ANDERSON JUNIOR COLLEGE

JC2 PRELIMINARY EXAMINATION 2017

Higher 1

ECONOMICS 8819/01

Paper 1 **29 August 2017**

Additional Materials: Answer paper **3 hours**

READ THESE INSTRUCTIONS FIRST

Write your name, PDG and index number in the spaces provided on all the work you hand in.

Write in dark blue or black ink.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Begin your answer to each question on a fresh sheet of writing paper.

Fasten your answer to each question **separately.**

Fasten **this cover page** in front of your answers **to Question 1.**

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

Question Number	Marks Awarded
1	/ 30
2	/ 30
3 / 4	/ 25
Total Marks	

Name _____ ( )

PDG _____/16

This document consists of **8** printed pages and **1** blank page.

[Turn over]

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Section A

Answer **all** questions in this section.

Question 1

Challenging times ahead

Extract 1: UK economic growth has slowed dramatically, latest survey suggests

Britain's economy is losing momentum, knocked by weaker household spending and worries about the global outlook, according to the latest in a string of downbeat business surveys.

Business activity grew at the slowest pace for more than two years in Britain's dominant services sector last month, according to the closely watched Markit CIPS PMI report. "Weakness is spreading from the struggling manufacturing sector, hitting transport and other industrial-related services in particular. There are also signs that consumers have become more cautious and are pulling back on their leisure spending, such as on restaurants and hotels," said Chris Williamson, chief economist at survey compilers Markit.

"Wider business service sector confidence has meanwhile also been knocked by global economic worries and financial market jitters." The pound weakened against the euro and the dollar after the report, which economists saw as providing further reason for the Bank of England to hold off raising interest rates from 0.5%.

Source: The Guardian 5 October 2015

Table 1: Key Economic Indicators in 2015

Indicators	UK	China	Singapore
Nominal GDP growth (annual %)	2.2	6.9	1.9
Inflation rate	0.05	1.4	-0.5
Exports as a % of GDP	27.6%	21.9%	177.9%
Imports as a % of GDP	29.2%	18.4%	152%

Source: The World Bank Data

Table 2: UK's trade with selected countries in 2015

Countries	UK's exports to (£) (Rank)	UK's imports from (£) (Rank)
United States	96.4bn (1st)	59.3bn (2nd)
China	16.7bn (8th)	38.4bn (3rd)
Japan	10.5bn (11th)	9.6bn (14th)
Germany	48.5bn (2nd)	70.4bn (1st)
Singapore	7.1bn (17th)	3.9bn (27th)

Source: Office for National Statistics; www.visual.ons.gov.uk

Extract 2: China pledges policy support to economy, reform in 2016

China will make its monetary policy more flexible and expand its budget deficit in 2016 to support a slowing economy, state media said on Monday. It cited top leaders who wrapped up the annual Central Economic Work Conference, a meeting keenly watched by investors for clues on policy priorities and main economic targets for the year ahead.

The government will take steps to expand aggregate demand next year. The People's Bank of China has cut interest rates six times since November last year and reduced banks' reserve requirement ratios (RRR), or the amount of cash that banks must set aside as reserves. The government has also stepped up spending on infrastructure projects and eased restrictions on home buying to boost the sluggish property market. Top leaders also pledged to push forward "supply-side reform" to help generate new growth engines, while tackling factory overcapacity and property inventories.

Source: Reuters, 21 December 2015

Extract 3: Shedding light on slowing growth: What ails Singapore's economy?

Singapore's small, trade-dependent economy is under the weather. While the country has not yet sunk into a full-blown recession, its fortunes are tied closely to those of the world economy and the outlook there is far from cheery. The Sunday Times looks at four key contributors to slowing growth in Singapore.

1. Lacklustre Global Growth

The world economy has yet to completely shake off the vestiges of the global financial crisis and continues to lack a strong growth driver. Singapore’s key trading partners have all been grappling with their own sets of challenges.

2. Protracted Oil Price Slump

World oil prices had been fairly stable from 2010 until mid-2014, at around US$110 a barrel. But they have almost halved since, plunging the oil and gas industry into a crippling slump. Companies in Singapore have not been spared the effects of this protracted downturn. More than two years of tumbling oil prices have wiped over US$24 billion (S$33.5 billion) from the market value of Keppel, Sembcorp Marine and other listed oil-services companies - or about two-thirds of their pre-July 2014 capitalisation.

Tens of thousands of jobs have been axed and some companies have defaulted on bond payments - sparking concerns over banks' exposure to the sector. The drag from this important sector is predicted to feed through to the rest of the economy.

3. Shifting Trade Flows

International trade has fallen to its lowest level since 2009, alongside lacklustre economic growth. But some economists say the slowdown is not merely cyclical, and lower levels of global trade might become the new normal.

This is because growth in developed economies like the United States is increasingly driven by services rather than the trade in goods. China is also becoming less exposed to international trade as it shifts away from an industrial-led growth model towards consumption and services. This means Chinese companies are increasingly sourcing from within the country, instead of importing. This trend could weigh on regional trade even in the long run - a gloomy prospect for Singapore, which depends not just on its own exports but which also does a bustling trade in re-exports.

4. Disruptive Change

Prime Minister Lee Hsien Loong said in his National Day Rally speech in August that disruptive change is the "defining challenge" facing Singapore's economy.

Technology has transformed almost every industry - from food delivery to manufacturing. These developments have left both challenges and opportunities in their wake, most obviously in the labour market. There are thousands of jobs waiting to be filled in growing sectors like IT, precision engineering, education and healthcare. But many workers who have been laid off lack the necessary specialised skills required in these roles.

There is no easy solution to this - the ever-increasing pace of technological change means that jobs will more or less be in a constant state of flux. There is help available for laid-off workers - including the option to upgrade their skills with SkillsFuture, or programmes which help mid-career workers move to industries with the potential to grow. But companies and workers also have a part to play - both in terms of skills upgrading and shifting mindsets.

Source: The Straits Times, 30 October 2016

Questions

(a) Using data from Table 1,

(i) Compare the balance of trade position of UK, China and Singapore. [2]

(ii) Comment on the view that the Chinese economy performed well in 2015. [3]

(b) Using data from Extract 1 and Table 2, explain and compare how 'weaker household spending and worries about the global outlook' in the UK may impact the balance of trade for China and Singapore. [4]

(c) **(i)** Explain what is meant by a budget deficit. [1]

(ii) Using the concept of the circular flow of income, explain how 'expanding its budget deficit' (Extract 2) will affect the equilibrium level of national income in China. [4]

(d) **(i)** Assess whether 'disruptive change' (Extract 3) is the most significant cause of unemployment in Singapore. [8]

(ii) Discuss the view that supply-side policy is the best way for the Singapore government to achieve low unemployment. [8]

[Total: 30]

Question 2

World Aluminium Market

Table 3: Global Production levels (thousand metric tons)

Year	Africa	Asia (Excluding China)	Gulf Cooperation Council	China	North and South America	Europe	OCEANIA	World Total
2010	1,742	2,500	2,724	16,131	6,994	8,053	2,277	40,421
2011	1,805	2,533	3,483	20,072	7,154	8,346	2,306	45,699
2012	1,639	2,535	3,662	23,534	6,903	7,928	2,186	48,387
2013	1,812	2,439	3,887	26,534	6,824	7,611	2,104	51,211
2014	1,746	2,429	4,832	28,317	6,128	7,360	2,035	52,847
2015	1,687	3,001	5,104	31,518	5,794	7,574	1,978	56,656

Source: The International Aluminium Institute

Extract 4: Consumption and Production of aluminium

The rapid increase in the production of aluminium was brought about by the improvement of production methods, and by the expansion of the scope of application of aluminium. The world's largest aluminium producers are, as a rule, vertically integrated holding companies comprising bauxite mines and aluminium refineries. The advantage of the vertical integration model for large companies is their independence from price fluctuations of factors of production as they can ensure the supply of raw materials in required volumes is secured for uninterrupted aluminium production. This leads to more flexibility in the production process and allows firms to be more responsive to changes in demand.

Demand for aluminium from carmakers is also expected to grow in 2015 as car sales combined with the aluminium content in cars rising significantly. Automakers consumed a record amount of aluminium last year as plummeting prices and technological breakthroughs made it a viable alternative to steel.

Source: adapted from www.aluminiumleader.com, accessed 28 July 2017

Extract 5: China's aluminium exports flood market

China's surging exports of aluminium are becoming a contentious issue as prices of the metal continue to hover just above their six-year low. China's aluminium exports are up 14.4% so far this year, as companies there take advantage of China's large labour force and lower wage cost than international rivals to seize market share. While major aluminium companies like US-based Alcoa have cut production this year, Chinese output has risen by 18% year to date, according to the International Aluminium Institute, a supply flood that has helped keep prices depressed.

Protests against China's aluminium export rise have been growing louder, with producers from the US to India demanding measures to protect employees in their domestic industries. "Due to a rise in imports from China, profits for domestic Indian producers are getting choked. The Chinese government has provided tremendous subsidies to aluminium production and India's import tax on aluminium should be increased to 10% on primary aluminium and aluminium scrap," said Abhijit Pati, chief executive officer of Vedanta Group's aluminium business.

China's Non-Ferrous Metals Industry Association has hit back at suggestions that companies there are dumping aluminium on international markets although analysts say that Chinese smelters can withstand low international prices in part because of the government support they receive. Chinese producers often benefit from "opaque" tax rebates, or cheap loans made to them by local governments.

Source: adapted from The Wall Street Journal, November 12, 2015

Extract 6: Aluminium import tariffs in India

The aluminium lobby in India has been pressing for an increase in import tariffs for aluminium in the face of low-priced aluminium from foreign countries making its way into the Indian market. According to industry data, total aluminium imports in India had grown by over 159% between 2015 and 2011, mainly from China and Middle-Eastern countries. This has led to imports accounting for 56% of the Indian aluminium consumption in 2014-15, while products of Indian producers accounted for only 44%.

Some local aluminium producers, unable to keep up, have even slipped into losses. Vedanta Resources, in August, initiated the process to shut down its 1 million metric ton per year alumina refinery in Odisha. Interestingly, while the Indian government has taken the step to hike tariffs to protect local industry, some experts have argued against the move.

The government's own report indicated that raising tariffs to quell imports of cheap aluminium would do harm to downstream producers such as carmakers and construction companies.

Source: adapted from www.agMetalMiner.com, accessed 28 July 2017

Extract 7: China's production of aluminium is poisoning southeast Asia

Soaring Chinese demand for natural resources to produce aluminium is wreaking environmental havoc throughout Southeast Asia. Both Vietnam and Malaysia are major producers of bauxite, the ore required to create aluminium.

Vietnam is home to the world's third largest natural deposit of bauxite, with 5.5 billion tons of crude ore reserves. However, the mining of these reserves has resulted in serious environmental issues. For instance, there has been reports of breakages and spills in waste management facilities, deforestation and river pollution.

Source: adapted from Asian Correspondent

Questions:

a) **i)** Compare the production levels of aluminium between China and the Gulf Cooperation Council between 2010 and 2015 shown in Table 3. [2]

ii) Using information from Extract 4, account for the change in world production levels for aluminium. [4]

b) **i)** Explain whether data from the extracts support the claim that 'Chinese companies are dumping aluminium on international markets' (Extract 5). [4]

ii) Assess the likely impacts of an increase in tax rebates given to Chinese aluminium producers on different producers in other countries like India. [8]

c) **i)** Explain **briefly** the reason for the Vietnamese government to intervene in the market for bauxite extraction. [2]

ii) Explain how changes in demand for aluminium may affect the market for bauxite. [2]

iii) Vietnam and India face different issues due to the increase in Chinese aluminium production.

Discuss whether increasing import tariffs on aluminium in India will address the issues faced by Vietnam and India respectively. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3. Globalisation brings about increased trade and production activities, leading to a large increase in pollution in countries such as China.

(a) Explain why countries trade. [10]

(b) Discuss the extent to which globalisation is the main cause of market failure. [15]

4. **(a)** Explain what might cause a large and persistent deficit on a country's balance of payments. [10]

(b) Discuss the factors that a government should consider when depreciating its currency to reduce a balance of payments deficit. [15]

End of Paper

CSQ Question 1

(a)	**Using data from Table 1,**		
	(i)	**Compare the balance of trade position of UK, China and Singapore.** China and Singapore's balance of trade were in surplus while UK's balance of trade was in deficit. [1m] Balance of trade surplus **(as a % of GDP)** for Singapore was larger than for China. [1m]	**[2]**
	(ii)	**Comment on the view that the Chinese economy performed well in 2015.** Table 1 shows that China recorded real GDP growth rate of 5.5% in 2015, indicating that it experienced economic growth and increase in real national income. Inflation rate was low at 1.4%, indicating price stability. China recorded balance of trade surplus, which could indicate a favourable position on the balance of payments (assuming KFA account and other components of current account is already in a surplus) ***[Any 2 of the above]*** However, there is no information in Table 1 on unemployment and therefore no indication of the level of employment and efficiency in the usage of labour resource. There is also no information on the capital and financial account balance and therefore no information on overall balance of payments position. ***[Any 1 of the above]***	**[3]**
(b)		**Using data from Extract 1 and Table 2, explain and compare how "weaker household spending and worries about the global outlook" in the UK may impact the balance of trade for China and Singapore.** Weaker household spending means a fall in consumption expenditure. Worries about the global outlook could lead to lower confidence in the economy for households and firms and this would result in fall in consumption and investment spending. Aggregate demand falls as consumption and investment spending are components of AD. The fall in AD leads to a fall in production levels and decline in national income in the UK. **[1m]** As income falls, UK's demand for exports from its trading partners, including exports from China and Singapore also fall. **[1m]** From Table 2, China is UK's 3rd largest import partner while Singapore ranks 27th. **[1m]** This means that China exports more of its goods and services to UK than Singapore does and thus would suffer a larger fall in exports revenue, affecting its balance of trade more than the case for Singapore. **[1m]**	**[4]**
(c)	**i**	**Explain what is meant by a budget deficit**. A budget deficit occurs when government expenditure is larger than the tax revenue it collects.	**[1]**
	(ii)	**Using the concept of the circular flow of income, explain how "expanding its budget deficit" will affect the equilibrium level of national income.** The circular flow of income refers to an economic model which describes the flow of payments and receipts between domestic firms and domestic households. Income flows from firms to households in the form of factor payments, and back again from households to firms as consumer expenditure on domestically produced goods and services (C_d). This circular flow of income can be increased by injections while reduced by withdrawals. Injections comprise investment (I), government expenditure (G) and expenditure on exports (X) while withdrawals comprise savings (S), taxes (T) and import expenditure (M). National income is	**[4]**

in equilibrium when planned injections are equal to planned withdrawals and there is no tendency for it to change.

When the Chinese government 'expands its budget deficit', G will increase while T will decrease. This will result in injections exceeding withdrawals (J>W) **[1m]** which leads to a rise in national income as more goods and services are produced and more households are paid more factor income. With the increase in income, households not only increase their spending on domestic consumption, they also save more (S), pay more taxes (T) and buy more imports (M), which increases withdrawals. **[1m]**

There will be successive rounds of induced increase in national income, causing an increase domestic consumption, S, T and M until withdrawals have risen to equal the new level of injections in the economy. **[1m]** At that point, national income will stop rising and a new equilibrium is attained in the circular flow where there would be a multiplied increase in national income. **[1m]**

(d) (i) **Assess whether the "disruptive change" explained in Extract 3 is the most significant cause of unemployment in Singapore.** **[8]**

Unemployment refers to the number of people who are actively looking for work but are currently without a job.

- Define demand-deficient unemployment and structural unemployment.

Perspective 1(Disruptive change is a significant cause of structural UnN)

- Explain how "disruptive change" cause structural unemployment → technology changes and with no upgrading skills → demand for lower skilled workers fall while demand for higher skilled workers increase → Structural UnN due to mismatch of skills
- Accept any point that reasonably argues that disruptive changes causes dd-def UnN

Perspective 2a :

Disruptive change may not cause S.UnN due to the presence of government policies (Skillsfuture)

Perspective 2b(Other factor can also cause UnN)

- Shifting trade flows (China moving to own sources of FOPs)→ Loss of CA in re-export industries → Workers are retrenched and unable to find jobs in sunrise industries due to mismatch of skills → Structural UnN
- "Lacklustre global growth" and "shifting trade flows" → Fall in DDx → reduce net exports and → demand deficient UnN
- 'Protracted oil price slump' could also be a cause of workers in the shipping and marine industry lose their jobs and may not have the skills to take on jobs in other growing sectors → Structural. UnN

Evaluation

- Whether or not disruptive change is the most significant cause of UnN in Singapore depends on how SG government deals with these changes. Nonetheless, in the short run, it is still likely to be a significant cause of S.UnN as the labour force needs time to be trained to adapt to these challenges.
- In long run, disruptive change can also create employment opportunities in new sectors, thereby helping to create jobs and reduce UnN instead.

Mark Scheme		
L3	Balanced and well -developed answer on whether disruptive change is the most significant cause of UnN in Singapore. Good reference to extract evidence and Singapore's context	5-6
L2	Balanced but under-developed answer on whether disruptive change is the most significant cause of UnN in	3-4

	Singapore. Limited reference to extract evidence and Singapore's context		
L1	Brief explanation or one-sided answer on whether disruptive change is the most significant cause of UnN in Singapore.. Many conceptual errors	1-2	
E2	Evaluation based on economic analysis	2	
E1	Mere statement with no economic analysis	1	

(ii) **Discuss the view that supply-side policy is the best way for the Singapore government to achieve low unemployment.** **[8]**

<u>Perspective 1(SSP is the best way for the Singapore government to achieve low UnN)</u>

Skillsfuture/Workfare
- Improving the skills of workers -→ reduce mismatch of skills→ **reduce structural UnN**
- subsidies for skills upgrading for workers → improves productivity → lowers COP →increases SRAS → actual growth → **reduce DD-def UnN**
- Able to produce higher quality products → Increase demand for X → AD increases → actual growth→ **reduce DD-def UnN**

<u>Perspective 2a (Limitations of SSP)</u>

- May run into budget debt → increase in T in the LR → reduce C and I → reduce AD → **worsen DD-Def UnN** instead
- Difficult to change mindset of both companies and workers "shifting mindsets"
- No guarantee that training will translate to increased productivity

<u>Perspective 2b (Other policies may be better)</u>

- Exchange rate policy to reduce DD deficient UnN
- Depreciate (zero-appreciation) of SGD → FPx falls, DPm increases → Increase in price competitiveness of exports and domestically produced goods → (X-M) increases → AD increase → increase DD for Labour → Fall in DD-Def UnN

- (Will also be accepted) Modest and gradual appreciation policy to ensure price stability → attract FDI → link to AD/AS

- Explore new export markets through more bilateral/regional trade agreements with new trading partners, in view that "Chinese companies are increasingly sourcing from within the country" (Extract 3) → link to AD/AS

<u>Evaluation</u>

- Depends on the root cause of the problem. If S.UnN (which is likely to be the most significant cause of UnN in SG) → SSP will be better as it addresses the root cause of the problem.

- But if UnN is both DD-def and structural, and noting the importance of mindset change and longer time frame for SSP to take effect, may need to combine with depreciation in the SR to boost exports competitiveness and increase AD to reduce UnN, while implement SSP to build improve labour mobility and build capacity for the SG economy to deal with disruptive changes and shifting trade flows.

Mark Scheme		
L3	Balanced and well-developed answer on whether supply-side policy is the best way for the Singapore government to achieve low unemployment. Good reference to Singapore's context	5-6
L2	Balanced but under-developed answer on whether disruptive change is the most significant cause of UnN in Singapore. Limited reference to extract evidence and Singapore's context	3-4

		L1	Brief explanation or one-sided answer on whether supply-side policy is the best way for the Singapore government to achieve low unemployment. Many conceptual errors	1-2	
		E2	Evaluation based on economic analysis	2	
		E1	Mere statement with no economic analysis	1	

CSQ Question 2

(a)	**(i) Compare the production levels of aluminium between China and the Gulf Cooperation Council between 2010 and 2015 shown in Table 3.**	**[2]**
	Production levels in both China and the Gulf Cooperation Council increased between 2010 and 2015. Production levels in China increased by a greater extent compared to production levels in the Gulf Cooperation Council. **OR** Production levels in China were consistently higher in China than the Gulf Cooperation Council between 2010 and 2015.	
	(ii) Using information from the extract 4, account for the change in world production levels for aluminium.	**[4]**
	<u>Demand Reason + Evidence</u> Increased demand for cars and the aluminium content in cars. Demand for aluminium is derived from the demand for cars. As the demand for cars increases, carmarkers will require more aluminium to produce cars and this leads to an increase in demand for aluminium and hence, an increase in production levels. <u>Supply Reason + Evidence</u> Improvement of production methods. With the improvement of production methods and higher levels of productivity, this will lead to a lower cost of production and an increase in profitability for firms to produce aluminium. Hence, this results in an increase in willingness and ability to produce aluminium and this is represented by an increase in supply. Hence, this leads to an increase in production levels.	
(b)	**(i) Explain whether data from the extracts support the claim that "Chinese companies are dumping aluminium on international markets" (Extract 6).**	**[4]**
	Dumping is the practice of selling exports at prices **below its marginal cost of production**. To decide if "*Chinese companies are indeed dumping aluminium on international markets*" (Extract 6), it is necessary to find out if the low prices of aluminium sold in foreign markets are a result of deliberate government support or true comparative advantage. <u>Perspective 1: data from the extracts support the claim</u> Extract 6 mentions that the Chinese government has provided tremendous subsidies, "opaque" tax rebates and cheap loans to the companies. These allow them to price their aluminium at artificially low prices, **possibly at levels even below their marginal costs of production**. Hence, the data supports the claim that Chinese companies are dumping aluminium on international markets. <u>Perspective 2: data from the extracts does not support the claim</u> However, Extract 6 also mentions that Chinese companies have the advantage of low-cost labour over their international rivals. This suggests that Chinese companies do have a **comparative advantage** in producing aluminium and the low prices are due to lower input costs (such as wage) due to the abundance of resources (such as workers) in China. As such, these companies are not dumping aluminium.	
	(ii) Assess the likely impacts of an increase in tax rebates on Chinese exported aluminium products on different producers in other countries like India.	**[8]**

With an increase in tax rebates, this will lead an increase in production levels by Chinese firms and an increase in the quantity of exported aluminium products to India.

	Positive impacts	Negative impacts
Impact on producers (profits or TR<TC)	If Chinese firms are dumping aluminium into the Indian market, this allows car producers to enjoy a lower cost of production (COP). Ceteris paribus, this will lead to a higher level of profits for the car manufacturers. OR With lower COP, rational producers will increase their supply of cars. Assuming that PED > 1 due to the large proportion of income normally spent on cars, this leads to an increase in TR (draw diagram), and ceteris paribus, profits. OR Derived demand for bauxite increases due to the increased production of Chinese aluminium. This leads to an increase in equilibrium price, quantity and thus total revenue for bauxite producers in Vietnam.	With a fall in demand of Indian aluminium due to how price of its substitute, Chinese aluminium is cheaper, Indian producers face a fall in equilibrium price and quantity and thus total revenue. In the long run, if the fall in revenue persists, producers of cars that depend on aluminium as a factor of production will now face a higher cost of production if Chinese firms start to raise prices. Suppose that the demand for cars is price elastic since there are usually public transport substitutes, then the rise in price may lead to a more than proportionate decrease in quantity demanded for cars and revenue earned by producers fall.

Evaluation:

Impact on the producers in India would largely depend on whether India is heavily dependent on imported aluminium from China. Since China is one of the world's largest producers of aluminium, it is likely that the impacts will be significant. However, the likelihood for the impacts to be negative would depend on the success of the Indian government in mitigating the level of imported aluminium from China.

Mark Scheme		
L3	Balanced and well developed answer on how different producers may be affected by the increase in tax rebates in China.	5-6
L2	Brief and under-developed explanation on how the economic agents may be affected by the increase in tax rebates in China. Impact on one or more economic agents may not have been analysed by the student.	3-4
L1	Answer makes some relevant explanations but without proper use of economic analysis/framework.	1-2
E	Evaluation based on economic analysis. Students should make a comment about how each economic agent may be affected on balance, based on the analysis provided.	1-2

(c) **(i) Explain briefly the reason for the Vietnamese government to intervene in the market for bauxite extraction.** **[2]**

The market for bauxite extraction results in the generation of negative externalities from production. There are external costs (negative externalities) on the environment such as instances of "breakages and spills in waste management facilities, deforestation and river pollution".

Hence, this results in an over-allocation of resources to bauxite extraction (market failure) and government intervention is required.

(ii) Explain how changes in demand for aluminium may affect the market for bauxite. **[2]**

Bauxite is a factor of production required in the production of aluminium. With an increase in demand for aluminium, this may have led to an increase in the derived demand for bauxite.

Ceteris paribus, this will lead to an increase in both the equilibrium price and equilibrium quantity of bauxite.

(iii) Vietnam and India face different issues due to the increase in production levels of aluminium.

Discuss whether imposing import tariffs on aluminium in India will address these issues faced by both countries. **[8]**

	Yes	No
Reduce unemployment in India	Since PES>1 for aluminium production due to the increase in flexibility in the production process (Extract 1), the higher prices due to the import tariff will lead to a more than proportionate increase in quantity supplied of domestic aluminium production. As Indian aluminium producers increase their production levels, this will lead to an increase in the derived demand for labour. Thus, the import tariffs will lead to a lower level of demand deficient unemployment in India.	Import tariffs may lead to higher unemployment in other sectors of the economy due to higher costs of aluminium (as a factor of production). Import tariffs may lead to retaliation and feedback effect on the Indian economy, thus worsening unemployment.
Address/Reduce negative externality due to the production of bauxite, which is a factor of production for aluminium	Due to the imposition of import tariffs, this will lead to a reduction in the quantity of aluminium imports as imported aluminium become less price competitive. Ceteris paribus, there will be a fall in the derived demand for bauxite. As production of bauxite falls, this leads to a lower level of negative externalities produced.	Imposition of import tariffs may not necessarily lead to a large fall in aluminium production in China. China may also be exporting aluminium to larger markets such as the USA. Hence, derived demand for bauxite may not fall significantly. Producers are not forced to internalise the external cost to the environment. Deadweight loss is still created due to the production of bauxite.

Evaluation:

It is more likely that the imposition of the import tariff will address unemployment in India than the negative externalities in Vietnam as externalities will only be eliminated if production is reduced to zero (which is unlikely). Furthermore, even if import tariffs may be effective in addressing unemployment in India, this may only be the case in the short run. In the long run, these import tariffs may be perceived to be protectionist and may invite retaliation from other countries, thus worsening unemployment in India.

Mark Scheme		
L3	Balanced and well developed answer on how the issues in both India and Vietnam may be addressed.	5-6
L2	Brief and under-developed explanation on how the issues in both India and Vietnam may be addressed. Issues are not identified correctly.	3-4
L1	Answer makes some relevant explanations but without proper use of economic analysis/framework.	1-2

		E	Evaluative comments are provided on how the issues of negative externalities in Vietnam and unemployment in India may be addressed by the import tariffs in India.	1-2

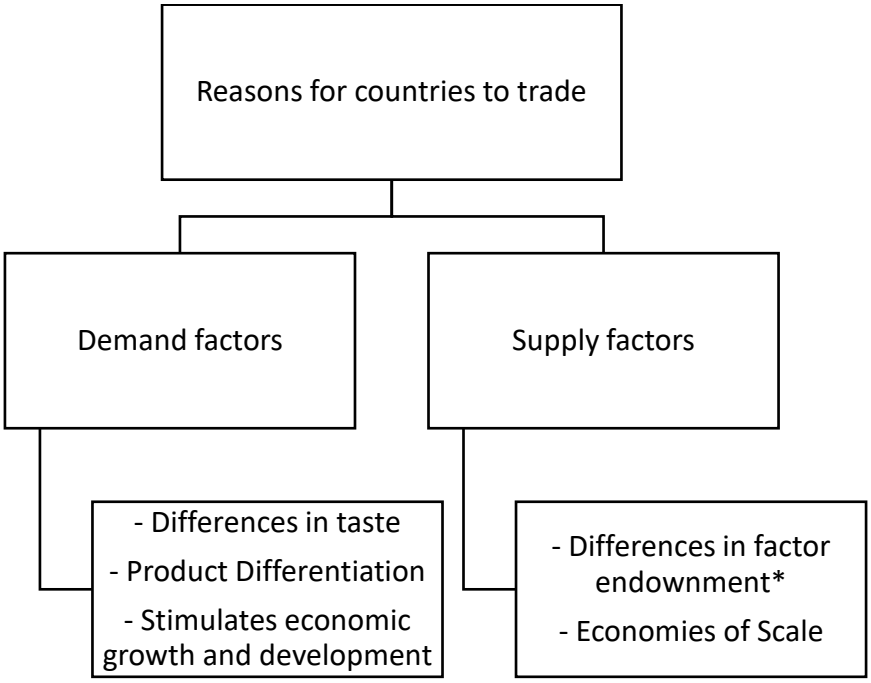
Question 3

Globalisation brings about increased trade and more production activities, leading to a large increase in pollution in countries such as China.

(a) Explain why countries trade. **[10]**

(b) Discuss the extent to which globalisation is the main cause of market failure. **[15]**

(a)



(a) Explain why countries trade.	**[10]**
Countries trade due to demand factors like differences in taste and preference and trade stimulates economic growth and development in an economy, and supply factor like differences in factor endowments.	*Introduction*
One of the main reason why countries will trade is due to the differences in factor endowments in different economies. Benefits that can arise from specialisation and exchange can be explained using the theory of Comparative Advantage. (CA) The theory of CA states that so long as a country has comparatively lower opportunity cost in the production of a good (ie. it has comparative advantage), specialisation and exchange can benefit itself and its trading partner. This is because resources are more efficiently allocated when each country specialises in production according to the CA it has than if it tries to be self-sufficient by producing every good it needs. Thus each country ends up with more output to consume with exchange than without exchange. The theory assumes that there are two countries, two commodities, no currency nor trade restrictions, no transport costs, perfect factor mobility and constant returns to scale (ie. constant opportunity costs). Suppose the two countries are China and USA and each has 10x resources. Prior to specialisation and exchange, given x amount of resources, China can produces either	*Linking to the theory of CA* *Assumptions*

20 units of cloth or 200 units of wheat, while USA can produce 10 units of cloth or 150 units of wheat. Hence, China's opportunity cost of producing 1 unit of cloth is 10 units of wheat. On the other hand, USA's opportunity cost of producing 1 unit of cloth is 15 units of wheat. In terms of output of wheat forgone, cloth is relatively cheaper in China than in USA. Hence, China has CA in cloth and USA has CA in wheat.

Illustrate through numerical eg Note: Students can also choose to explain the theory of CA via the graphical method

Specialisation refers to the allocation of resources which focuses on the production of a particular good. Complete specialisation occurs when the country devotes all resources to the production of only one type good while partial specialisation is the allocation of resources to produce two or more types of goods. If each country were to devote half of their resources (i.e. 5x) to produce each of the two commodities, their respective production levels are as follow:

With 5x resources,	Cloth		Wheat
China can produce	100	and	1000
USA can produce	50	and	750
Total output	150	and	1750

Thus, the total output produced by the two countries is 150 units of cloth and 1750 units of wheat.

Suppose, let USA completely specialises in the commodity it has CA in (wheat) while China partially specialise in the commodity it has CA in (cloth). If China allocates 8x amount of resources to produce cloth and 2x amount of resources to produce wheat, given such specialisation, the production level by both countries is

	Cloth		Wheat
China produces	160	and	400
USA produces	0	and	1500
Total output	160	and	1900

The total output will then be 160 units of cloth and 1900 units of wheat, where there is an increase in 10 units of cloth and 150 units of wheat, as compared to the situation before specialisation. Specialisation therefore results in increase in world output.

Exchange refers to the trading of goods and services between countries. In order for both countries to benefit from exchange after specialisation, the terms of trade has to be acceptable to both countries, where 1 unit of cloth is to be exchanged for between 10 and 15 units of wheat. Suppose the terms of trade settles at 1 unit of cloth for 12 units of wheat and 55 units of cloth are exchanged for 660 units of wheat. China trades 55 units of cloth to USA in exchange for 660 units of wheat from USA. USA gets 55 units of cloth from China when it trades 660 units to wheat to it.

	Cloth		Wheat
China now has	105	and	1060
USA now has	55	and	840
Total output	160	and	1900

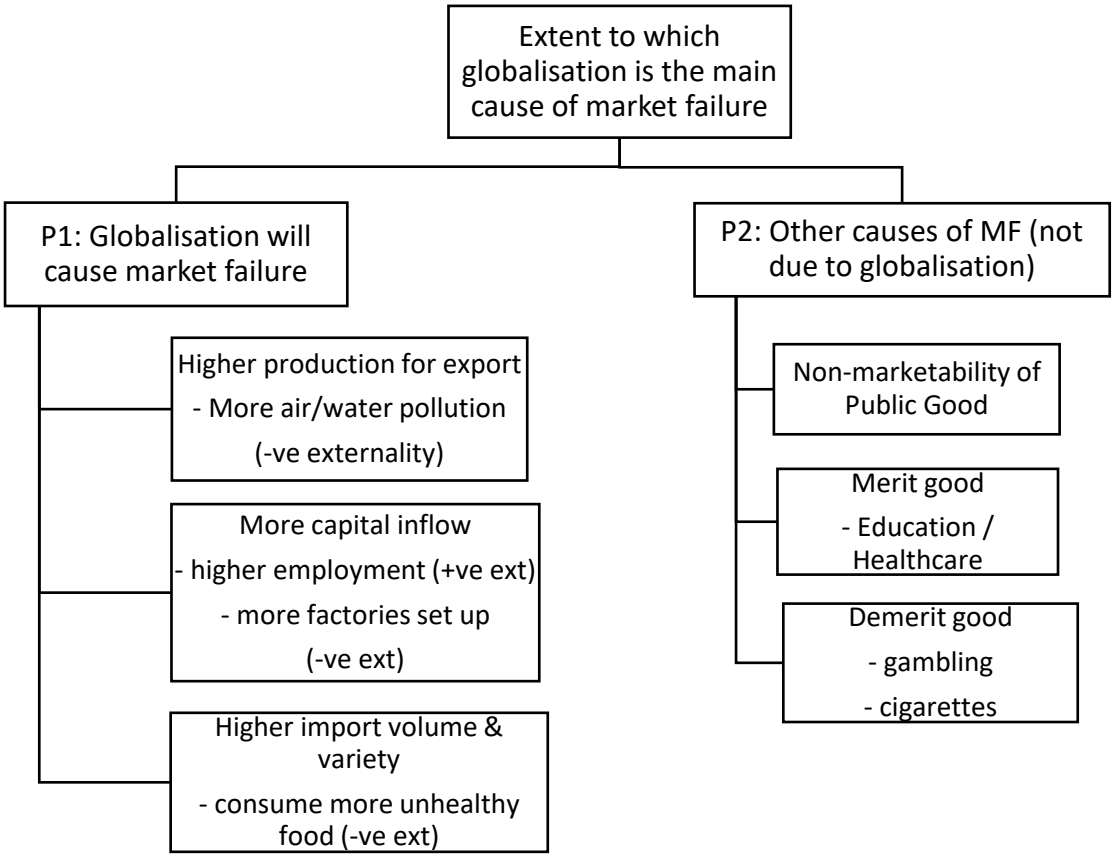
In comparison to the situation before specialisation and exchange, China has gained 5 units of cloth and 60 units of wheat and USA has gained 5 units of cloth and 90 units of wheat. In conclusion, the theory of CA explains that a country can gain from specialisation and exchange in terms of **higher world output and consumption**. Before trade, the countries could only consume along their production possibility curves (PPC); after exchange, they can consume beyond their PPC. In addition, two countries may have the same factor endowments and the same factor productivity; but if the **consumption pattern** is different, then the prices of the same goods will differ in the two countries. Ceteris paribus, the price of the coffee is lower in Vietnam due to lower demand for coffee, but higher in China due to higher demand for coffee. Hence, trade would benefit the trading countries as they are able to obtain goods at lower prices. In addition, with international trade, the size of the market gets larger, causing an increase in export revenue and import expenditure. Assuming export revenue increases more than import expenditure, (X-M) increases, as a component of AD, AD increases, causing multiplied increase in RNY through the multiplier process. Hence, trade is an engine of **growth** for many countries. At the same time, with trade, the competition from imports may generate **greater efficiency** in the domestic market. This will increase the productive capacity of the economy. Furthermore, domestic firms may have greater incentive to engage in research and development, possibly leading to lower prices, **better quality goods and a greater variety of goods**, causing standard of living to increase. *Other explanations on demand factor (product differentiation) and supply factor (economies of scale) are also acceptable.*	*Other reasons for trade*

Mark Scheme

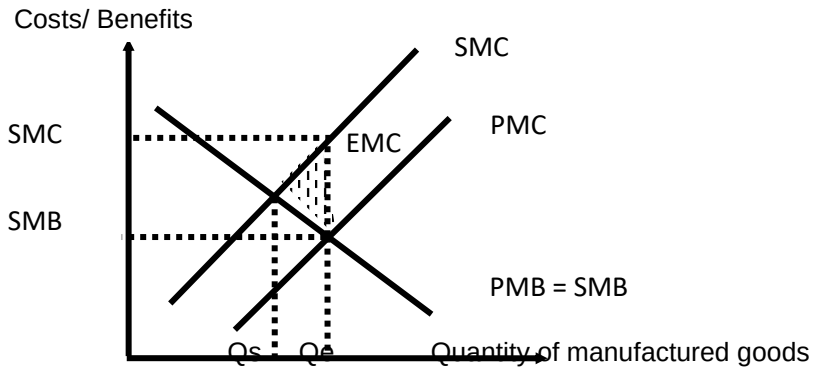
Knowledge, Application, Understanding, Analysis		
L3	For a well-developed explanation on reasons for trade (DD and SS factors), one of which is based on theory of comparative advantage.	**7-10**
L2	For an underdeveloped answer where there is **limited** reference to the theory of comparative advantage and on other reasons for trade.	**5-6**
L1	For an answer that is largely descriptive without economic analysis.	**1-4**

Question 4

(b) Discuss the extent to which globalisation is the main cause of market failure.	**[15]**



Globalisation is the increasing integration of the world economy and is characterised by greater international interdependence among economies. Market failure refers to circumstances in which the equilibrium in unregulated (or free) markets fails to achieve an efficient allocation of resources. In other words, the price mechanism is unable to allocate resources efficiently. The 4 main features of globalization are increase in freer trade and openness, increase in capital flow, increase in labour mobility and increase in competition, and these may result in market failure in an economy like China. However, there are other causes of market failure which may not be due to globalisation like non-provision of public good and consumption of merit good like education.	*Introduction*
With globalisation, there is increased trade flows: - Higher export volume for China - More production activities in production plants - Producers will only weigh their own PMB and PMC to maximise profits - PB: revenue earned from sale of manufactured goods to domestic and external markets - PC: cost of production like wages of labour	*Perspective 1: Globalisation → higher trade volume → higher production activities →*

- Generates negative externality: air pollution → higher healthcare cost to people living around the production plants - Due to presence of negative externality → SMC > PMC as SMC=PMC+EMC - Market Equilibrium at Qe where PMC=PMB - At Qe, SMC>PMC due to EMC - At Qe, SMC>SMB, society values one additional unit of manufactured good less than what it cost the society to product it. - Socially Optimal Level of output Qs is where SMC=SMB - As Qe is higher than Qs - Overproduction of manufactured goods - Over-allocation of resources to the production - DWL to society - Market failure  *Any other causes of market failure <u>due to globalisation</u> is acceptable*	*generates negative externality → Over allocation of resources to production of manufacture d goods → MF*
However, there are other causes of market failure which may not be due to globalisation. For instance, the non-marketability of public good will result in complete market failure. **Public goods** are goods that are both non-excludable and non-rivalrous in consumption. E.g. Street lighting Non-rivalry in consumption - no opportunity cost of consumption once the good is produced; - consumption by one person does not reduce the amount of light available to other people that pass by the streetlight. - If the lights are provided, they shine as brightly when you walk pass them as when 1,000 people walk pass them. This essentially means that the *marginal cost* (i.e. additional cost) of providing street lighting to an additional consumer is zero. - condition for *allocative efficiency* is P = MC - since MC = 0 - then P = MC = 0 - inefficient to charge a price since extra users can benefit at no extra costs to society. - A good for which no price can be charged will not be supplied by the free market since there is *no incentive* for producers to produce it. - no supply of the good in the market. Non-excludable - provision of street lighting to one person automatically makes it available to others - technically impossible to restrict the use of street lighting to only those who pay for it	*P2: Other causes of market failure not due to globalisation*

- since once provided, it shines on anyone who walks past it, regardless of whether the consumers have paid. - free-rider problem: where each consumer will find it in his interest to share in the provision made by others without paying to cover for the costs of provision of the good. - no effective demand (i.e. consumers are "unwilling" to pay for the good) for the goods - producers are not given signals about what to produce and there is no one to whom they can sell. Public goods lead to complete market failure. *Complete* market failure occurs when the price mechanism does not allocate any resources to the production of the good. In a perfectly competitive market without government intervention, the good will not be produced. *Any other causes of market failure not due to globalisation is acceptable (consumption of merit good/demerit good/ imperfect information/ negative or positive externalities)*	
In conclusion, globalisation may be a cause of market failure but there are other factors contributing to market failure within an economy. To determine if globalisation is the main cause of market failure, it depends on the type of good that is mainly produced or consumed within an economy. For example, China's major industries are in mining and production of steel and aluminium, which are also its' main exports. The production of steel and aluminium are also used in the production of automobiles and other transportation equipment like rails and ships, which China also produces for trade. Hence, in China's case, the main cause of market failure is due to globalisation where the generation of negative externalities due to the production of its steel and aluminium is to a significant extent.	*Evaluation*

Knowledge, Application, Understanding, Analysis		
L3	At least 2 well-explained different causes of market failure which are due to globalisation and other reasons.	**9 – 11**
L2	Under-developed explanation of the causes of market failure with limited application.	**6 – 8**
L1	Mostly irrelevant or undeveloped explanation without application to context. There may be basic errors in theory and/or listing of points.	**1 – 5**
	Evaluation	
E2	Evaluation supported by good economic analysis on whether the **globalisation is the main cause of market failure.**	**3 - 4**
E1	Some attempt at evaluating whether if the **globalisation is the main cause of market failure.**	**1 – 2**

Question 4

(a) Explain what might cause a large and persistent deficit on a country's balance of payments. [10]

(b) Discuss the factors that the government should consider when depreciating its currency to reduce a balance of payments deficit. [15]

Thinking Process	Essay
Intro: Causes of a large and persistent BOP deficit	A large and persistent deficit in the BOP can be caused by problems in the current account &/or capital account and can be due to the following factors. Many possible factors that can cause a large and persistent BOP deficit. If any of these factors are large and/or persistent, BOP would result. If the country is already experiencing a deficit, these factors explained below would make the deficit larger. If the deficit is long term or continues for a few years, likely to be persistent.
Deficit in the Current account	• **Loss of Comparative Advantage** – A country loses comparative advantage with respect to other competitors due to improved efficiency of competitors or a decrease of internal efficiency. As a result, exports are likely to fall leading to trade deficit (current account) E.g. due to higher labour cost, many developed countries lost their comparative advantage in labour-intensive manufactured goods (such as textile and toys) to the low-cost developing countries (e.g. China and Vietnam). Thus, these developed countries experienced a fall in export earnings and rise in import expenditure on these goods resulting in a current account deficit. • **An over-valued exchange rate** - Some economists argue that trade problems stem from the exchange rate being set at too high a level. They argue that the persistent deficit in the US BOP is caused by an overvaluation of the US dollars against the Asian currencies such as China and Japan. The strength of the US dollar has made it difficult for US exporters in overseas markets, while encouraging imports. Thus, a fall in export earnings and rise in import expenditure could result in a current account deficit. With the current weakening of the US dollar, demand for US exports increases. • **Rising domestic national income –** A rising income may lead to higher demand for imports. The extent of the rise in imports due to a rise in the level of domestic income depends on the ***marginal propensity to import***. • **Falling income of trading partners –** a slowdown in the national income of trading partners may reduce the demand for the country's exports. E.g. the recent economic downturn of the global economy caused Singapore's exports to decline from S$477b in 2008 to S$391b in 2009. A severe fall in export revenue may result in a current account deficit.

Deficit in Capital and Financial Account	• **Relative rates of inflation between trading partners** – consumers in a country with a higher domestic inflation **relative** to its trading partners will find its domestic goods relatively more expensive compared to imported goods. Thus, consumers will switch from domestic goods to imported goods. At the same time, its exported goods will be more expensive than its trading rivals and hence there will be a fall in quantity demanded for its exports. Assuming that the demand for its exports is price elastic, quantity demanded will fall more than proportionate to the price rise, thus causing its export revenue to fall. With a rise in imports expenditure and fall in exports revenue, the country's current account may be in deficit. For example, a country which has chronic inflation (which may be caused by rigid labour markets due to powerful labour unions) may lose international competitiveness in its exported goods resulting in a persistent bop deficit which is a permanent and serious problem. • **Large transfers** – large and long term transfers by the government in the forms of foreign aid and overseas military commitments, without monetary returns. • **Net income outflows –** profits and wages repatriated to their home country. For countries that are heavily dependent on FDI and foreign labour, the outflows are potentially large and possibly persistent if they do not reduce the reliance on FDI and/or foreign labour. • **Fall in expected returns on investment** – With a fall in expected returns on investment due to factors such as rising cost of capital, fall in national income and political instability, there will be a fall in FDI into a country and hence its capital account may worsen to a deficit. E.g. due to political instability in Indonesia triggered by the Asian currency crisis, many Indonesian firms left Indonesia and invested in Singapore and other countries. • **Level of interest rate** – if a country's interest rate is relatively lower than foreign countries' interest rate, this will lead to a capital outflow as foreigners will withdraw their funds from the domestic banks and park it in foreign banks with a relatively higher interest rate to earn a higher interest return. This will cause the capital account to go into deficit and ceteris paribus the overall BOP will deteriorate. • **Expected fall in external value of money** – A country's capital account may be in deficit due to hot money outflow caused by an expected fall in external value of money. E.g. during the Asian currency crisis in 1997, speculators expect the Asian currencies to depreciate hence leading to outflow of hot money from Asia. This caused the capital account and BOP of many Asian countries such as Thailand and Indonesia to fall into a deficit.
Conclusion	Many possible factors that can cause a persistent and large BOP deficit. If any of these factors are large and/or persistent, BOP would result. If the country is already experiencing a deficit, these factors explained above would make the deficit larger. If the deficit is long term or continues for a few years, likely to be persistent.

Level	Knowledge, Application, Understanding, Analysis	Marks
L3	Well developed explanation of 3 causes of persistent deficits on the BOP due to both the current and capital & financial accounts. Examples are used well to elaborate on the causes with explicit attempts to address the keys words of 'large and persistent'.	7-10
L2	Underdeveloped explanation of at least 2 causes of persistent deficits on the BOP due to deficits on the current account and/or capital & financial account. Limited use of examples.	5-6
L1	Smattering of relevant points. Errors in basic concepts. Listing causes without explanation or economic framework	1-4

(b) Discuss the factors that the government should consider when depreciating its currency to reduce a BOP deficit. [15]

Schematic Plan

Introduction: Brief explanation of what is a healthy BOP position

Exchange Rate Policy

How policy works

↓ ER (depreciation)

=> FPx↓ Qx ↑ & DPm ↑ Qm↓, c.p.

=> assuming that Marshall-Lerner condition satisfied,

Intermediate Evaluation:

- directly solves problem if the cause is overvalued exchange rate

Factors govt consider

- Elasticity concepts/ responsiveness to changes in exchange rates
- root causes
- potential policy conflicts
- creates loss of confidence in the economy and other macro problems
- nature and state of economy (eg: lack of spare capacity)
- retaliation by other countries

Some further elaboration on above points

- J curve effect => worsen BOP deficit in the SR

- does not address root cause if the deficit is caused by other factors eg. loss of CA

- Policy conflict: may increase dd pull inflation/increase imported inflation while reducing BOP deficit

- Proportion of net exports relative to GDP is v small, minimal impact of net exports and AD

Synthesis and conclusion

- Many factors need to be considered before a govt implements a policy to address a problem. Weigh which factor(s) is more pressing, before deciding an action.

- Other policies may be more appropriate in addressing the root cause of the BOP deficit

- If deficit is not persistent and large, the government might wish to utilize ER policy to achieve other macro aims instead of focusing it on BOP.

Thinking Process	Essay
Introduction What is a healthy BOP position	Healthy balance of payments position → slight balance of payments surplus is desirable → Prevents the country's foreign currency reserves from depleting + more stable exchange rate of the country's currency which is necessary to promote higher volume of trade and foreign investment in the country.
Body : Explain how depreciation works to correct BOP deficit	Depreciation involves lowering the exchange rate with the aim of increasing receipts from abroad and reducing expenditures on imports. The success of this policy in removing a deficit therefore depends on the elasticities of demand for exports and imports.
Factors to consider: 1. **Responsiveness of quantity demanded for exports and imports to changes in e/r** J-curve effect	With a depreciation, foreign price of exports fall while domestic price of imports rise. Assuming that the demand for exports and imports are both price elastic, this results in a rise in export revenue and a fall in import expenditure, helping to reduce the BOP deficit. Hence the government needs to consider the importance of these elasticities of demand which is generalized in the Marshall-Lerner condition to determine the effectiveness of this exchange rate policy. This condition states that depreciation will lead to an improvement in the (X-M) and hence balance of payments if the sum of the price elasticities of demand for exports and imports exceed unity.
2. Root cause of BOP deficit	However, elasticity conditions are unlikely to be favorable in the short run. It takes time for people to adjust their patterns of consumption and change their investment plans. The result is that depreciation initially leads to an increased balance of payments deficit. However, over time, demand for exports and imports is much more elastic as patterns of consumption and investment flows change in response to the price changes brought about by the depreciation.
If root cause is inflation, use FP/MP instead	The government also needs to consider if the cause of the deficit is that of an overvalued currency. If it is, this policy may be more suitable as compared to if the root cause of the deficit is due to inflation. Thus, the government may not always adopt depreciation to deal with a BOP deficit. There are other policies which are more suitable and this should be tailored according to the needs of the economy. If the cause of the deficit is dd pull inflation, then Contractionary Monetary and Fiscal Policies may be adopted to deflate the economy. Deflating the level of aggregate demand works in two ways.
If the root cause is due to loss of CA, use SS side policy	First, as demand and output fall, the ability to buy imports falls. Secondly, and in the longer term, deflation reduces the domestic rate of inflation, and so increases the competitiveness of exports. The disadvantage is that it works by depressing domestic income, which lowers living standards and increases unemployment. Moreover, deflation does not offer a permanent means of removing a balance of payments deficit - unless the level of demand is permanently depressed. As soon as demand is expanded the deficit will reappear.
3. Potential policy conflicts	

	If the cause of the BOP deficit is a loss of Comparative advantage, then supply side policies via increasing productivity is considered the least objectionable by other countries. It is effective in lowering costs, increasing the quality of goods and making exports more competitive abroad. The government can also boost exports by providing information on trade possibilities abroad to the export industries. However, this is a long term solution.
4. Loss of confidence in the economy and lead to other macro problems	Depreciation designed to reduce BOP deficit through increase in export competitiveness may lead to demand pull inflation. With a depreciation, foreign price of exports fall, domestic price of imports increase, leading to an increase in net exports and hence AD increases and possibly demand pull inflation, where there is no increase in LRAS. Thus, given the potential conflict that may arise, the government has to decide which macro issue is a more pressing problem that needs to be tackled first.
5. Nature and state of economy	Depreciation may create an impression of a "weak" currency, which could in turn be interpreted as an indicator that the economy is "unhealthy". This may lead to a loss of confidence in the economy, triggering a fall in FDI, worsening capital account. Given poor investor outlook for the future and expectation, it may affect profitability and firm's desire to invest more and hence affects economic growth. In addition, if the economy is dependent on foreign capital, it may worsen unemployment levels too. If a country's proportion of net exports relative to GDP is very small, a depreciation may not have a significant impact on net exports and reduce current account deficit. If the economy is at a state where there is a lack of spare capacity, it will not be able to cater to an increased in export demand brought about by depreciation.
Conclusion	As explained above, there are many factors that need to be considered before a government implements a policy to address a problem. There may be certain factors that are more crucial to a country compared to another. In addition, other policies may be more appropriate in addressing the root cause of the BOP deficit. Hence the government should not always adopt exchange rate policy to deal with a BOP deficit and even if such a policy is adopted, its primary focus may change depending on the state of the economy and the relative severity of concurrent macroeconomic problems like inflation vs BOP deficit In addition, if the deficit is not persistent and large, the government might wish to utilize ER policy to achieve other macro aims instead of focusing it on BOP.

Level	**Knowledge, Application, Understanding, Analysis**	**Marks**

L3	Detailed and well elaborated explanation of at least 3 factors/ limitations of exchange rate policy in reducing BOP deficit and some implicit explanation on how the policy (depreciation) works.	9-11
L2	Under-developed explanation of the at least 2 factors/ limitations of exchange rate policy in reducing BOP deficit	6-8
L1	Mostly irrelevant or undeveloped explanation. There may be basic errors in theory and/or listing of points.	1-5
E2	Supported judgment based on sound economic analysis. Evaluation could consider which is the most important factor (Depending on nature of economy, state of economy, time period etc)	3-4
E1	Unsupported judgment not well supported by economic analysis	1-2