support more than one producer. When this is the case, a single firm can satisfy the market demand at a lower cost per unit than two or more firms operating at smaller levels of output could.

    In figure 1, D1 represents the industry curve, and hence the demand curve for the firm under monopoly. The monopolist can gain supernormal profit at any output between points a and b. If there were two firms, however, each charging the same price and supplying half the industry output, they would each face the demand curve D2 and higher AC. There is no price that would allow them to cover costs.



Examples of natural monopoly arising from internal economies of scale are public utilities, such as the distribution of electricity and water where tremendous amount of capital is required to produce the product (and market is relatively small). As monopoly increase production, AFC falls and this fall will likely outweigh any increase in AVC. Hence, AC falls as output increases.

For example, to generate electricity, capital in the form of a power station etc. is required; to distribute the final product, even more capital in the form of cables, poles, transformers etc. are needed. For telephone network, cable television etc., the cost per household is lowest when a single company "wires" throughout the community for signal reception. Because of the nature of a natural monopoly and the fact that the product is usually one that society feels is essential, it is necessary for the government to regulate the firm so as to ensure that the consumers benefit from the low per-unit costs of production. The question is: what price should the monopolist be allowed to charge?

(ii) Even if an industry could support more than one firm, a new entrant is unlikely to be able to start up on a very large scale. For example, an established monopoly is likely to have access to cheaper finance and can charge a price below the cost of the new entrant and drive it out of business.

- High set-up costs for new firms

If a new firm can enter fully grown into the market, it might be able to compete effectively with the existing monopolist. *However,* the cost to the new firm of entering the market, developing its products, and establishing its reputation and its distribution network may be so large that its entry will be unprofitable. The high fixed capital costs involved in some industries (e.g. silicon wafer fabrication, shipbuilding, petrochemicals, oil refinery, iron & steel) may also discourage the less financially able from entering the market as producers.

- Legal Restrictions

Patents and Copyrights : These are exclusive rights to production given by the authorities to the developer of a new product for a number of years. During that time, no other firm or individual can produce or duplicate the good unless authorized by the holder of the patent/copyright, so that inventors are given a ***temporary*** monopoly over the use of their inventions. Moreover, these laws give firms the stimulus to turn an invention into a marketable product, a process called ***innovation***. If other firms could simply copy successful products, many firms would be less willing to incur the high initial costs of researching and developing new products and bringing them into the market.

Licenses and other Entry Requirements : Governments often promote a monopoly by awarding a single firm the exclusive right to provide particular goods and services. Licenses give certain firms the right to broadcast radio and TV signals. The government itself may claim the right to provide certain productions by outlawing competitors. For example, SingTel in Singapore has the exclusive right to provide telephone services to consumers until 2000, when other firms will be permitted to enter the market.

- Predatory Pricing

A monopolist can also deter entry of a potential competitor by setting price at such a low level that a would-be entrant feels disinclined to persist with plans to enter this market. Where a monopoly attempts to protect its dominant position by temporarily pricing its product such that losses are incurred not only by itself but for any competitor, it is said to be practicing predatory pricing.

- Ownership of, or control over, wholesale or retail outlets

It could also make life difficult for a potential competitor by trying to deny wholesalers who might consider distributing the product of a rival firm. Exclusive dealing arrangements with wholesalers such that only the monopolists' goods are handled can limit the sources of custom for a new firm. Alternatively, those wholesalers and importers who wish to handle the goods of a new entrant may find they do not enjoy such favourable trading terms as other merchants who only stock the monopolists' goods.

E.g. Microsoft's strategy of pressurizing computer makers to pre-install their Internet browsing software – Internet Explorer, was an example of a company with a near monopoly on computer operating systems trying to use its influence to capture Internet market share from its rival Netscape and keep out newer rivals.

- Product Differentiation

A monopolist can make their product to seem very different from their competitor through marketing and branding.

L1	Answer defines barriers to entry	1-2
L2	Undeveloped answers OR developed answer but with limited scope.	3-6
L3	Answer illustrates at least three barriers to entry with examples, with at least one on EOS.	7-8

(b)

Should govt act to reduce barriers to entry whenever possible

Implicit assumption:

- That in some cases, it is not even possible to reduce/remove the barriers
- That the solution to monopoly or oligopoly if they so pose problems for society is to do away with them.

Yes, if

Barriers to entry -> creation of monopolies/oligopolies which have the following disadvantages

- Exploitation of market power -> P>MC (allocative inefficiency) -> welfare loss for society
- Consumers end up paying more and consuming less
- Firms may enjoy supernormal profits in LR -> society with inequitable income distribution. (barriers maintain high price and lower output if EOS is not substantial -> high profits).
- Firms may have no incentive to keep costs low -> X-inefficient
- Practice of predatory, limit pricing "kills off"/prevents competition

No, if

- Exploitation of barriers to entry -> lower cost and thus prices (esp natural monopolies). In the case of natural monopoly, it is not even possible to reduce barrier. Govt has to and should allow such monopolies but it would need to regulate pricing so that the benefit of the monopoly i.e. lower unit cost is passed on to consumers in the form of lower prices. Diagram to illustrate.
- Supernormal profit and/or govt regulation give incentive to engage in R&D leading to technological advancement and innovation. -> consumers welfare increased
- Give example such as pharmaceuticals, Govt should allow monopoly to exist but implement measures to reduce the other negative effects.
- Give examples of the measures.
- Society benefits through jobs created by such firms, who, without barriers may not exist at all.

Conclusion

Whether the govt should act to reduce barriers or not depends on whether the protected firms' behaviour benefits consumers/ society. In some cases EOS are a mixed blessing, with lower costs/prices but more monopoly power to push prices above costs. Barriers in certain industries encourage research and innovation behaviour, which if successful, benefits both the firms and their customers. Hence in such cases, the govt should allow the existence of monopoly/oligopoly but regulate them so as to reduce their negative effects.

L1	Answer identifies why the government should intervene to reduce barriers to entry in markets according to its microeconomics objectives. Recognizes that it may not always be feasible for the government to reduce barriers to entry and so alternative solutions may be needed.	1-5
L2	Answer provides a developed but one-sided argument OR provides an undeveloped but two-sided argument.	6-9
L3	Answer provides a developed balanced argument. Illustrates with examples.	10-13
E1	Answer provides an unsubstantiated opinion on whether the Singapore government should intervene to reduce barriers to entry in certain industries.	1-2
E2	Answer provides a substantiated opinion on whether the Singapore government should intervene to reduce barriers to entry in certain industries.	3-4

3.

(a) Explain how national defence and income inequality may lead to market failure. [10]

(b) Discuss the policies used by the Singapore government to address these causes of market failure. [15]

(a)

- Definition of market failure- the inability of markets to achieve social allocative efficiency where MSB=MSC or inequality.
- Definition of public goods- non-rivalry & non-excludability
- Explain how national defense and income inequality are examples of market failure
    - o Non-excludability. Once national defense is provided, cannot exclude non-paying resident from enjoying the security provided by national defense → free-rider problem → price =0 → unprofitable → 0 output in the market.
    - o The MC of providing national defense is zero (non-rivalry) to each resident of the country as the residents of a country cannot be excluded from enjoying the security (non-excludable) once the security is provided for all residents in the country. Since allocative efficiency occurs where P=MC, price has to be 0 to achieve output where there is efficiency. However, at P=0, no profits → 0 output in market.
- Definition of income inequality as the gap between the higher and lower income households and an inequitable distribution of income
- Explain why income inequality arises: Demand for labour is determined by labour productivity which is influenced by the workers' education, skills and health.
  DD for unskilled labour is relatively lower as firms will be less willing to hire workers with low labour productivity. The supply of highly skilled labour tends to be lower than that of unskilled labour as the former requires specialized and technical skills that are not easily acquired. SS of unskilled labour is high as there is a readily available pool of such labour. A combination of high demand and low supply of skilled labour leads to higher wage. This is as opposed to unskilled workers who would receive much lower wages due to its high ss and low dd.
- Income inequality can further worsened with occupational immobility, whereby the low skilled workers who lack the necessary skills to move into industries which employ high-skilled workers and hence pay higher wages → unequal incomes between low skilled and high skilled workers

- Explain why income inequality leads to market failure: Income inequality → failure of the market to allocate resources fairly → consumption disparities
    - o In a market based economy, allocation of resources is based on the price mechanism. Movements in product prices determine the types and amt of G+S to be produced. An increase in dd for a good à increase in product prices and producers will respond to the price signals by increasing production and the amt. of good produced is distributed among those who are willing and able to pay.
    - o Consumers command resources according to their dollar votes. Those who are unable to pay will not have access to the goods. Thus in a market based economy, types of goods and the amt of goods produced is based on the willingness and ability to pay rather than on needs.
    - o Because income is unevenly distributed people with most income will be able to determine what should be produced as they are able to cast higher money votes for the goods that they want→ resources will be diverted to produce luxury goods for the rich, while the needs of the poor will not be satisfied OR Those with high income will get more of the goods but those with low income may not get the goods, including necessities
    - o Unfair distribution of resources àinequityà society's welfare not maximized
    - o Larger share of output to those who are willing and able to pay which in turn depends on income. → market failure.

L1	Answer defines market failure, public goods and income inequality	1-4
L2	Answer provides an explanation of how national defence and income inequality are examples of market failure	5-6
L3	Answer provides some examples of how national defence and income inequality result in market failure	7-10

(b)

Introduction

- Increasing income gap can represent an inequitable distribution of income.
- It can cause problems such as such as material hardship for lower income groups, increasing tension between the different income groups and social instability.
- Public goods are necessary for society but since the private sector will not usually produce them, governments have to take on the responsibility of providing them so as to cater to society's needs.
- Hence, policies to provide public goods and to narrow the income gap should be pursued. There are various policies to narrow the income gap and these include progressive taxation and subsidies for lower income households as well as upgrading programmes for lower skilled workers (e.g. Workfare)

Body

- Public goods → inevitable for government to fund and provide the good e.g. national defence & street lighting
    - – However possibility of government failure to determine the optimal or efficient level of production (e.g. government may produce too many street lighting or spend too much on military equipment than what is necessary to defend the country)
    - – Possibility of government debt

- Income inequality → progressive income taxes and transfers to the poor e.g. GST Voucher Scheme, growth dividends and Workfare bonus
  - Progressive taxation places a higher tax burden on higher income households. Transfer of resources to lower income households to reduce and manage the income gap
  - Progressive subsidies like
    - GST rebates & growth dividends help lower income households shoulder the burden of rising costs, especially since GST is a regressive tax which places a greater tax burden on lower income households.
    - Workfare Income Supplement Scheme creates incentives for lower income workers to stay employed
    - Growth dividends redistributes the fruits of economic growth to the lower income households
  - Government programmes like Workfare Training Support Scheme encourages workers to improve their skills to as to increases their productivity and thus their pay.

  - However, overtaxing the higher income households & firms could result in negative impacts on productivity. Spillover effects on overall growth as businesses/workers relocate to other countries.

<u>Evaluation</u>

- Singapore has one of the higher income disparities in the world. Hence, it is arguable that the government should allocate more of its resources towards closing the income gap. However, being a small country, Singapore is also vulnerable in terms of national defense.
- Since significant government resources need to be allocated to both the closing of the income gap as well as providing national security, the government runs the risk of running a budget deficit which goes against their policy of running a small surplus annually.
- However, since the Singapore government has considerable reserves due to running budget surpluses the past few years, the public debt may not be considerable.
- Furthermore, as long as Singapore retains its competitive tax and salary structure and remains an attractive destination to live and work, the effects of progressive taxation on the higher income households and firms should be mitigated somewhat.

- Hence, all things considered, Singapore should continue its respective policies for managing income inequality and providing public goods like national defense as the benefits outweigh the costs for now.

L1	Answer recognises the need for the government to intervene when markets fail and identifies the government policies to address public goods and income inequality.	1-5
L2	Answer explains how the various government policies work to address public goods like national defence and income inequality but without explaining the limitations OR undeveloped answers.	6-8
L3	Answer explains how the various government policies work to address public goods like national defence and income inequality and the limitations of the policies. Contextual Singapore examples are provided.	9-11
E1	Answer provides an unsubstantiated opinion on the effectiveness of the Singapore government in carrying out the policies to address public goods like national defence and income inequality	1-2
E2	Answer provides a substantiated opinion on the effectiveness of the Singapore government in carrying out the policies to address public goods like national defence and income inequality	3-4

4.

(a) Explain how fiscal policy can be used to encourage both actual and potential economic growth. [10]

(b) Discuss the extent to which conflicts in government macroeconomic objectives limit the scope for the use of fiscal policy. [15]

(a)

<u>Define actual and potential growth and fiscal policy</u>

- Actual growth refers to the rise in real output that has been experienced by a country
- In the short run, a country's aggregate supply (AS) is assumed to be fixed, so actual growth can be experienced from purely an increase in aggregate demand (AD)
- Potential growth refers to the increase in an economy's productive capacity and is presented by a rightward shift of a country's AS curve
- For there to be actual growth in the long-run, both AD and AS needs to shift right i.e. potential growth is required for long run actual growth to be achieved
- Definition of expansionary fiscal policy

<u>Explain how expansionary fiscal policy can be used to raise actual and potential growth</u>

- Expansionary fiscal policy involves increasing government spending which raises AD directly and/or decreasing direct taxes such as personal income taxes and corporate taxes, which stimulates consumption by households and investment by firms respectively
- Key to the working of fiscal policy is the multiplier effect, where higher government spending or tax cuts provides only the initial injection, while subsequent rounds of induced consumption further boosts AD
- Expansionary fiscal policy can have supply side effects which raises potential growth
    - Spending on infrastructure raises the quantity of capital
    - Spending on education and training raises the quality and mobility of labour
    - Lowering personal income tax rates raises the incentive to work and hence the quantity of labour
    - Cutting corporate taxes spurs investments and raises the quantity of capital
    - Spending on research and development raises the quality of capital

L1	Answer defines expansionary fiscal policy, actual and potential growth	1-4
L2	Answer explains how expansionary fiscal policy may bring about actual and potential growth	5-6
L3	Answer illustrates actual and potential growth with the AD/AS or PPC model	7-10

(b)

- The objectives of the government are high economic growth, low unemployment, price stability and BOP equilibrium.
- The expansionary effect on the national income through the use of expansionary fiscal policy is explained in part a already. Will look at how this may conflict with the other objectives.

- Conflict between economic growth and price stability – If the economy is close to full employment, the increase in government expenditure may be more than a deflationary gap, causing too much demand going after too little goods, giving rise to demand pull inflation (AS/AD diagram). This is contrary to a government's objective of low inflation/price stability.

- Conflict between economic growth and BOP equilibrium – The increase in government expenditure resulting in higher national income will mean households will get higher disposable income, assuming ceteris paribus.
- Their ability to buy imports will increase as imports are induced expenditure; this will worsen the BOP current account, thereby upsetting the BOP equilibrium under a fixed or managed exchange rate regime.

  However, besides these conflicts, there are also other limitations that affect the effectiveness of expansionary fiscal policy in achieving economic growth:

- Crowding out effects – When government borrows to finance its expenditure, the increase in demand for loanable funds will drive up interest rate.
  - Higher interest rates increase the costs of borrowing and the opportunity costs of holding money.
  - Firms will decrease their investments, therefore this may result in small increase in net AD and may dampen the effect on national income.

- Value of the multiplier – If the k value is small, it means that a large part of the injection is withdrawn from the circular flow of income through savings, taxes and imports.
  - The high value of MPS,MPT and MPM will cause k value to be small.
  - Therefore, the effect on national income will be dampened.

- Time lag

Evaluation

- The government has to be aware that there may be conflicts with the objective of there may be tradeoffs, more than 1 policy is therefore required to attain the objective effectively and minimizing the conflicts or tradeoffs that may come along with the implementation of the policy.
- Other policies that the government may also consider will be monetary and supply management policies.

L1	Answer identifies the various macroeconomic objectives of a government and recognises the potential conflicts which may come about due to discretionary fiscal policy	1-5
L2	Answer explains how discretionary fiscal policy may bring about conflicts in the macroeconomic objectives	6-8
L3	Answer analyses the limitations of discretionary fiscal policy in achieving macroeconomic objectives of the government	9-11
E1	Answer provides an unsubstantiated opinion on how the government could use discretionary fiscal policy while still meeting most or all of their macroeconomic objectives.	1-2
E2	Answer provides a substantiated opinion on how the government could use discretionary fiscal policy while still meeting most or all of their macroeconomic objectives.	3-4

5. **Recent adverse weather conditions as well as military conflicts around the world have led to an increase in the prices of oil and other primary products.**

   To what extent would you agree that it is the increase in prices of oil and other primary products which have contributed the most to the inflation rate in Singapore? [25]

   Introduction:

   - This essay aims to explain how the large increases in prices of oil and other primary products have affected inflation in Singapore before discussing other factors which may have contributed to inflation like weather conditions and military conflicts.
   - Define inflation- General, sustained, inordinate rise in GPL / devaluation of the currency
   - Explain causes of inflation- AD and AS factors using AD/AS model

   Thesis: Higher oil and other primary products prices cause cost-push inflation in Singapore

   - Oil is used to produce the fuels needed to power transport vehicles and also drive power generators to produce electricity
   - Military conflicts, especially in oil-producing countries like in the Middle East, drive up the price of oil. This is due to increased demand for oil from governments for military uses as well as reduced supply as oil producing infrastructure get destroyed.

- An increase in the price of oil raises transportation and energy cost, thus driving up cost of production for all firms in the economy

- Primary products refer to the raw materials used to produce goods e.g. metals, agricultural products & minerals, so higher primary products prices lead to higher production costs
- Adverse weather conditions can also affect harvests and thus decrease the supply of imported primary products like food which Singapore is dependent on. This increase food costs and thus gives rise to imported inflation
- An increase in economy-wide production costs causes the AS curve to shift upwards and assuming that AD remains unchanged, general price levels rises

- Due to the lack of natural resources, Singapore is totally dependent on imports for oil and all other raw materials, so a large increase in the prices of such imports is likely to cause significant imported cost-push inflation

<u>Anti-thesis (i) Why increases in prices of oil and primary products may not contribute (the most) to inflation in Singapore</u>

- Singapore government adopts appreciation of the Singapore dollar (SGD) to cope with such inflationary problems. The appreciation of the SGD can be coincidentally due to free market forces or by deliberate action of the government. By appreciating the currency, price of imported goods and services that makes use of imported raw materials will be lowered. Thus overall fall in prices of goods and services within an economy will help reduce cost-push inflation. Cost of living of locals will not rise as significantly and standard of living will not fall as much. With the appreciation of the currency, the Singapore government could ease the burden of the rising cost of living of the ordinary HDB heartlanders who are mostly low or middle income.

- Nonetheless, there are limitations to every policy. Limitations include conflicts with other goals of a healthy economy. An appreciation of the SGD raises foreign price of exports causing exports from Singapore to be less competitive. They also find it difficult to export from Singapore. Furthermore, with the stronger SGD, locals will switch to buying more imports than local goods which can cause a fall in the aggregate demand. If M-L condition holds, NX falls, AD falls, growth and inflation falls. Also the appreciation of SGD may cause a rise in foreign investment cost in Singapore. Therefore, FDIs in Singapore may fall. This has a deflationary effect, off-setting the earlier inflationary pressures.

<u>(ii) Other factors that contribute to inflation in Singapore</u>

<u>Cost push inflation:</u>

- In recent years Singapore has also experiences other sources of <u>domestic</u> cost-push inflation
    - Rising COE prices due a reduction in COE quotas
    - Rising wages due to a deliberate policies aimed at reducing foreign labour inflows
    - Falling productivity leading to higher unit cost of production.

Demand-pull inflation from external sources:

- Demand-pull inflation i.e. overheating occurs when AD rises as the economy is at or near full employment i.e. upward or vertical portion of the AS curve
- As Singapore is highly dependent on external demand, a large rise in exports e.g. due to an upswing in the global economy, could cause demand-pull inflation
- Higher liquidity due to quantitative easing policies in US/UK/Eurozone → higher dd for properties (housing) in more stable economies such as Singapore

Demand-pull inflation from domestic sources:

- Singapore enjoyed economic growth in most of the years → higher affluence → higher dd for g&s → dd-pull inflation
- Low interest rate environment → higher dd for housing which constitute a rather big component in the basket of goods in the computation of CPI → dd pull inflation

Evaluation on Singapore's main cause of inflation

- Singapore has not been lacking in investments, so its growth in productive capacity has generally been able to match its grow in aggregate demand
- Hence, demand pull inflation has not been a major problem for Singapore for most years/ in the long run.
- In contrast, due to Singapore's import dependence, the threat of imported cost push inflation has always been relatively more serious
- Furthermore, in the last few years, due to changes in government regulation as well as domestic economic conditions, domestic cost push factors have been gaining importance
- Hence it can be argued that factors affecting cost push inflation are more significant than those affecting demand-pull inflation

L1	Answer defines both demand-pull and cost-push inflation. Recognises the characteristics of the Singapore economy and its dependence on imports. Explanation on thesis only, max 5m.	1-5
	Answer provides a generic explanation of the causes of both demand-pull and cost-push inflation with no or little reference to the Singapore context. Illustrates with the AD/AS model but with some errors.	6-9
L2	Undeveloped thesis as well as anti-thesis OR Balanced answer but with limited scope in the anti-thesis. Little reference to Singapore.	10-14
L3	Developed thesis as well as anti-thesis and gives examples in the Singapore context	15-21
E1	Answer provides an unsubstantiated opinion on the main cause of inflation in Singapore	1-2
E2	Answer provides a substantiated opinion on the main cause of inflation in Singapore	3-4

6. **Singapore's Balance of Payments rose to $33 billion in 2012 from $21 billion in 2011, also reflecting a smaller net outflow from the capital and financial account. Singapore's official foreign reserves rose to $317 billion at the end of 2012.**

(a) Using economic analysis, explain Singapore's pattern of trade with the rest of the world. [10]
(b) Assess the need for the Singapore government to change its policies for managing the balance of payments. [15]

Suggested Answer:

Theory of comparative advantage

- The pattern and direction of trade in Singapore to a large extent has been dictated by the theory of comparative advantage. When a country can produce a good at a lower opp cost, the country has a CA in the production of that good. Theory states that when a country can produce a good at a lower opportunity cost than another country, specialization and trade can benefit both countries.
- Highlight assumptions – namely 1) Factor mobility within countries, 2) Absence of transport cost 3)Absence of trade barriers 4) Constant opportunity cost 5)Full employment of resources

  - Illustrate concept of opportunity cost with Table

Table 1.

				Opportunity Cost of	
With 1 Worker,	Shirt		Chip	1 Shirt	1 Chip
Singapore can produce	2	or	6	__ Chip	___ Shirt
China can produce	1	or	1	__ Chip	___ Shirt

According to the above table, Singapore has a lower opportunity cost of producing a chip and India has a lower opportunity cost of producing a shirt. Therefore Singapore has a comparative advantage in producing chip and China has a comparative advantage in producing shirt.

- The theory of comparative advantage provides a good explanation of world trade between Singapore and the rest of the world. It has well-educated and English-speaking labour force, good infrastructure (e.g. Biopolis to reap external EOS), stable government → factors or production are better suited for high value/ tertiary industries → lower opp cost in the pdtn of high value/ tertiary goods and services. This means that Singapore has a comparative advantage in high value - added tertiary industries such as finance, healthcare, education services and pharmaceutical pdts and high value electronic chips. With its good geographical location and efficient container port & airport, Singapore also has a comparative advantage in shipping and aviation services.
- In addition, Singapore also has a comparative advantage in high value - added manufacturing industries - electronics, engineering, chemicals and biomedical science.
- Singapore has small population and little natural resources. Factors of production are less suited to produce labour intersive/ natural resource-intensive goods → higher opp cost in pdtn of these goods. It has a comparative disadvantage in labour-intensive industries and natural resource-intensive industries. Singapore, therefore, has to import

industrial raw materials, foodstuff and low/mid value-added consumer goods such as textiles from developing countries, e.g. China, which has relatively large no. of unskilled/ semi-skilled workers and natural resources.

- As a result, Singapore exports a range of high value manufacturing goods and capital equipment. So, these are the goods that Singapore exports. In 2007, the value of its exports is S$451 billion. The major markets are Malaysia, Europe, Hong Kong, Indonesia, China & USA. Singapore's main exports are manufactured goods such as electronics, engineering, chemicals & biomedical science products. Electronics form the bulk of non-oil exports and USA is the key electronics export market. Singapore also exports high value services such as financial & business services.

- **Dd-side reasons: Intra-industry trade is** international trade in goods that belong to the same/ similar industry. E.g. US exports cars to Japan while simultaneously importing cars from Japan. People living within a country and across countries have differences in taste and preference. People in all of these places have different preferences for the cars they drive. Drivers who prefer larger cars may prefer to buy Ford and GM cars while others may prefer smaller but energy efficient Japanese cars → thus affecting the pattern of trade.

- Social and political considerations influencing trade. For example, Singapore bans or curtails the imports of drugs, pornographic materials and certain livestock. A country may also impose trade sanctions on countries with which she disagrees politically. For example, during the Gulf War, many countries including Singapore impose trade sanction on Iraq. To maintain a degree of self-sufficiency in strategic goods, Singapore also produces water such as NEWater and armaments ranging from fighter planes to submarines, from missiles to tanks even when it has no comparative advantage.

- Transport cost

L1	Answer defines comparative advantage and recognises the theory as a basis of trade for Singapore but answer lacks clear economic analysis.	1-4
L2	Answer explains comparative advantage with economic analysis but answer is undeveloped (e.g. unable to explain differeing opp cost ratio for relevant product groups). Gives relevant examples of Singapore's exports and imports.	5-6
L3	Well explained answer on theory of CA and analyses the alternative reasons why Singapore trades and illustrates with examples. OR use dd-ss analysis to explain patterns of trade between Singapore and rest of the world. If ans only on theory of CA, max 8m.	7-10

(b)

<u>Suggested Answer:</u>

- Policies include free trade and exchange rate management policies. No need to change as they have proven to be effective in achieving not just BOP position of surplus, the surplus having risen from $33 billion in 2012 from $21 billion in 2011, but brought about economic growth for Singapore.

<u>Thesis: Policies that help achieve healthy BOP.</u>

- Gradual appreciation of S$

  Appreciation of S$--> higher returns on investment in future → attracts FDI → capital inflows → healthy BOP.

  Evaluation: Strong S$: lowers price of import and increases price of exports. NX falls if M-L condition holds; Price of M falls which in turn lowers imported cost push inflation as Spore imports a lot of raw materials. This helps offset some of the price increase in our exports, esp. for those goods with high import content [Note: overall, price of X will still increase from appreciation of S$. Price remain unchanged only if M constitutes 100% of pdtn cost which is unlikely.]

- Ss-side policies

  Subsidies on R&D/low corporate taxes→ low COP → price of exports is price competitive. Assuming PEDx>1, X revenue increases → current account surplus.

- FTA

  FTA, e.g. removal of tarriff by trading partners → X cheaper to foreigners. Assuming PEDx>1, X revenue increases→ current account surplus.

<u>Anti-thesis</u>

- Reverse policy of gradual appreciation of S$ to depreciation of S$ during economic downturn.
  Explain the harm of appreciation of S$ → worsens the fall in real NY during an economic downturn. Explain how fall in S$ stimulate NX and hence improve current account.

<u>Evaluation</u>

- Singapore's policies of gradual appreciation to manage its BOP has proven to be effective so far as it helps to retain some degree of exchange rate flexibility so as to maintain a favourable BOP position while at the same time achieving the macroeconomic objectives of stable prices and exchange rate.

- Over the years, BOP surpluses → Singapore has accumulated much foreign reserves, arguably more than enough to fend off speculative attacks to prevent a sudden depreciation. Keeping too much foreign reserves can be seen as a waste of resources because these reserves could be used to finance domestic consumption or investment which will raise current or future living standards respectively.

- Despite gradual appreciation of S$, S$ may still be undervalued since current account surplus and huge reserves. The extent of under-valuation and the amount of BOP surplus can be reduced, especially since Singapore's long run growth is expected to slow given that Singapore is now a developed economy

L1	Answer recognises the characteristics of the Singapore economy and its dependency on trade. Identifies how Singapore manages its BOP and recognises that being open to trade and having an exchange rate policy is needed to fuel growth and manage the main kind of inflation which Singapore faces. Limited scope and/ or answers with little economic analysis.	1- 5
L2	Answer explains why the Singapore government adopts an openness to trade policy as well as an exchange-rate based monetary policy to manage the BOP. Developed but unbalanced OR undeveloped but balanced answers.	6 - 8
L3	Balanced (at least 2 policies in thesis & 1 point in anti- thesis)	9 - 11
E1	Answer provides an unsubstantiated opinion on whether the Singapore government should change its policies for managing the BOP. Limitations of policies.	1-2
E2	Answer provides a substantiated opinion on whether the Singapore government should change its policies for managing the BOP. Limitations of policies.	3-4