VICTORIA JUNIOR COLLEGE

JC 2 PRELIMINARY EXAMINATION 2017

H1 ECONOMICS
8819

September 2017
3 hours

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use an HB pencil for any diagram or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BAR CODES.

Answer **all** sections.

Start each question on a FRESH piece of paper.

At the end of the examination, fasten your work securely, <u>by question</u>, <u>using the strings provided.</u>

The number of marks is given in brackets [ ] at the end of each question or part question.

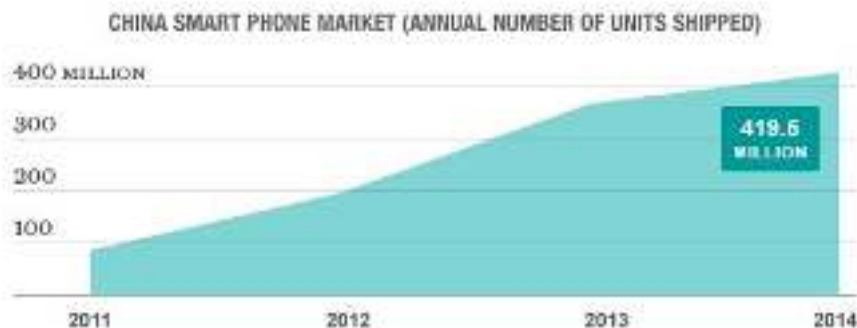This document consists of **9** printed pages

[Turn over]

Answer **all** questions in this section.

Question 1
The Rise of the Mobile and E-Waste Economy

Figure 1

CHINA SMART PHONE MARKET (ANNUAL NUMBER OF UNITS SHIPPED)

Source: Fortune, 1 March 2015

Extract 1: Growing domination of China's phone makers

Low-priced, high-tech mobile phones have become objects of desire for many of the 1.36 billion people in China, even though income per capita—after adjusting for purchasing power—is less than a fourth that of the U.S. In 2012, China passed the U.S. as the world's largest smartphone market. Samsung and Apple, the global leaders in mobile phones, have made no secret of their desire to command the world's largest smartphone market. But as demand exploded in China, local companies sprang up to meet it. "Now you see the proliferation of 400 brands in China," says Neil Shah, a director at Counterpoint Research.

For years Chinese phone makers served in the shadows as manufacturers for Nokia and others. Everything changed after Google introduced Android in 2008. The inexpensive and customisable mobile operating system, an answer to Apple's status-quo–shattering iPhone, made it possible for any electronics company with some savvy to develop a worthy alternative. In no time, Chinese companies shifted their strategies from manufacturing phones for brands of other firms to building brands for themselves. Take the case of Meizu. Meizu was the first Chinese phone maker to emerge as a brand in its own right. Four days after Apple introduced its iPhone in 2007, the founder of Meizu, Jack Wong, boasted that the firm would build an iPhone killer called the M8. The phone turned out to be too much like Apple's distinctive device, and Meizu, under pressure from Apple, pulled it from stores. Today Meizu is trying to expand within China to better position itself for entry into other Asian markets. Though the company builds some of the best-reviewed smartphones in China, it remains outside the country's top 10 brands. "The problem is, our phones are great, but no one knows about us," a Meizu marketing consultant said.

Source: Fortune, March 1, 2015

Extract 2: Why you should take disposal of e-waste seriously
Generation of e-waste is set to exponentially increase. This is due to the rapid technological diffusion this world has experienced in the last decade, with mobile phone and laptop penetration in developing countries also reaching extremely high levels.

Thus, the disposal of e-waste becomes increasingly important as e-waste generation captures only the firms' cost of production, but not the external environmental and health costs associated with its use and disposal. The decreasing costs of technology leading to the falling price of electronic products will only exacerbate the failure to account for such 'end-of-life-cycle' costs and the true environmental and health impact of marginal e-waste generation.

There is a need to integrate ecological practices in the production process itself, and shift responsibility to the producer to negate future environmental consequences of the e-waste, and to raise public awareness of e-waste pollution to manufacturers and users, who should both be active stakeholders in e-waste disposal and management in an increasingly tech-infused world.

Source: Businessworld, 13 July 2017

Extract 3: Electronic waste dump of the world
Guiyu, China is often referred to as the "*e-waste capital of the world.*" The city employs over 150,000 electronic waste dis-assemblers, recyclers, and salvage workers who toil through 16-hour days tearing apart discarded computers and other electronic devices. Recycling is a labour intensive industry with high labour costs. The low revenue of e-waste recyclers in developed countries such as the U.S. prevent them from covering their costs, much less turn a profit. This tempts them to charge the public a fee for merely the disposal service, then reap additional profits by selling the waste to cities in China like Guiyu, where labour is less expensive.

The environmental and health side effects from e-waste recycling in Guiyu are extremely damaging; the air is not safe to breathe and the water not safe to drink. Lead and other poisonous metals course through the veins of the residents. Drinking water has to be trucked in as the local river and underground water table are poisonous. Guiyu has the highest level of cancer-causing dioxins in the world; pregnancies are six times more likely to end in miscarriage and seven out of ten children are born with 50 percent higher levels of lead in their blood than children born elsewhere. The residents are only partially aware of the significant negative health effects. They understand that conditions aren't ideal, but the higher-than-average wages keep them working in Guiyu.

Source: Sometimes Interesting, 17 July 2011

Extract 4: China's e-waste could end up in Africa
Many unwanted electrical goods are shipped from the US to China and Africa, and clear data at federal level on safe recycling of e-waste is lacking, the UN report says.

Increasingly much of the world's e-waste that would previously gone to China is going to West Africa instead, where the processing of discarded items is cheaper. The processing

of such items recovers valuable metals and plastics for sale to industries that utilise them as raw materials. In particular, metals have a high resale value. Some of these metals recovered in Africa are exported to other countries such as China. Each type of scrap metal has a monetary value and the types and quantities that are exported depend on the current market conditions and whether there is demand for the specific metal locally.

<div align="right">Source: chinadialogue, 20 April 2015</div>

Questions

(a)	**i)**	Describe the trend in the number of smart phones sold in the China market.	[1]
	ii)	Using demand and supply analysis and the data, account for this trend.	[4]
(b)		Justify the difference in price elasticity of demand between phones produced by global leaders such as Apple and Samsung and those produced by Chinese firms like Meizu.	[3]
(c)		With reference to Extract 2, explain the market failure associated with the consumption of electronic products.	[4]
(d)		Comment on one solution that may be used to tackle market failure associated with the consumption of electronics products.	[6]
(e)		Explain the effect of the growth of the electronic waste recycling industry on the living standards of residents in Guiyu.	[4]
(f)		Assess the value of using the theory of comparative advantage to explain Africa's export of materials such as metals and plastics recycled from electronic waste.	[8]

<div align="right">**Total: 30 m**</div>

Question 2
The Middle Income Trap

Figure 2: China's Consumption, Investment, Net Exports and GDP Growth (annual % change)
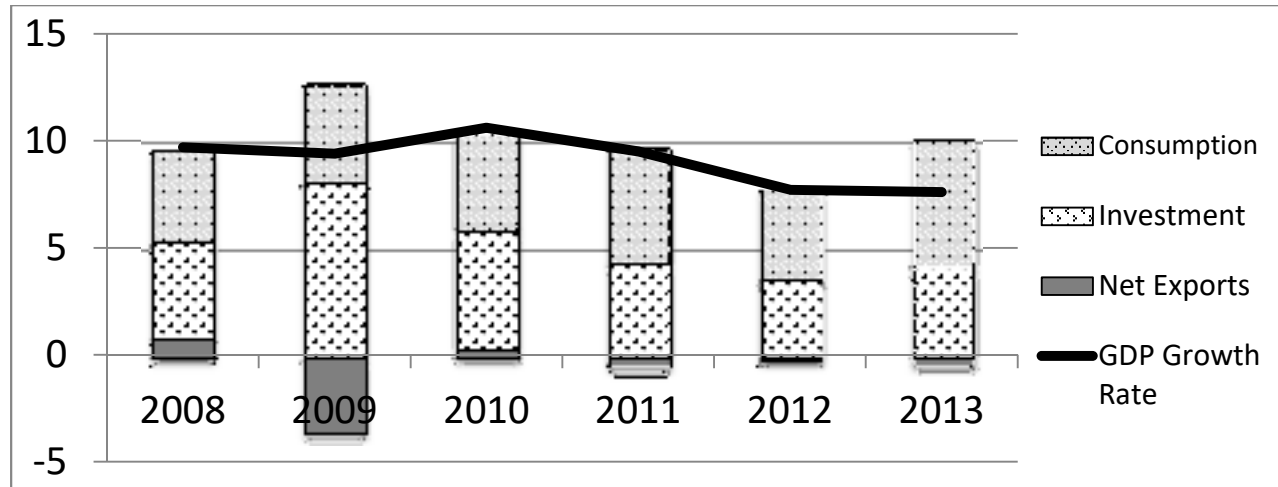
Source: Census and Economic Information Centre

Extract 5: Is China Suffering from the Middle Income Trap?

For about 30 years, the Chinese economy has grown at an average pace of 10 per cent per year, or three times the global average and has transformed China from a low-income to a middle-income country. Yet, as China now looks to make the next jump to high-income status, it is showing signs of trouble. China appears to be slowing even more quickly than anticipated. While weaker growth is a relatively new phenomenon for China, it is a common experience for other countries that have swiftly moved from low-income to middle-income status. It is so prevalent a trend that it has come to be known as the "middle-income trap" and China may be destined for this trap.

Essentially, the middle-income trap characterises economies that, once they achieve middle-income status, wind up stagnating there, unable to move to high-income status because economic growth continues to be weak. At the middle-income level, a country's competitiveness need to become driven by productivity increases that utilise resources more efficiently. Ramping up domestic demand is also important as an expanding middle class can use its increasing purchasing power to buy high-quality, innovative products and help drive growth.

China has experienced periodic labour shortages that are putting upward pressure on costs, such that some multinational corporations that produce labour-intensive products in China have started looking at lower-cost alternatives elsewhere. And they are also losing the competitiveness battle to high-income countries that produce higher-end, more sophisticated products. The design and workmanship of Chinese products are not of the same quality. Some Chinese consumers have reached a level of income to allow them to buy higher-end products, but they often perceive Chinese automobile brands, for

5

example, as being inferior to foreign brands, even those that were actually manufactured in China.

China has deliberately lowered the value of the yuan with respect to the US dollar. The devaluation could help stimulate China's declining export industry. As exports have softened, China runs the risk of large job losses in the manufacturing industries. However, there may also be some unintended problems alongside any potential benefit to exports. A weaker yuan will raise the cost of commodities that are priced in US dollar, such as oil. Following the announcement of the devaluation, Chinese airline stocks fell.

Extract 6: Can Brazil Escape the Middle Income Trap?

One often hears that Brazil's economy is stuck in the "middle-income trap." Since the debt crisis of the 1980's, Brazil has failed to revive the structural transformation and per capita income growth that had characterised the previous three decades. Middle-income countries seeking to reach the next stage of development can no longer simply import or imitate existing technologies or capabilities; they must build their own.

The president of Brazil has recognised that the country needs more business-friendly policies. Last year her re-election campaign saw a doubling of the fiscal deficit, to 6.75 per cent of GDP. To stabilise gross public debt, the president has promised to cut back on government spending. In order to get the economy moving, ideally, Brazil would offset this fiscal contraction with looser monetary policy. But because of the country's hyperinflationary past, as well as more recent price hikes — Central Bank cannot cut its interest rate.

Extract 7: Unemployment in China

Youth unemployment is coming down in rich countries but rising in China as economic growth abates, the International Labour Organization said.

In China, those who are less educated are far more likely to be employed than those who are better educated. The country is not creating a sufficient number of high-quality positions to soak up its educated youngsters. At the same time, most universities are more interested in pursuing revenue and growing themselves in size. The result is that there is little motivation to enhance the quality and the employability of their students.

Young job seekers often find themselves trapped in a vicious cycle. The job-searching period for them becomes considerably longer than for experienced workers, which leads to gaps in employment history, loss of skills and productivity, and harms their future work prospects. High youth unemployment causes immediate and long-term economic damage.

Extract 8: An Industrialised China

After over three decades of double-digit rates of hyper-growth, China's economy in recent years has significantly slowed down, and this growth deceleration is set to continue. But the country's present economic slowdown has been much sensationalised by international media.

China's past dynamic growth had indeed been fuelled by significant technological progress associated with simple technology transfer from imported machines. But China today is no longer relying on technology imports. Its future productivity gains will have to come from its' own technological development.

China has already rapidly expanded its R&D activities, which reached 2.1 per cent of GDP in 2014, compared with 2.8 per cent for the US. In total terms, China's R&D spending is actually quite high, being the world's second-largest after the US. Not surprisingly, China has for several years in a row topped the world in filing the largest number of patents and inventions - some 2.7 million applications were registered in 2015 alone.

With nearly eight million new university graduates every year joining the ranks of the educated workforce and a vast industrial base that is becoming increasingly sophisticated, China is admittedly on track to develop a viable technological base that will eventually generate new sources of productivity increases to support its future growth.

In the meantime, the government has also stepped up its industrial restructuring efforts. Recently, it unveiled a bold "Made in China 2025" Master Plan (reportedly similar to Germany's "Industry 4" plan for its Fourth Industrial Revolution) to promote "intensive manufacturing". This is aimed at fundamentally transforming China's manufacturing sector from being a global giant in terms of volume and output to a leading manufacturing power in a quality and high-tech sense. The key slogan is to upgrade China's manufacturing industries from "Made in China" to "Created in China". The focus is on 10 crucial sectors, including information technology, robotics, large aircraft, new materials and biotech.

Questions

(a) Compare the changes in the level of China's consumption, investment and net exports from 2009 to 2013 in Figure 2. [2]

(b) Explain why GDP growth is used as a measure of a country's economic performance. [3]

(c) With reference to Extract 5, explain the expected impact of China's devaluation on its exports revenue and comment on the extent of this impact. [6]

(d) Extract 6 states that 'ideally, Brazil would offset this fiscal contraction with looser monetary policy'.

   i) Explain how Brazil's fiscal policy would lead to a contraction of the economy. [3]

   ii) Explain how an expansionary monetary policy would 'offset' this contraction. [3]

(e) i) Justify the type of unemployment that is observed in Extract 7. [2]

   ii) Explain why a government would be concerned with this type of unemployment. [3]

(f) Discuss the view that China's economic growth will slow over time. [8]

Total: 30 m

3 Governments use subsidies for purposes ranging from increasing affordability of essential goods such as petrol to protecting domestic manufacturing industries.

    (a) Explain the impact on market price and quantity of imposing a subsidy on a good with price inelastic demand such as petrol, and a good with price elastic demand such as electric cars.   [10]

    (b) Discuss the reasons for a government's protection of local industries.   [15]

4 **(a)** Explain the causes of inflation in Singapore.   [10]

    (b) Discuss the view that supply-side policies are more effective than exchange rate-centred monetary policy in addressing inflation in Singapore.   [15]

------ End of paper ------

Answers and Mark Scheme for VJC 2017 H1 Economics Preliminary Examination

Question 1

a) i)	Describe the trend in the number of smart phones sold in the China market.	[1]
	Rising trend. [1]	
ii)	Using demand and supply analysis and the data, account for this trend.	[4]
	Extract 1 highlights a change in taste and preferences as the Chinese gravitates towards smart phones. This has led to a rise in demand for smart phones. [2]	
	Extract 1 highlights the proliferation of 400 brands in China which suggests an increase in the number of suppliers thus raising the supply for smart phones. [2]	
	With a rise in both demand and supply, equilibrium quantity will rise, supporting the trend in (a)(i).	
b)	Justify the difference in price elasticity of demand between phones produced by global leaders such as Apple and Samsung and those produced by Chinese firms like Meizu.	[3]
	The price elasticity of demand (PED) for phones global leaders will be less elastic given that their superior branding ensures that phones produced by competitors are not thought of as close substitutes as suggested by Extract 1. On the other hand, the inability to distinguish their phones from the other Chinese brands suggesting greater availability of close substitutes renders the PED of their phones to be lower. *1m for identifying difference in PED* *2m for justification (need to relate to a PED factor for max marks)*	
c)	With reference to Extract 2, explain the market failure associated with the consumption of electronic products.	[4]
	The consumption and subsequent disposal of electronic products results in external costs imposed on those staying near the site of recycling and/or disposal. This is highlighted in Extract 3 where the contaminated water leads to the poisoning of residents who are not involved in consuming and disposing the products in the first place. The external cost is ignored by the price mechanism and leads to a divergence between MSC and MPC. The market equilibrium quantity is based on the intersection of the MPC and MPB curves as private firms and consumers only consider their private costs and benefits respectively. On the other hand, the social optimal level of consumption occurs where MSC=MSB as society accounts for all benefits and costs. This leads the market to fail as there is an overconsumption of electronic products where the market equilibrium quantity exceed the social optimal level of consumption. *1m for explaining the external cost on third parties in context.* *Up to 3m for explaining why the external cost results in market failure.*	
d)	Comment on one solution that may be used to tackle market failure associated with the consumption of electronics products.	[6]
	Extract 2 highlights the raising of public awareness as a possible solution. By making consumers aware of the harmful third party effects of e-waste, it may lead to a fall in demand for electronic products as consumers may avoid changing or acquiring new devices as frequently. This will lead to a fall in demand, shifting the MPB curve to the left given the change in tastes and preferences. The intersection of the new demand curve and the MPC will result in a lower market equilibrium quantity, thus reducing the level of overconsumption and improving allocative efficiency. Evaluation: The solution may not be particularly effective as consumption is heaviest in the developed countries and the issue is not so much about ignorance of third party	

	effects but rather an indifference towards the plight of these third parties. Such attitudes are resistant to change and thus much time is needed with no guarantee of success if the aim of raising public awareness is to target these attitudes. *Up to 4m for the analysis of one solution in tackling the relevant market failure* *Up to 2m for the evaluation of the solution*	
e)	**Explain the effect of the growth of the electronic waste recycling industry on the living standards of residents in Guiyu.**	**[4]**
	Employment generated by the e-waste recycling industry raises income of the residents in Guiyu. This increases their purchasing power for goods and services, thus raising their material standard of living. [2] On the other hand, the environmental and health side effects as stated in Extract 3 are external costs associated with e-waste recycling in Guiyu. This has lowered the non-material standard of living for the residents with the destruction of the environment they live in and the resultant impact to their health. [2]	
f)	**Assess the value of using the theory of comparative advantage to explain Africa's export of materials such as metals and plastics recycled from electronic waste.**	**[8]**

	Intro:
	The theory of comparative advantage states that mutually beneficial trade between countries is possible whenever one country has a comparative advantage at producing an item over another country, which means being able to produce an item at lower opportunity cost.
	
	Thesis:
	Extract 4 suggests that Africa may possess a lower opportunity cost than developed countries in recovering materials such as metals and plastics from electronic waste as compared to other countries. One possible reason for this is the low cost of labour in Africa which stems from its factor endowment of having a large pool of low skilled labour in the country. This is compatible with the theory of comparative advantage as defined above. Specialisation according to comparative advantage leads to an increase in world output and subsequent trade may allow countries to enjoy higher consumption possibilities as opposed to non-trade.
	
	Anti-thesis:
	
	    1. Africa's potential in exporting such materials may not stem from a supply-side reason as suggested by the theory of comparative advantage but rather differences in levels of demand between countries. Unlike more industrialised countries such as China, the local demand for such materials may be lower in Africa. Thus, recyclers can obtain a better price for these materials by exporting it to countries where such materials are more highly valued as raw materials for industrial production. As such the value of using comparative advantage to explain Africa's potential in exporting such materials is diminished.
	
	    2. Comparative advantage may also not justify Africa's export of such materials as the assumptions of the theory do not hold in the real world. One assumption that the theory ignores is the presence of transport costs. The low value of such recycled materials means that any relative cost advantages in terms of opportunity cost may be negated once factoring in the transport costs to export the materials to other countries, particularly those further away.
	
	Conclusion:	

Stand: The theory of comparative advantage only holds limited value in explaining the potential Africa possesses in exporting recycled materials from electronic waste. Substantiation: This can be seen in that only highly valued materials such as metals are successfully exported (Extract 4) suggesting that the primary reason is demand rather than supply driven.

Knowledge, Application, Understanding, Analysis		
L1	Some knowledge of comparative advantage but unable to apply it with sufficient accuracy to address question. OR Use of case evidence without economic analysis	1 – 2
L2	Descriptive explanation of the value of comparative advantage in addressing Africa's export of materials recycled from electronic waste OR One-sided analysis that fails to fully address the question	3-4
L3	Analysis of the value and shortcomings of comparative advantage in explaining Africa's export of materials recycled from electronic waste. Good reference to the case and/or over-arching context.	5 - 6
Evaluation		
E1	Weakly substantiated judgement.	1
E2	Well substantiated judgement based on sound economic analysis and context.	2

Question 2

(a)	**Compare the changes in the level of China's consumption, investment and net exports from 2009 to 2013 in Figure 2.** Both China's consumption and investment generally increased at a [1m], whereas her net exports had decreased from 2009 to 2013 [1m].	**[2]**
(b)	**Explain why GDP growth is used as a measure of a country's economic performance.** Gross domestic product (GDP) measures the <u>total value of final goods and services produced in a country over the period of one year</u> [1m]. GDP growth indicates a rise in real GDP, which are GDP values that have <u>been adjusted for inflation</u>, and this reflects a rise in the real quantity of output [1m]. <u>A higher growth rate</u> would then imply that actual output has increased at a greater rate, and thus the country that has a high real GDP growth rate, can be described to be <u>performing well as there would be a higher level of economic activity taking place.</u> [1m]	**[3]**

(c)	**With reference to Extract 5, explain the expected impact of China's devaluation on its exports revenue and comment on the extent of this impact.**	**[6]**
	[A] <u>China's devaluation on will increase its exports revenue [2m]</u>	
	With a weaker yuan, Chinese exports will be cheaper when priced in US currency [1m] This will cause a rise in demand for Chinese exports (when valued in yuan) by US consumers and increase Chinese export revenue. [1m] **Any TWO of these evaluative comments = 2m+2m**	
	[A] <u>The extent of the rise in exports revenue may be limited due to more expensive factor input [2m]</u>	
	The weaker yuan will cause commodities that are priced in US dollar to be more expensive. From Extract 5: "A weaker yuan will raise the cost of commodities that are priced in US dollar, such as oil". [1m] The rise in the price of oil and other commodities will raise the cost of production of manufactured exports and this rise in cost will offset the increase in price competitiveness gained from the devaluation. [1m] Overall, the devaluation may not cause a significant rise in export revenue.	
	[A] <u>China's devaluation may not be able to stimulate her exports revenue due to a loss in non-price competitiveness [2m]</u>	
	There is also evidence that the fall in the demand for China's exports could be due to a deterioration in its non-price competitiveness [1m]. The quality of Chinese exports may be lower and may not be as technologically advanced as those goods that are produced by high income countries. Extract 1: "And they are also losing the competitiveness battle to high-income countries that produce higher-end, more sophisticated products." [1m] A weaker yuan while lowering the price of exports in foreign currency may not sufficiently increase quantity demanded as they are not sufficiently close substitutes to their competitors [1m]. Thus the extent of the rise in export revenue will be rather limited.	
(d)	**Extract 6 states that 'ideally, Brazil would offset this fiscal contraction with looser monetary policy'.**	
i)	**Explain how Brazil's fiscal policy would lead to a contraction of the economy.**	**[3]**
	As highlighted in Extract 6, the Brazilian government plans to reduce government expenditure [1m] in order to reduce its budget deficit. However, this measure is regarded as a contractionary fiscal policy in which the fall in government expenditure results in a fall in AD [1m] and this will cause a fall in real national income causing a contraction in the economy. [1m]	
ii)	**Explain how an expansionary monetary policy would 'offset' this contraction.**	**[3]**
	An expansionary monetary policy as suggested by Extract 6 will involve cutting the interest rate. [1m]	
	With a lower interest rate, the cost of borrowing will fall. In addition, consumers will receive lower returns on their savings hence C will be encouraged. For firms, the expected rate of return will now be higher than the prevailing interest rate, thus	

		investment opportunities that were not profitable previously now become profitable hence I will increase [1m for either the explanation for C or I].	
		The rise in C and I will cause AD to increase, causing a real national income to rise thus 'offsetting' the contraction [1m].	
(e) i)		**Justify the type of unemployment that is observed in Extract 7.**	[2]
		The type of unemployment that is observed in Extract 7 can be described as structural unemployment [1m]. There are insufficient high quality jobs in China to cater to its young educated job seekers. Many of the jobs available do not match the skills and the qualifications of these young educated jobseekers [1m], causing occupational immobility.	
ii)		**Explain why a government would be concerned with this type of unemployment.**	[3]
		Answers will need to cover <u>both short term and long term impact</u> as according to Extract 3, "high youth unemployment causes immediate and long-term economic damage"	
		<u>Short term impact (any one explanation = 2m)</u> A large number of unemployed graduates would mean that **resources are not being fully utilised, leading to wastage** [1]. The economy is operating only within its PPC -> there is a loss of potential output [1] or in other words, productive efficiency is not achieved.	
		In addition, if these workers are not employed for a long period of time (Extract 3: they will need to seek help from the government for financial assistance, which is a **strain on the Chinese government's budget** [1]. The government may have less funds to spend on other sectors of the economy e.g. providing healthcare amenities which may affect the **material SOL of the citizens**. [1]	
		<u>Long term impact = 2m</u> When these youths are unemployed for a long period, the skills that they acquire may be lower due to the lack of training and qualification, they will become less productive [1] as there is a long gap in their employment history. This may impact the country's productive capacity in the long run, causing a slowdown in the rise in AS curve and will cause a slowdown in potential growth. [1]	
		[2+2 = 3m]	
(f)		**Discuss the view that China's economic growth will slow over time.**	[8]
		<u>Thesis: China's economic growth will slow down over time</u>	
		<u>Impact on actual growth</u>	
		• Extract 5 states that China is facing rising costs due to shortage of workers, which will cause wages to be bid up. Should the rise in wages be accompanied by lower productivity, this will cause a rise in unit labour cost. The rise in the cost of production has made many MNCs to relocate to lower cost countries, causing a fall in the level of investment, and at the same time, China would lose its export price competitiveness. The rise in unit labour cost -> fall in AS as illustrated by an upwards shift in the horizontal AS curve -> a fall in real national output.	

- Also, there may be slower rise in the demand for Chinese exports due to the fact that she has lost some of her exports competitiveness to high-income countries as mentioned in Extract 5. Some of her products may be lacking in quality and workmanship. The slower rise in demand for exports due to these reasons would cause a slower rise in AD.

- China's consumption of domestic goods may also experience a slow increase. This can be seen from figure 1, China's growth in consumption has been generally rising at a falling rate from 2009 onwards with the exception of 2013. This is further supported by the point in Extract 5 that mentioned even though some of the Chinese consumers have high income level, to allow them to buy higher-end products, but they do not wish to buy Chinese made products. This may impact domestic consumption adversely.

  Since there is an upwards shift in the horizontal AS, and a slow rise in AD -> the overall impact will be a slow rise in national income via the multiplier.

Impact on potential growth (possible but not required point)

- Should the problem of youth unemployment continues to be high as mentioned in Extract 7, there will be a serious impact on the quality of labour productivity. This is especially so when the Chinese universities are not enhancing the 'quality and employability' of the students. The lower productivity of the labour force may cause slower rise in AS curve as there is limited improvement in the quality of the country's labour force.   The increase in potential output will be limited which may slow down potential growth.

Anti-thesis: China is able to sustain a strong economic growth

China will able to boost her actual growth

- From Extract 8, China has expanded its R&D activities and has the largest number of patents and inventions, should these R&D activities translate into new innovative products, China will be able to boost her exports demand and generate more exports revenue.

- Furthermore, China wants to develop its advanced technology sectors, allowing her to move up into a higher level of production chain, which will also attract foreign and domestic investments in such sectors. The rise in X and I will cause a rise in her AD and a rise in national income via the multiplier.

- These new technologies will also help to improve production processes which will help to lower unit cost of production. At the same time, these inventions will help to boost labour productivity which will mitigate the problem of high cost due to the rise in wages -> unit labour cost will fall. The fall in cost of production will cause AS to rise as illustrated by the horizontal AS curve shifting downwards, resulting in a rise in real national income.

  Evaluation: However, China would need a highly skilled labour force to be absorbed into these high tech industries. Should the local universities not able to provide quality education that would meet the needs of such industries (Extract 7), there will be severe labour shortage, unit cost will not fall significantly and this will impede the development of these industries.

<u>China will be able to boost her potential growth (possible but not required point)</u>

The increase in investments in high tech sectors will bring about new technologies which will expand the productive capacity of the economy, causing a rise in AS as illustrated by a rightward shift of the vertical AS curve causing a rise in potential growth.

Conclusion:
China's growth is unlikely to slow too severely given that the government's 'Made in China' Masterplan seeks to develop new areas of comparative advantage which will attract investors and address the lack of competitiveness of her exports which has contributed to China's slowing growth.
Ultimately the issue may boil down to the quality of education and training that the local universities will be able to provide the highly skilled labour force to complement the initiatives in the Masterplan. A closer partnership between the universities and the high tech sectors will be needed to ensure the skills of its labour force do not lag behind the needs of the evolving economy.

Knowledge, Application, Understanding, Analysis		
L1	Some knowledge of factors contributing to China's economic growth but not linked to the relevant macro goal(s) with sufficient accuracy to address question. OR Use of case evidence without economic analysis	1 – 2
L2	Descriptive explanation of both views pertaining to the slowing down of China's growth. OR One-sided analysis that fails to fully address the question	3-4
L3	Analysis of both views pertaining to China's slowly growth. Good reference to the case and/or over-arching context.	5 - 6
Evaluation		
E1	Weakly substantiated judgement.	1
E2	Well substantiated judgement based on sound economic analysis and context.	2

Question 3

Governments use subsidies for purposes ranging from increasing affordability of essential goods such as petrol to protecting domestic manufacturing industries.

(a) Explain the impact on market of imposing a subsidy on a good with price inelastic demand such as petrol, and a good with price elastic demand such as electric cars. **[10]**

(b) Discuss the reasons for a government's protection of local industries. **[15]**

(A)

Suggested outline:

Introduction:

The impact of imposing a subsidy on different markets will be considered in light of its impact on equilibrium price and quantity as well as total expenditure.

Body:

[A] A subsidy given to producers lowers the prices of subsidised goods and services and increases the quantity consumed.

[C +E] A subsidy is a form of payment made to producers by the government, not in exchange for any goods or services. With a subsidy, producers will experience a fall in their marginal cost of production as part of their production cost will be offset. Thus, subsidies increase the supply, resulting in a rightward shift in the Supply curve as shown in the diagrams below. Total subsidy is P_2XYP_3.

Subsidies are commonly given out for necessities such as petrol. The price elasticity of demand of these goods and services is likely to be less than 1 as not many close substitutes available for goods like petrol. The price elasticity of supply for petrol is also likely to be less than 1 as these producers are not likely to have a lot of spare capacity to increase production in the short term as discovery of new oil wells take time to be discovered and drilled .

When supply increases, there will be a surplus at the original price level P_3. As both demand and supply are unresponsive to changes in price, it will take a very large drop in price to eliminate the surplus. Consumers pay a lower price of P_2 while producers receive a higher price of P_3. The difference between P2 and P3 is the subsidy per unit petrol. Quantity sold and consumed increases to Q2.

The producer revenue increases with a subsidy from area P1eQ10 to area P3xQ20. Consumer expenditure falls from area P1eQ10 to area P2yQ20 as demand is price inelastic. When prices fall after the subsidy is given out, quantity demanded will increase less than proportionately. The increase in expenditure from a rise in quantity consumed is outweighed by the fall in expenditure due to the fall in prices consumers pay, leading to a fall in total expenditure.

Price

S (MPC=MSC)

S₁

Subsidy per unit

x

e

P₁
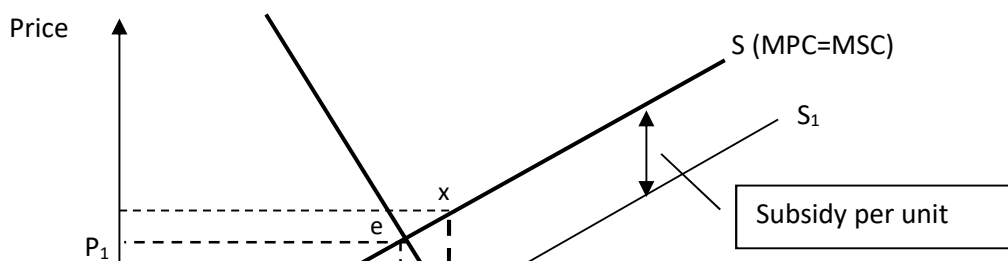
P₃

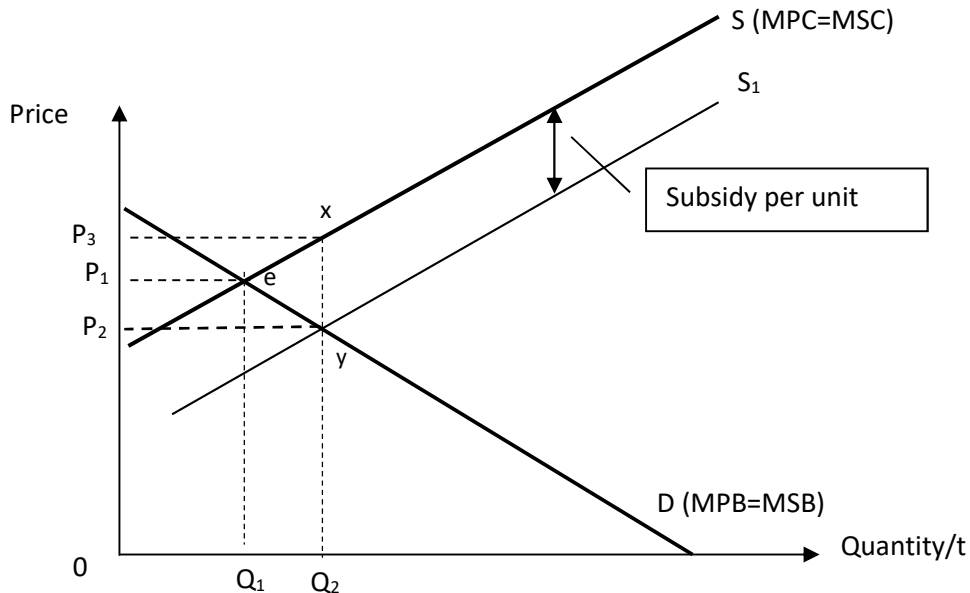**Diagram 1: Good with demand that is price inelastic**

Diagram 2: Good with demand that is price elastic

Demand for electric cars is likely to be price elastic as electric cars are costly and form a large proportion of consumers' income.

As shown in the diagram above, the increase in equilibrium quantity is more than proportionate than the fall in price when demand is price elastic in contrast to when the demand is price inelastic. Consumer expenditure when demand is price elastic will rise as the increase in expenditure from a rise in quantity consumed more than offsets the fall in expenditure from a fall in prices.

| Levels	Descriptors	Marks
L1	Answer shows some knowledge of subsidies. May contain some inaccuracies and does not address the question clearly.	1-4
L2	Descriptive explanation of the impact of subsidies on market. Max 7m for answers that do not address both elastic and inelastic demand, or impact on total expenditure/revenue.	5-7

L3	Analysis of impact on equilibrium price and quantity as well as total expenditure/revenue of subsidies on goods with different price elasticity of demand.	8-10

(B)

[A] A government can protect an infant industry from foreign competition to enable it to develop comparative advantage over time

[C+E] Firms in infant industries are operating on a small scale and might not developed any comparative advantage yet.

[A] There may be industries in a country that are in their infancy which have a potential comparative advantage. This is particularly likely in developing countries. These industries are too small yet to have gained economies of scale. Without protection, these infant industries will not survive against competition from abroad. Protection from foreign competition will allow them to expand and become more efficient. Once they have achieved a comparative advantage, the protection can then be removed when they are able to compete internationally.
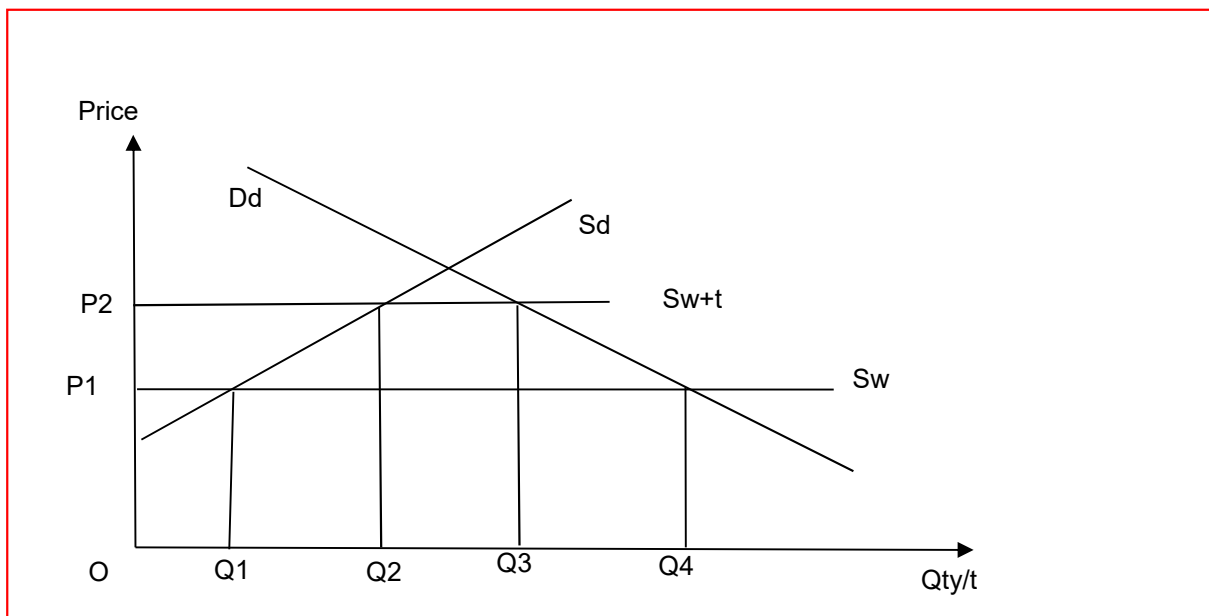
Consider the market for a manufactured goods such as textiles in a small, less developed country. Suppose initially free trade prevails and the world price of the good is P_1. At that price, consumers would demand Q4. However few domestic producers are able to compete at the world price and thus only supply OQ1. Thus Q2Q3 is imported. With protectionism such as a tariff, the world price will be raised to P2 thus allowing the domestic industry to increase its production to Q2. This allows the domestic industry an opportunity to expand despite international competition and possibly realise their potential comparative advantage over time.

[Eval] Possible points:

1. Protectionism may cause such industries to become contented and remain internationally uncompetitive and inefficient. Hence, the desired comparative advantage may not materialise.
2. Once protection is given, it is hard to remove. Vested interests are created, and the industries concerned would fight strongly against the removal of trade barriers. The government may also be unable to remove it, as it might be politically damaging to do

so, especially if they receive political funding from firms in such industries or if the removal of barriers will result in significant structural unemployment.
3. Such protectionism also potentially exposes the country to retaliation by her trade partners and the 'beggar-thy-neighbour' syndrome where trade partners demand less exports in return due to the adverse impact on their national income.
4. It is difficult for governments to identify the right industries to protect. Given the dynamic and unpredictable nature of the world, it is difficult to accurately identify the industry with the potential comparative advantage.

[A] Governments can also protect local industries to slow the decline of sunset industries in a bid to manage structural unemployment

[C+E] Protection may be given to these industries that having lost their comparative advantage. Such restrictions on imports can slow down the decline of the industry, providing time for labour to be retrained and re-channelled to other growing industries. This will reduce the incidence of structural unemployment which results because the unemployed lack the skills to move into other growing sectors. With reference to diagram above, the added production of Q1Q2 allows more labour to be employed.

[Eval] Such an argument makes sense when labour is immobile in the short run but tends to be more mobile in the long run. Thus, the opportunity cost of resources utilised for protectionism is lower in the short run compared to that in the long run. However, such protection may instead unnecessarily slow down the restructuring process, depriving the thriving industries of valuable resources.

[A] Governments can also protect local industries to protect employment of workers in these industries

[C+E] Trade restrictions may be used especially in times of recession to protect jobs in the domestic economy. The restriction of imports results in households substituting towards domestically produced goods and services which raises the Aggregate Demand from AD to AD', when restrictions are applied across a wide range of imports. The resulting rise in real national output from Y to Y' will generate jobs for the unemployed in such times. Given that Yf denotes the level of equilibrium income where resources in the economy are fully employed, the change in the output gap from YYf to Y'Yf suggests that the level of demand-deficient unemployment has also fallen.
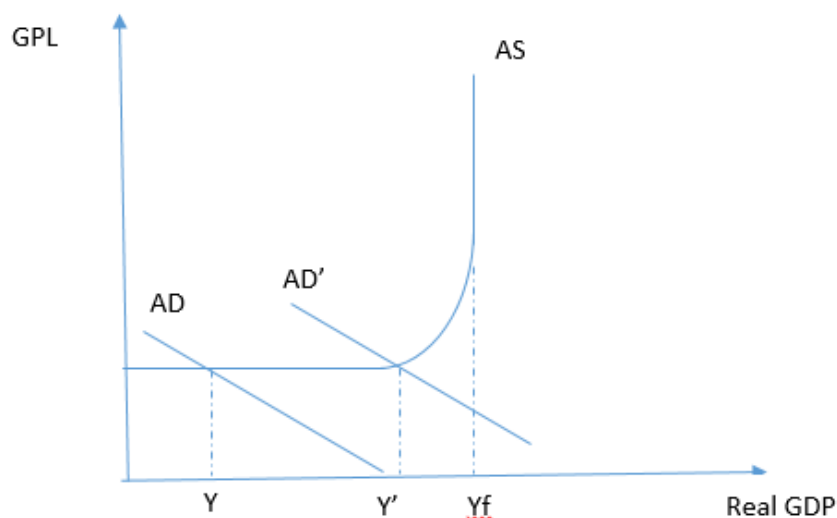
[Eval] Possible points:

1. Ultimately, such a measure may turn out to be self-defeating. The fall in the output and income of the trading partners will result in a fall in their demand for the exports of the domestic country. This fall in domestic exports will then cause a fall in aggregate demand leading to a decline in the domestic output and income, thereby reversing the initial gains in employment.
2. Trading partners may also retaliate with similar restrictions, resulting in a loss of export demand for both countries. Ultimately, both countries will suffer from a contraction in their economy as trade levels shrink.

Conclusion:

Stand: While most of the reasons for protection discussed above possess validity for the short-run, they are typically inferior to other available policy options.

Substantiation: The reason lies in that most governments lack the political will to remove the protection once it has been given which leads to the detriment of the economy as discussed above. In addition trade partners may also impose trade restrictions on imports as a form of retaliation. Coupled with the beggar-thy-syndrome' where trade partners have less purchasing power to demand imports, the end-result is often the permanent reduction of trade and welfare. As such, protectionism is more often than not counter-productive and the problems of unemployment are often better dealt with using relevant demand and supply-management policies.

Levels	Descriptors	Marks
L1	Answer shows some knowledge of reasons for protectionism. May contain some flaws and/or fail to link adequately to the question.	1-4
L2	Descriptive explanation of the reasons why governments protect local industries.	5-7
L3	Analysis of reasons behind the protection of local industries by the government.	8-11
E1	Unsubstantiated or weakly substantiated judgement.	3-4
E2	Reasoned judgement(s) based on sound economic justification	1-2

Question 4

(a) Explain the causes of inflation in Singapore. [10]

(b) Discuss the view that supply-side policies are more effective than exchange rate-centred monetary policy in addressing inflation in Singapore. [15]

Suggested answer (a)

Approach

Students should identify the two main triggering causes of inflation in Singapore. The answer should therefore explain how cost-push and demand-pull inflation arise. Suitable diagrammatic analysis should be used to illustrate both types of inflation.

Introduction

Inflation happens when there is a sustained increase in general price level in a country. There are two main types of inflation: cost-push inflation which is caused by rising cost of factors of

production, and demand-pull inflation which is caused by rising aggregate demand when the economy is at or approaching its full employment level of output.

Body

A: Cost push inflation in Singapore can be due to a rise in the prices of an internal factor input.

C/E: The continued increase in foreign worker levy by the government, an internal factor, is another cause of cost push inflation in Singapore. The rise in this levy leads to increases in unit labour cost. The rise in the unit cost of production results in a fall in AS as illustrated by a shift of the horizontal portion of the AS curve.

A: Cost-push inflation in Singapore can also be due to external factors.

C/E: A rise in price of imports, will cause imported inflation, a type of cost push inflation in Singapore. Singapore is a small country and lacks natural resources. Nearly every raw material is imported. Imports as a percentage of GDP is high. When prices of imported factor inputs such as food and oil increase due to supply shocks in their countries of origin, unit cost of production rises for the economy. Firms will then attempt to pass on this increase in unit cost to consumers. This leads to a fall in AD as depicted by a shift of the horizontal portion of the AS curve.

A: Inflation in Singapore may also be driven by demand-side reasons

C: With increasing demand for goods and services from the US, Japan and the Eurozone, possibly due to economic recovery after the global financial crisis and European debt crisis, it would mean an increased demand for Singapore's exports. This leads to a rise in export revenue for Singapore, ceteris paribus, and consequently an increase in AD through a rising X component. An increase in AD from AD to AD' would lead to an unplanned fall in firms' inventories, causing firms to increase production in response. With the Singapore economy being near full employment of its resources, as shown through the tightness in the labour market, a rising AD would then lead to firms having to incur higher marginal costs in increasing production as spare factors of production are not as abundantly available. Hence, this increased demand for Singapore's exports results in demand-pull inflation as firms pass on the higher marginal costs incurred to consumers in the form of higher prices.
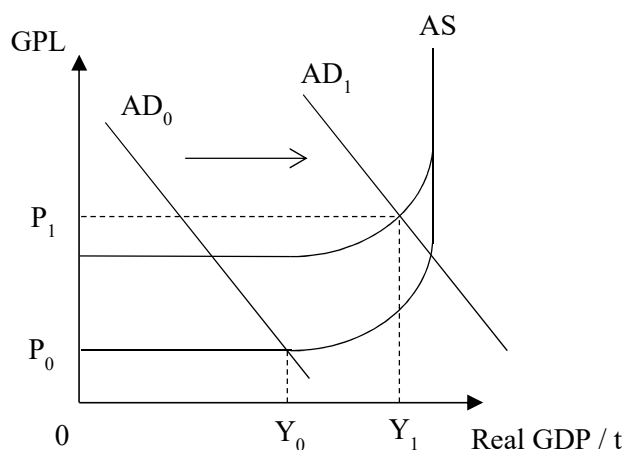

Fig. 1

Referring to Figure 1 above, the fall in AS is collectively shown by the upward shift of the horizontal portion of the AS curve. Coupled with a rise in AD from AD to AD', the general price level rises from P_0 to P_1 due to a combination of cost-push and demand-pull inflation.

| Level	Knowledge, Application/Understanding and Analysis	Mark
L3	Must include accurate analytical explanation of both cost-push and demand-pull inflation with appropriate reference to the Singapore context. Accurate diagrammatic analysis is necessary. Max 10m if internal and external factors present.	8-10
L2	Descriptive explanation of cost-push and demand pull inflation. OR Analysis of only one type of inflation Max 7m if analysis is purely theoretical and does not account for the Singapore context entirely.	5-7
L1	Knowledge of cause(s) for inflation; statements largely unexplained.	1-4

Suggested answer for (b)

Approach

Building on part (a) of the question, students should recognise that controlling inflation entails addressing both cost-push and demand-pull inflation. Students should analyse how exchange rate-centred monetary policy and supply-side policy can be used to tackle both types of inflation when relevant. This will form the bulk of the body of the answer. In-body evaluative comments can be provided to assess the effectiveness of each policy in tackling inflation though this should not be excessive due to the limited marks allocated. The key rather is in providing a comparative evaluation of the effectiveness of both policies in tackling inflation as stated by the question. This will likely be tackled in the conclusion.

A: SS-side policies are effective in managing inflation in Singapore

C/E: A critical factor for sustained growth is to increase labour productivity and overall TFP which can be done so through supply-side policies such as government spending on education, training and skills upgrading (E.g. Workfare Training Support Scheme (WTS), SkillsFuture credit scheme). These serve to boost the quality of labour thus increasing AS as depicted by a rightward shift of the vertical component of the AS curve. This aids to create excess capacity in the economy thus curbing demand-pull inflationary pressures. In addition, the rise in labour productivity will lower unit cost of production. The resultant rise in AS is depicted by an upward shift of the horizontal component of the AS curve. This aids to curb cost-push inflationary pressures. With reference to the diagram below, the rise in AS due to these policies will cause the AS curve to shift from AS to AS'. There is a resultant fall in the general price level from GPL to GPL' demonstrating the positive impact on inflation in Singapore.
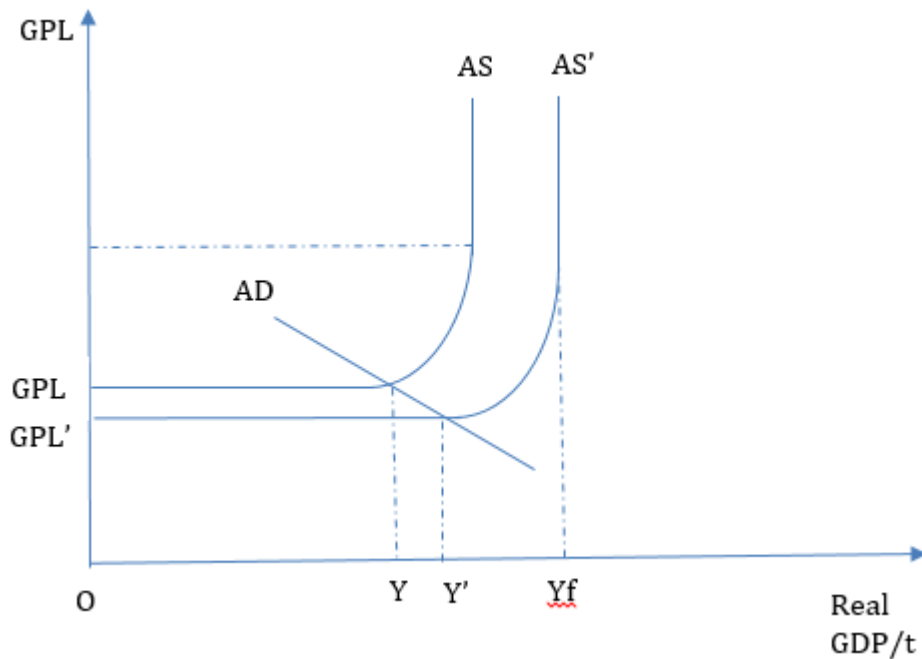
Possible Ev:

- These schemes have a long gestation period and their success can also be dependent on the mindset of those being trained. With an aging population such as Singapore, workers can be more resistant to the notion of such training or may not be fully attentive during the sessions.
- With the fast evolving global economy, improvements made in the educational sector may not necessarily translate into necessary skills demanded by the economy when the students graduate due to the time lag involved.
- The fall in unit labour course due to training is dependent on wages remaining the same or rising by a small percentage.

A: Exchange rate policy is effective in managing inflation in Singapore

C/E: Exchange rate appreciation is useful in controlling both cost-push and demand-pull inflation in Singapore. The Monetary Authority of Singapore utilises a policy of gradual and modest appreciation of the Singapore dollar over the long term to control inflation, particularly cost-push inflation.

As the Singapore dollar appreciates against foreign currencies, the price of imports becomes relatively cheaper in domestic currency terms. Given Singapore's reliance on imported inputs, having relatively cheaper imported inputs helps to reduce the marginal cost of production for most firms. This results in a rise in AS as depicted by a downward shift in the horizontal component of the AS curve as seen in Fig. 1 which was used in part (a).

In addition, Singapore's exports would also become more expensive in foreign currency terms, leading to a fall in demand for Singapore's exports when valued in domestic currency. This lowers export revenue earned. With imports being cheaper in Singapore dollar terms, quantity demanded for imports will rise more than proportionately assuming the demand for imports is price elastic. This will lead to an increase in import expenditure. As export revenue falls and import expenditure rises, the (X-M) component of AD falls, leading to a decrease in AD as depicted by the shift in the AD curve from AD' to AD in Fig.1 used in part (a).

With reference to Fig. 1, the rise in AS and fall in AD due to the use of exchange-rate-centered monetary policy will lead to the general price level falling from GPL' to GPL, thus tackling inflation in Singapore.

Ev: The exchange rate appreciation may not sufficiently address inflation that is due to domestic sources. In Singapore's case, these are characterized by a tight labour market and low productivity growth.

Conclusion

Stand: The effectiveness of the policies boils down to the main cause of inflation that the government seeks to address in SG.

Substantiation: Exchange rate-centred MP is more effective in controlling inflation if it is caused by a rise in price of imported inputs which is often the key cause of inflation for a small and open economy like SG. But if the inflation is due to domestic cost-push inflation which has grown in prominence in recent years, supply-side policy would be more appropriate as a long-term solution. A stronger Singapore dollar may seem to be a stop-gap measure but will ultimately fail to address the root cause of the problem, allowing it to persist further. Supply-side policies will be needed to boost productivity to tackle those issues instead.

Level	Knowledge, Application/Understanding and Analysis	Mark
L3	Analysis of the mechanics of both policies in tackling inflation. Good consideration is given in applying the Singapore context to the answer. Max 9m if students fail to consider how the policies can tackle both types of inflation.	8 - 11
L2	Descriptive explanation of how both policies tackle inflation. Or analysis of one policy in tackling inflation. There may be little or no consideration of the Singapore context.	5 - 7
L1	Response shows some knowledge and relevance, and may be lacking in accuracy.	1 - 4
E2	Well substantiated judgement with good consideration of the Singapore context. Evaluation must consider the relative effectiveness of both policies.	3 - 4
E1	Weakly substantiated judgement of the effectiveness of both policies. There may be little or no consideration of the Singapore context.	1 - 2