St Andrews Junior College
JC2 Preliminary Examinations for General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9570/01

Paper 1

28 August 2023

2 hours 30 minutes

READ THESE INSTRUCTIONS FIRST

Write your name on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY OF THE MARGINS.

An answer booklet will be provided with this question paper.
You should follow the instructions on the front cover of the answer booklet.
If you need additional answer paper, ask the invigilator for a continuation booklet.

Answer **all** questions.

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

Answer **all** questions.

Question 1: Taking to the Skies Again

Table 1: International tourist arrivals by region (in millions)

	2019	2020	2021	2022
World	1,466	409	455	917
Europe	745	242	305	585
Asia Pacific	360	59	25	84

Source: Statista Research Department, Feb 2023

Extract 1: Continued upward trajectory for tourism with Europe leading the way

An estimated 700 million tourists travelled internationally between January and September, more than double the number recorded for the same period in 2021. This equates to 63% of 2019 levels and puts the sector on course to reach 65% of its pre-pandemic levels this year, in line with United Nations World Tourism Organisation (UNWTO) scenarios. Results were boosted by strong pent-up demand, improved confidence levels and the lifting of restrictions in an increasing number of destinations.

Europe continues to lead the rebound of international tourism. The region welcomed 477 million international arrivals in January-September 2022, more than double that of 2021 with results boosted by strong intra-regional demand and travel from the United States. In Asia and the Pacific, arrivals more than tripled in the first nine months of 2022, reflecting the opening of many destinations, including Japan, a popular tourist destination. However, arrivals in Asia and the Pacific remained 83% below 2019 levels as the Chinese are still unable to travel due to government restrictions.

Adapted from UNWTO, Nov 2022

Extract 2: Competition for control of the skies

Air Traffic Management (ATM) services such as flight radar information to pilots and co-ordination of take-offs and landing to prevent collisions using complex monitoring systems have traditionally been provided by national monopolies, partly because of the high infrastructure costs and essential nature of its services. However, this has also brought about inefficiencies in the market. While a single ATM agency could leverage on economies of scale, others believe that opening the market to competition would lead to greater efficiencies.

One recommendation was for these ATM providers to compete on a per-flight or per-airline basis, instead of regionally. Such a model means that ATM providers have to tender for the right to manage each flight. This would compel ATM providers to offer cheaper and better services, employing the latest technologies and best practices in the industry.

However, airports are concerned over how the use of different systems and procedures may prove confusing to the airlines and that the lack of scale may result in higher costs for airlines, which get passed on to passengers.

Adapted from Cordis Europa, Aug 2022

Extract 3: Can COMAC compete with Airbus and Boeing?

China's home-grown passenger jet, the C919, could break the duopoly of Boeing and Airbus in the domestic market and beyond despite its reliance on foreign parts. China Eastern Airlines ordered four of the aircraft in May at a cost of US$99 million each, about 20% less than what an Airbus A320 or Boeing 737 would cost. The first aircraft was delivered in early 2023, after more than 14 years of development. COMAC, the producer of C919 aircraft, has said it plans to deliver the rest of the orders within the next two years.

By late 2022, COMAC had received 305 orders for the C919 in China, while Boeing had only received 116 for its 737 series. Airbus led the pack with 565 orders for its A320 in China, suggesting the duopoly is becoming a triopoly to the detriment of Boeing, according to a report from the Mercator Institute for China Studies (Merics), a Berlin-based think tank.

The size of China's aviation market, strong industrial policy and a sector dominated by state-owned companies give the C919 an edge to advance the country's "strategic objectives" in aviation, Merics said. China has strong ambition in the commercial aviation market and the central government has laid out plans for the C919 to gain 10 per cent domestic market share by 2025. Boeing's China business, meanwhile, has been entangled in souring relations between Beijing and Washington. Its 737 MAX was grounded in China for more than four years following two fatal crashes in Indonesia and Ethiopia, before returning to service in January.

But because China's airlines are accustomed to operating Western passenger jets, the move to include C919 in their fleet is going to be gradual, Merics added. This is because pilots and ground crew need to be trained to operate and service this new aircraft. In the meantime, flying the C919 may mean higher costs and lower margins for airlines due to the lack of suitable manpower and parts to support the aircraft. This slow uptake is reflected in the orders placed by China's three big state-owned airlines – China Southern, Air China, China Eastern – a combined 294 orders for Airbus' A320 and Boeing's 737, but only 20 each for the C919.

China has high hopes that the C919 will reduce dependence on foreign technology as ties with Western countries deteriorate. However, most parts used for the C919 are currently imported from foreign manufacturers, including the engine, avionics, control systems, communications and landing gear. COMAC has been working to replace some of the foreign parts, including an alternative for its engine.

Aviation is among the sectors in advanced technology negatively affected by deteriorating China-US relations. Several subsidiaries of the Aviation Industry Corporation of China, which is a shareholder in COMAC, have been added to the US Commerce Department's list of Chinese companies with alleged military ties. This would have impact on COMAC's ability to get the parts it needs to keep up with the growing list of orders.

Adapted from South China Morning Post, Feb 2023

[Turn Over

Questions

(a) **(i)** Compare the trend in tourist arrivals for Europe and Asia Pacific from 2020-2022. **[2]**

(ii) With reference to Extract 1, account for the general trend observed. **[4]**

(b) **(i)** With reference to Extract 2 and the use of a diagram, explain why the market for air traffic management services fails. **[4]**

(ii) Discuss whether introducing competition in the air traffic management (ATM) services market is the best way to deal with the market failure in that market. **[8]**

(c) **(i)** Explain one barrier to entry into the airplane manufacturing industry. **[2]**

(ii) Discuss the impact of the entry of COMAC on its competitors and airlines. **[10]**

[Total: 30]

Question 2: Economies of Asia and US

Figure 1: Total value of trade between ASEAN and China

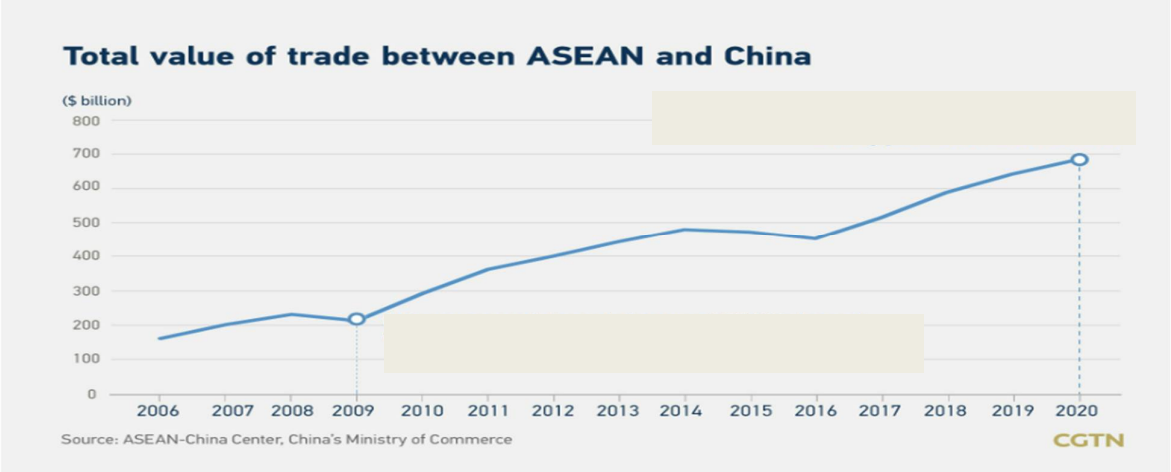
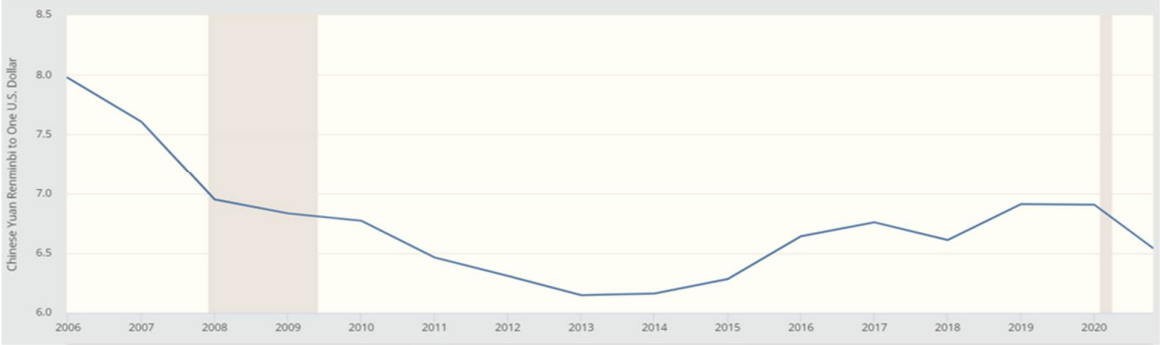
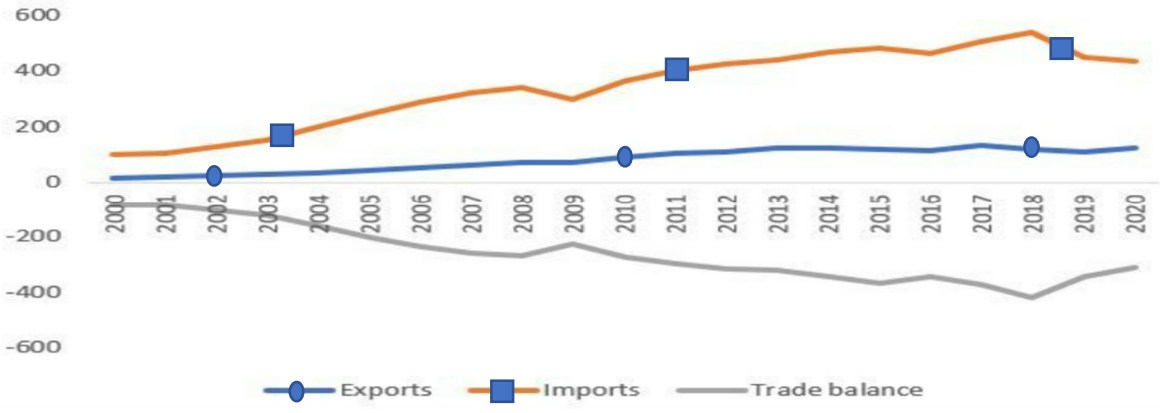


Figure 2: Chinese Yuan Renminbi to One U.S. Dollar



Source: Board of Governors of the Federal Reserve Systems (U.S.)

Figure 3: US Trade Balance with China (US$ billion)



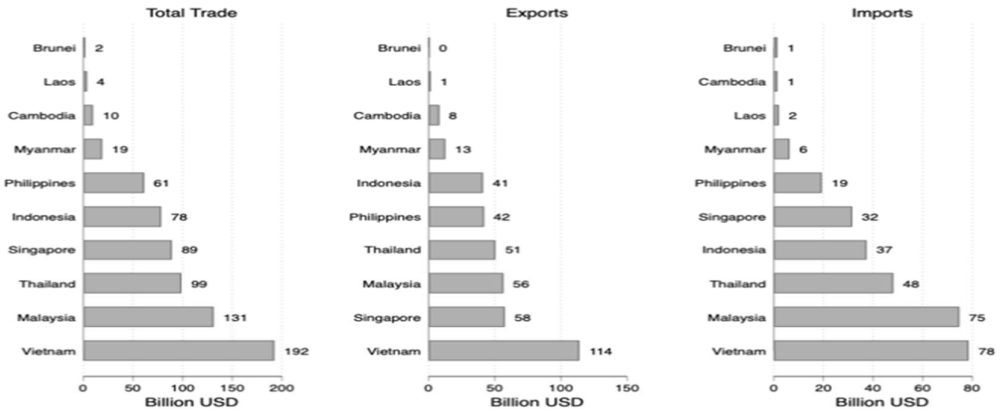
Source: International Development Economics Associates

Extract 4: US-China Trade War

US President Donald Trump famously tweeted that "trade wars were good, and easy to win" in 2018 as he began to impose tariffs on about US$360 billion of imports from China.

ASEAN – a group of 10 South-east Asian nations comprising small and large economies – replaced the US as China's second-largest trading partner in 2019 as China seeks to diversify its trade and boost its ties with ASEAN. The shift to Asia is likely to continue as South-east Asian economies are projected to grow faster than developed countries over the next decade.

Figure 4: China's Trade with ASEAN countries in 2020



Note: Export and import values (in billion USD) may not add up to total trade values due to rounding. Source: GAC of China.

US direct investment into China increased slightly from US$12.9 billion in 2016 to US$13.3 billion in 2019, despite President Trump's claim of companies moving production back to U.S, demonstrating how reliant companies are on China's vast manufacturing capacity.

Mr Trump claimed that tariffs caused China's economy to have its "worst year in over 50" in 2019. China grew at or above 6 per cent in both 2018 and 2019, with tariffs costing it about 0.3 per cent of GDP over those years. The clearest winner was Vietnam, a country with a large domestic economy and competitively priced labour. These tariffs boosted Vietnam's GDP by nearly 0.2 percentage points as companies from the West such as Apple and Adidas relocated some of their manufacturing from China to Vietnam. Vietnam has also benefitted from cheaper imports from China.

Sources: The Straits Times, 13 January 2021; www.iseas.edu.sg

Extract 5: ASEAN Sustainable Development Goals by 2030

Studies show that ASEAN is not on track to achieve any of its sustainable development goals by 2030. For example, ASEAN is the world's third largest emitter of greenhouse gases such as CO_2 and over 31 million tons of plastic waste was generated in a year. A prosperous, growing, and safe ASEAN needs water, clean air, forests, and arable lands. Both the region and the globe cannot afford for ASEAN to retain any vestiges of a 'development first–environment later' mindset.

South-east Asia would need US$2 trillion (S$2.7 trillion) in investments including infrastructure for fast development over the next decade. Critics argue that while investments may enable businesses to succeed, it can also lead to corporate catastrophes, environmental disturbance, and social destitution.

Innovation, particularly green innovation[1], is a key driver of achieving sustainable development. Despite the significant promise of innovation—and some high-profile success stories such as Grab and Gojek—most countries in ASEAN (except Singapore) underperform on several key indicators of innovation, including spending on research and development (R&D) and patents, as well as the adoption and use of new technologies. In fact, only a small share of the region's firms currently engages in any type of innovation activity. Given the economic crisis and border restrictions in many regions due to the COVID-19 pandemic, more support by governments is essential to drive innovation.

Source: Economic Research Institute for ASEAN and East Asia (ERIA), 2021; World Bank East Asia and Pacific Report; The Straits Times 19 Sept 2021

Extract 6: The Opportunities and Challenges of The Regional Comprehensive Economic Partnership (RCEP)

The world's largest free trade agreement (FTA), the Regional Comprehensive Economic Partnership (RCEP), went into effect January 1, 2022, covering approximately 30 percent of global trade and global foreign direct investment. Countries participating in the RCEP's new free trade zone are China, Japan, South Korea, Australia, New Zealand and ASEAN. The RCEP will create new trade opportunities among Asian countries and accelerate the region's economic recovery by eliminating tariffs on more than 90% of goods over the next 10 to 15 years and introducing legal rules on investment and intellectual property to promote free trade and foreign direct investment. Japan, the world's third largest economy, is likely to be a big winner because the RCEP will give the country a free trade agreement with China and South Korea for the first time. The Japanese government expects the accord to increase its own GDP by 2.7% and create approximately 570,000 jobs.

Through the RCEP, ASEAN hopes to transform from a net importer to a net exporter of goods and services and become the new engine of growth in Asia. Singapore, a small country that lacks natural resources, hopes to reap long-term benefits by integrating further into global supply chains and strengthening its position as a financial and business hub in the Asia-Pacific. The RCEP also complements Singapore's vision to become a global digital hub for the region. Singapore's digital economy could have a gross merchandise value of US$27 billion by 2025, an increase from US$15 billion in 2021.

However, the RCEP has its challenges. It lacks environmental and worker protections, and the tariff cuts it seeks are not significant and limits trade opportunities with non-members. US President Biden's tough approach on China raises serious risks for the RCEP. If the US escalates its trade and technology war with China, trade conflicts will become more likely among RCEP members, as exemplified by the current tensions between China and Australia.

Source: www.aseanbriefing.com; The ASEAN Post 7 December 2020

[1] Green Innovation refers to innovation such as, harnessing solar energy that minimises environmental damage and ensures that natural resources are used in the most effective way possible.

Questions

(a) With reference to Figure 1, describe the trend in the total value of trade between ASEAN and China from 2009 to 2020. **[2]**

(b) Explain whether the information in Figure 3 is sufficient to explain the overall change in Chinese Yuan Renminbi to U.S. Dollar from 2006 to 2020 in Figure 2. **[4]**

(c) With reference to Extract ~~1~~4,

(i) Explain briefly how the US trade balance with China is likely to be affected by increased outward FDI from US to China. **[2]**

(ii) Explain **two** factors that would likely determine the impact of the US-China trade war on the balance of trade of Vietnam. **[4]**

(d) With reference to the information provided, discuss whether a policy that encourages innovation or a policy centred on investment "for development first – environment later" would better help to promote sustainable growth in an ASEAN economy. **[8]**

(e) Discuss whether the Regional Comprehensive Economic Partnership Agreement (RCEP) will, on balance, bring more benefits than costs to an economy in Asia. **[10]**

[Total: 30]

Questions

(a)	**(i)**	Compare the trend in tourist arrivals for Europe and Asia Pacific from 2020-2022.	[2]
		Similarity [1] - Both increased. **Difference (any one of the following) [1]** - Tourist arrivals in Europe saw a larger rise ($\approx$ 142%) from 2020 to 2022 compared to that in Asia Pacific ($\approx$ 43%). - While the tourist arrivals in Europe rose throughout, there was a dip in tourist arrivals in Asia Pacific in 2021. - The rise in tourist arrivals in Asia Pacific saw a sudden surge from 2021 to 2022 whereas that of Europe was more gradual.	
	(ii)	With reference to Extract 1, account for the general trend observed.	[4]
		Tourist arrivals rose is determined by the demand for and supply of air travel. **Demand for Air Travel Rose [2]** The rise in demand for air travel in Europe was 'boosted by strong intra-regional demand and travel from the US" (Extract 1), probably due to the pent-up demand as <u>most people were denied the chance to travel</u> in 2020. [1] Likewise, the opening up of a popular tourist destination, which can be analysed as <u>a change in government policy in Japan</u> allowed for more visitors to visit Asia Pacific. This led to tourists increasing their demand for air travel, the most common way to travel to Japan. Hence, <u>demand</u> for air travel to Europe and Asia Pacific regions rose. [1] **Supply of Air Travel Rose** "The lifting of restrictions in an increasing number of destinations" could have led to <u>airlines resuming routes to those previously closed destinations</u>, hoping to <u>boost their profits</u> after suffering for two initial years of the pandemic. Hence, supply of air travel to those destinations rose. [1]	

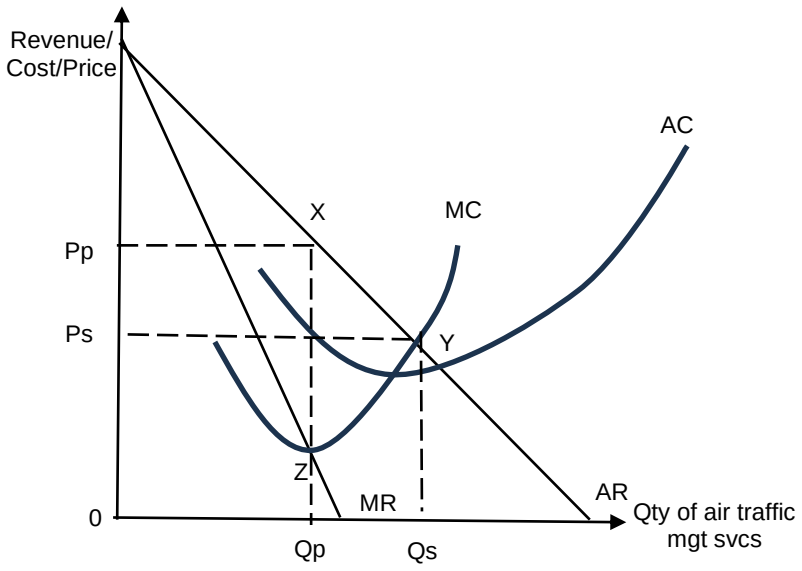
		With the rise in demand for and supply of air travel, the equilibrium quantity of air tickets bought and sold in the Europe and Asia Pacific regions increased, indicating a rising trend in the tourist arrivals. [1]	
(b)	**(i)**	With reference to Extract 2 and the use of a diagram, explain why the market for air traffic management services fails.	[4]
		<u>Likely produced by monopoly/oligopoly [1]</u> Air traffic management services include provision of flight radar information and co-ordinations to prevent collisions of aircraft. These services require the use of expensive and complex systems that would require high start-up cost (e.g. cost of installing a radar system). When left to a free market, such services would likely be undertaken by firms with deep pockets to fork out such start-up costs. And there are not many of such firms. The market, therefore, is likely to be one of monopoly or dominated by a few firms.  <u>Establish privately optimal output (Qp) [1]</u> Assuming private firms seek to maximise profits, the output produced will occur where marginal revenue equal to marginal costs (MR=MC), at Qp in	

Fig. 1 above. The price charged will then be Pp, which is larger than MC at Qp. [P > MC]

Establish socially optimal output (Qs) [1]
Price of a good/service represents the benefits derived by the society. Marginal costs represent the costs of utilising the resources to produce the additional unit of output, the Qp^{th} unit. As Pp > MC, there exists net benefits reaped by the society. The society will stand to gain even more net benefits should the output increases till Qs, where P = MC.

Market Fails with use of diagram [1]
Since the free market produces only at Qp, the market has thus failed to allow the society to reap the net benefits equal to Area XYZ.

(ii) Discuss whether introducing competition of air traffic control services is the best way to deal with the market failure in that market. [8]

Question Analysis

Command Word	Discuss whether
Content	Market failure
Context	Introducing competition Air traffic control

Schematic Plan

Introducing competition of air traffic control	
R1: Best way to deal with market failure	R2: May not be best way to deal with market failure

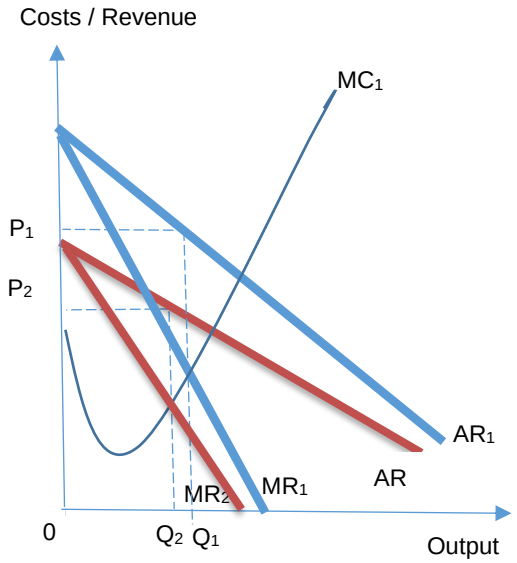
Introducing competition may be best way to prevent possible exploitation of consumers through higher prices charged as well as underproduction of services relative to socially optimal output level	Due to high sunk costs required, natural monopoly argument when only one firm providing would better. Thus increasing competition may not be best way to deal with market failure

Introduction

Due to the market failure in air traffic control, where P>MC, the government may consider different ways to deal with the market failure and thus reduce the deadweight loss

R1: Best way to deal with the market failure

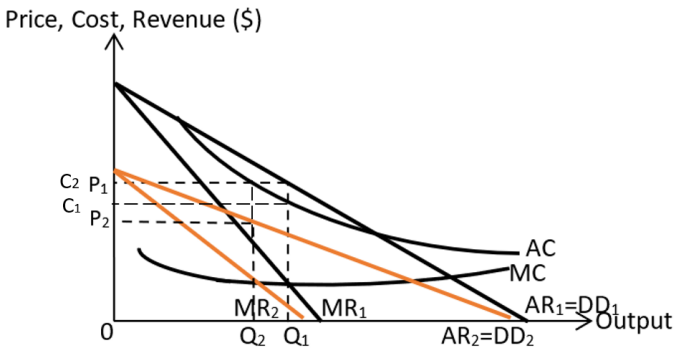
By opening up the air traffic management (ATM) market to more competition, this would reduce the demand for the services of the incumbent ATM firm, as well as increase the price elasticity of demand (PED) due to the increase in the availability of close substitutes.



Due to the shift in AR and MR, this will result in the fall in price and quantity for the ATM services by the incumbent firm. This will also make the price of the services closer to P=MC and thus reduce the deadweight loss incurred, alleviating the market failure.

R2: May not be best way to deal with market failure

However, for air traffic management, there is a high fixed costs in the form of the communication machinery required in the set up of the air control tower. As such, it may be better for the incumbent firm to operate as a natural monopoly since having more firms in the market will result in each firm operating at a higher cost.



From the graph, it can be seen that with a smaller market share due to increased competition, the firms will be operating at a higher average cost. Initially, the firm will be operating at Q1 where they produce at the point where MC=MR1. They would charge price P1. With the fall in DD as explained earlier, the firm would now instead be operating at Q2 where they produce at the point where MC=MR2. AT OQ1, the average cost associated with producing OQ1 is C1. However, at OQ2, the average cost is now C2 which is higher than before. Due to the smaller market share and thus revenue, this could cause firms to incur subnormal profits and thus shut down in the long run if shut-down condition is met, where AVC > AR. This would be worse for the ATM services market since there will be no firms providing the service.

To prevent the above from happening, government may want to instead consider the use of AC-pricing or MC-pricing instead.

MC Pricing

To increase consumer surplus and ensure greater equity, government could implement MC-pricing. MC-pricing regulation requires the firm to set the price at P_{MC}, (i.e. the cost of producing the last unit of the output so that P = MC). At P_{MC}, output level is at Q_{MC} where DD (AR = P) intersects MC curve. This brings about allocative efficiency because now P=MC and at this output level, deadweight loss is also eliminated.

An unintended consequence of MC-pricing would be that the firm would not be able to earn sufficient supernormal profits to maintain its ability to invest in R&D. Inadequate R&D invested by firms could mean less choices and poorer quality of services over time since network and infrastructures can suffer from obsolescence. In the case of natural monopolies, due to subnormal profits, government has to step in to provide a subsidy.

Synthesis:

Due to the high capital outlay of ATM firms, introducing competition may not be the best way to deal with the market failure. However, if the airport owns the capital, and engage the ATM firms to provide the service, this would change the nature of the industry, where ATM firms do not have to incur the high fixed costs. In that case, introducing competition will be the best way to deal with the market failure.

Level	Knowledge, Application, Understanding, Analysis	Marks
L2	For an answer that considers how introducing competition may or may not address the market failure.	4 – 6
L1	For an answer that inadequately considers how introducing competition may or may not address the market failure.	1 – 3

		Allow up to 2 additional marks for evaluation	
E2	Well-reasoned overall assessment on whether introducing competition is the best way to address the market failure. Synthesises economic arguments to arrive at well-reasoned judgements and decisions such as a good summative conclusion.	2	
E1	Some attempt at evaluating whether introducing competition is the best way to address the market failure. Unsupported evaluative statement or judgment.	1	

(c)	**(i)**	Explain one barrier to entry into the airplane manufacturing industry.	[2]
		Definition Barriers to entry are factors that prevent or deter the entry of new firms into an industry and thereby limits the degree of competition faced by the existing firms. One such barrier to entry could be a high start-up cost. [1 – correctly stating an example] Elaboration [1] Manufacturing an airplane would require huge amount of funds to conduct research and development. The potential entrant will need to possess sufficient funds to pay for its factors of production (e.g. engineers, rent,	

materials used for R&D, etc) without earning any revenue, effectively suffering losses for a sustained period of time (COMAC took more than 14 years, Ext 3).

Hence, many firms will find this a formidable barrier to cross in order to enter the airplane manufacturing industry.

(ii) Discuss the impact of the entry of COMAC on its competitors and airlines. [10]

Question Analysis

Command Word	Discuss
Content	Impact of entry On competitors & airlines
Context	Airline industry & Airplane manufacturing industry

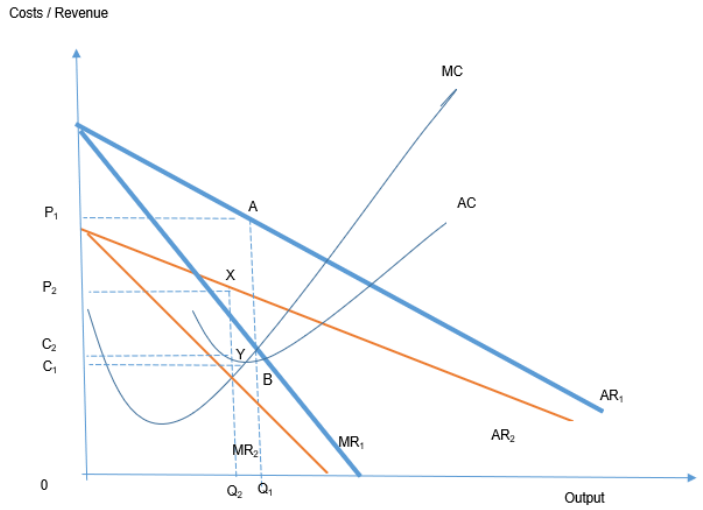
Schematic Plan

Entry of COMAC	
Requirement 1	**Requirement 2**
Impacts on Airlines	Impacts on Competitors
+ Airlines would have access to cheaper planes (20% cheaper than Boeing or Airbus models) translating to lower cost of production With increased competition, there may be improvement in terms of product innovation undertaken by plane makers and thus improves the product offering **-** For cost savings to materialise, it may need time as pilots and ground crew need to be trained to operate and service this new aircraft. In the meantime, flying the C919 may mean higher costs and lower margins for airlines due to the lack of suitable manpower and parts to support the aircraft. Given the heavy dependence on foreign technology, maintenance costs may rise as a result of deteriorating US-China tensions.	**-** Due to entry of COMAC, Boeing saw a lower level of order for the Boeing 737 series. Dilution of market share with entry of COMAC (Duopoly into a triopoly) Loss of EOS as the scale of production may decrease with entry of COMAC and thus lead to possible increase in variable costs (AC and MC increases)
Synthesis	

Introduction

Requirement 1: Impact on competitors

The entry of COMAC would take market share away from Boeing and Airbus. This would cause a fall in DD thus both the AR and MR curves for Boeing and Airbus would fall. In the diagram below, taking perspective of Boeing, the entry of COMAC led to a fall in orders for the Boeing 737 series and this would be represented by the fall in DD as explained above. As AR1 & MR1 falls to AR2 & MR2, Boeing would now be producing at a lower price (P1 to P2) and quantity (Q1 to Q2). This would thus lead to a fall in revenue (OP1AQ1 to OP2XQ2) and profits (P1ABC1 to P2XYC2).



The entry of COMAC would likely affect Boeing more than Airbus. This can be seen from the orders for each of the firms. This could be due to the grounding of Boeing 737 Max in China due to accidents and rising US-China tensions.

However, the fall in demand for Boeing and Airbus planes may be small due to the lack of suitable labour and parts to support its operations. However, the impact on their demand would grow over time as more airlines switch to ordering from COMAC. As such, it is expected that the revenue and thus profits of Boeing and Airbus would decrease to a larger extent over time.

Requirement 2: Impact on airlines

Due to the entry of COMAC, there would be greater incentive to innovate (both product & process innovation) in order to stay competitive. Airlines can benefit in terms of having access to a better product (airplane with new features (product innovation) or through lower prices (process innovation resulting in lower cost of production incurred by airplane makers). This would benefit the airlines.

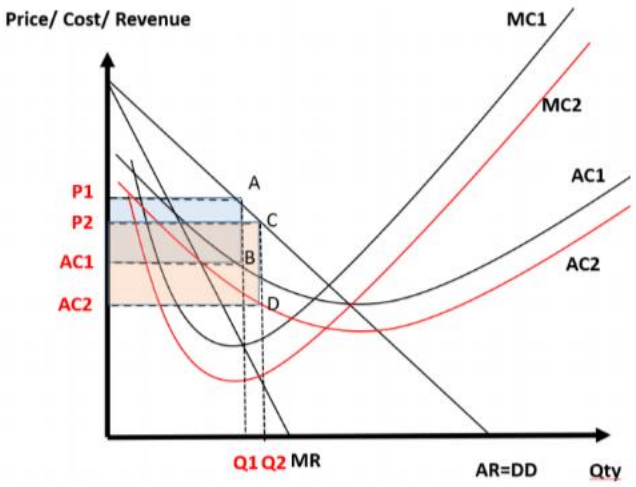
The entry of COMAC would help to lower the fixed costs of airlines who purchase their planes, given that the C919 is 20% cheaper than Boeing and Airbus planes.

However, these airlines would need to incur higher fixed costs in the form of training pilots and ground crew to support the operation and maintenance of these planes. In addition, they would incur higher variable costs due to the limited availability of spare parts which the airlines would require as they increase the number of flights made by their C919 planes. Based on the extracts, it would seem that these airlines would be making less profit from using the C919 in the short run due to the higher training and spare parts costs.

EV: However, as more airlines choose to purchase the C919 and train pilots and ground crew to support the operation of the C919, this will lead to an increase in the supply of skilled labour that is suited to operate the C919. This would reduce the wage costs of hiring these trained staff in the long run. Furthermore, as COMAC seeks to reduce its reliance on the US for plane components and thus increase the availability of spare parts, this will reduce the variable costs for the airlines in the long run. As such, this will allow these airlines to earn a higher level of profit.

As seen in diagram below, the lowered variable cost would lead to both MC1 and AC1 to fall to MC2 and AC2. Assuming ceteris paribus, the profit-maximising output level would increase from Q1 to Q2 as firms shift from producing at MC1=MR to MC2=MR.

Profit levels for the airlines would increase from P1ABAC1 to P2CDAC2 as a result of the lowered MC and AC, giving rise to an increase in supernormal profits earned.



Furthermore, the entry of COMAC could lead to increased innovation by Airbus and Boeing to improve fuel efficiency or increase capacity of planes. These innovations would either reduce the variable costs or increase revenue for the airlines which would lead to increased profits.

Synthesis
Overall, it would seem that the competitors would be negatively impacted while the airlines would be positively impacted. However, the extent to which these impacts would be felt could depend on the willingness of airlines to switch to the less established C919 instead of the more established and reliable Boeing or Airbus planes as well as how Boeing and Airbus reacts to the entry of COMAC.

Level	Knowledge, Application, Understanding, Analysis	Marks
L2	Answers in this level will analyse the impact of the entry of COMAC on its competitors (Boeing and Airbus) and airlines in terms of revenue, costs and profits.	4 - 7
L1	Answers in this level will consider the impact of the entry of COMAC on its competitors (Boeing and Airbus) and airlines, lacking analysis of revenue, costs and profits. OR Answers in this level will analyse the impact of the entry of COMAC on its competitors (Boeing and Airbus) or airlines in terms of revenue, costs and profits.	1 – 3

			Allow up to 3 additional marks for evaluation	
		E2	Well-reasoned overall assessment on the impact of the entry of COMAC on its competitors (Boeing and Airbus) and airlines. Synthesises economic arguments to arrive at well-reasoned judgements and decisions such as a good summative conclusion.	2 - 3
		E1	Unsupported evaluative statement or judgment at evaluating the impact of the entry of COMAC on its competitors (Boeing and Airbus) and airlines.	1

Questions

(a)	With reference to Figure 1, describe the trend in the total value of trade between ASEAN and China from 2009 to 2020.	**[2]**
	General Trend: [1] The total value of trade between ASEAN and China generally increased from 2009 to 2020. **Refinement: [1]** The total value of trade between ASEAN and China fell from 2014 to 2016.	
(b)	Explain whether the information in Figure 3 is sufficient to explain the overall change in Chinese Yuan Renminbi to U.S. Dollar from 2006 to 2020 in Figure 2.	**[4]**
	• From Figure 2, the amount of Chinese Yuan Renminbi required to change for 1 U.S. Dollar has generally decreased from 2006 to 2020. This suggests that there is an appreciation of the Chinese Yuan Renminbi. [1] • Information in Figure 3 shows generally widening US merchandise trade deficit **[export revenue of US < import expenditure of US]** with China. [1] • This would likely mean that the DD for Chinese Yuan increased at a faster rate **[Chinese Yuan is required to purchase goods from China]** than the rise in SS of Chinese Yuan **[Chinese Yuan being exchanged to USD to purchase goods from US]** in the forex market leading to an appreciation of Chinese Yuan [1] • However, the above assumes the ceteris paribus assumption. There could be changes in other components of BOP such as capital and financial account that may have also contributed to the overall appreciation of Chinese Yuan. Thus, the information provided is not sufficient. [1]	

(c)	With reference to Extract 1,		
	(i)	Explain briefly how the US trade balance with China is likely to be affected by increased outward FDI from the US to China.	**[2]**
		US trade **deficit** is likely to **increase**. [1] Increased outward FDI from US to China improves productivity in China [adoption of technology & digitalization] and **increase export price competitiveness** of Chinese goods. Assuming **PED of exports > 1**, this increases X revenue of China/**increases M expenditure of US on Chinese goods**, thus increasing US trade deficit with China, ceteris paribus. [1]	
	(ii)	Explain **two** factors that would likely determine the impact of US-China trade war on the balance of trade of Vietnam.	**[4]**
		The impact of US-China trade war had led to China diversifying its trade by boosting its ties with ASEAN as well as countries in the West diversifying trade and investment away from China towards ASEAN. The impact of US-China trade war in ASEAN depends on factors that affects the export revenue (X) and import expenditure (M) of Vietnam. **Any 2 factors affecting:** **Impact on export revenue (X)** 1. Closeness of substitutes between Chinese & Vietnam exports Due to US-China trade war, Chinese exports to US would now be relatively more expensive due to tariffs imposed. This would lead to an increase in the demand for Vietnam exports to US. The extent of the increase in export revenue depends on the closeness of relationship between Chinese and Vietnam exports. **Impact on import expenditure (M)** 1. Extent of income change for Vietnam	

		China's exports shift towards ASEAN which is projected to grow faster than developed countries and making Vietnam, an economy in ASEAN, more attractive as an export destination. When Vietnam experiences economic growth, households' income rise and there is rise in demand for imports from China leading to rise in import expenditure. Thus the extent of income change in Vietnam would impact the import expenditure of Vietnam. 2. The inflow of cheaper imports from China to Vietnam "The clearest winner was Vietnam, a country with a large domestic economy and competitively priced labour, where these tariffs boosted GDP by nearly 0.2 percentage point as companies from the West such as Apple and Adidas relocated some of their manufacturing from China to Vietnam and Vietnam benefitted from cheaper imports from China" Supply of imports from China rise in Vietnam leading to a fall in price of Chinese imports. Assuming PED of imports >1, there will be a rise in import expenditure [1] which reduce BOT surplus[1] 3. Trade diversion from the US to Vietnam based on the size of trade flow between China and Vietnam. Economy such as Vietnam has high total trade with China with value of exports exceeding value of imports as shown in Figure 4. The stronger trade flows might influence China's trade shift from the US to Vietnam which has significantly large consumer base with pre-existing trade routes with China. There would be greater diversion of Chinese exports from the US to Vietnam. This will lead to rise in import expenditure[1] on Chinese goods and services in Vietnam which reduce BOT surplus[1]	
(d)	With reference to the case materials, discuss whether a policy that encourages innovation or a policy centred on investment "for development first – environment later" would better help to promote sustainable growth in an ASEAN economy.		**[8]**

Question Analysis

Command	Discuss whether
Content	A policy encouraging innovation, or a policy centred on investment for development first – environment later" promote sustainable growth
Context	an economy in ASEAN

Schematic Plan

Introduction: **Relate sustainable development to sustainable economic growth** Define sustainable economic growth	
First requirement: policy encouraging innovation promotes sustainable development in an economy in ASEAN • Explain how one policy helps to encourage innovation • Explain how rise in innovation leads to sustainable economic growth • Explain limitations	**Second requirement:** policy centred on investment for development first – environment later" promotes sustainable development in an economy in ASEAN • Explain how one policy helps to encourage investment • Explain how rise in investment leads to sustainable economic growth • Explain limitations
Synthesis: Whether a policy encouraging innovation or a policy centred on investment for development first – environment later" promotes sustainable economic growth in an economy in ASEAN	

Introduction:

For an economy to have sustainable economic growth that is both positive and stable over an extended period of time, actual growth must be accompanied by potential growth. This suggests that the economy has achieved growth that is capable of being sustained. Sustainable growth must be maintained without creating other significant economic problems such as depletion of resources and environmental problems or large increases in general price levels for future generation.

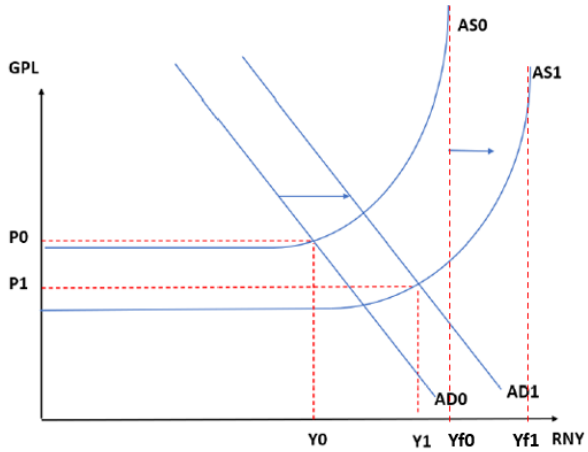
Body:
First requirement: Policy encouraging innovation impact on sustainable economic growth

Supply-side policies e.g., R&D grants or technology grants can reduce cost of adopting advanced technology or developing new technology which increase the rate of innovation in an ASEAN economy.

This helps to increase productivity which reduces COP, thus increasing SRAS leading to actual economic growth. The increase in the quantity of capital due to capital accumulation would increase the productive capacity of the economy, leading to a rise in LRAS thus resulting in potential economic growth.

New products or improved quality of products arising from the innovation would also increase the export competitiveness of ASEAN country's products resulting in a rise in

demand for ASEAN country's exports. This brings about rise in net export and thus rise in AD, assuming ceteris paribus.



Due to innovation, an ASEAN economy experiences an increase in AD from AD0 to AD1. The initial increase in AD (due to the increase in (X-M)) will lead to a rise in output and RNY. The rise in output represents a rise in factor incomes as more factors of production are employed. This will cause households to increase their consumption. This subsequent rise in induced C will lead to a further rise in AD and hence RNY, which leads to further rounds of increases in induced C. Therefore, there is a more than proportionate rise in RNY via the multiplier effect. This process stops when the initial increase in AD equals the total increase in savings, taxes and spending on imports. This increase in real national output shows that there is actual economic growth as output increases. When this actual economic growth is accompanied by an increase in AS from AS0 to AS1, this would lead to an increase in the real national output to Y1 as well as an increase in the productive capacity from Yf0 to Yf1.

In addition, for sustainable growth to take place, there should also not be significant economic problems such as depletion of resources and environmental harm. If an ASEAN economy focuses on green innovation e.g., harnessing solar energy, this improves air quality and reduces the use of non-renewable resources. The use of alternative energy sources would help in the reduction of emissions that is typically generated in the generation of energy. This would thus help to reduce the extent of degradation of the environment. This would help to promote sustainable economic growth

However, it seems that in Extract 5, most ASEAN economies underperform on several key indicators of innovation and the current level of interest seems to be low suggested by the fact that only a small share of the region's firms currently engages in any type of innovation activity. This could be due to the high cost of adopting or creating new technology but high risk as R&D success is not guaranteed and adopting new technology may prove difficult if workers are not suitably skilled or with relevant knowledge and expertise.

Second requirement: Policy centred on investment for development first – environment later" impact on sustainable economic growth

Demand-side policies such as expansionary fiscal policy e.g., reduction of corporate tax increase after-tax profits and thus increased post-tax expected rate of returns to investment, thus encouraging investment. This increases AD ceteris paribus. The initial increase in AD (due to the increase in I) will lead to a rise in output and RNY. The rise in output represents a rise in factor incomes as more factors of production are employed. This will cause households to increase their consumption. This subsequent rise in induced C will lead to a further rise in AD and hence RNY, which leads to further rounds of increases in induced C. Therefore, there is a more than proportionate rise in RNY via the multiplier

effect. This process stops when the initial increase in AD equals the total increase in savings, taxes and spending on imports.

Like innovation, the rise in investment can improve productivity leading to rise in SRAS and LRAS, bringing about actual and potential economic growth.

Thus, the rise in AD coupled with rise in SRAS and LRAS as explained above brings about sustained economic growth.

With sustained economic growth, the government would be in a better position to fund projects that look at mitigation activities for the environment such as improved technology, green energy production and research and development thereafter as it would be able to utilise the higher tax revenues received from the higher incomes earned by its people. This would then allow for sustainable growth to take place, assuming the outcomes of such green efforts are successful as it would result in less significant economic problems such as depletion of resources and environmental harm.

However, by developing infrastructure with the mindset of addressing the environment later may lead to environmental disturbance which could worsen pollution and accelerate depletion of resources. Furthermore, less efficient firms may make losses and shut down, leading to rise in unemployment and social destitution. This may worsen economic climate in an ASEAN economy and drive out investment in future which is likely to impact economic growth negatively. This would lead to difficulties in achieving sustainable economic growth.

Evaluation & Conclusion:

Given the information on the serious level of plastic pollution and emission of greenhouses gases, an economy in ASEAN should undertake more immediate actions to achieve sustainable economic growth.

However, with economic crisis and border restrictions due to COVID 19 pandemic, it is likely most ASEAN economies are facing recession and thus not even achieving sustained economic growth in the first place.

Thus, a policy centred on investment to achieve sustained economic growth would be faster than innovation as it takes a longer time to develop technology. Investment may be more important to achieving sustainable economic growth in the short run.

Rise in tax revenue arising from improvements in economic growth could then be used by a government of an economy in ASEAN to provide support to drive innovation especially green innovation in the longer term to protect environment and resources to better achieve sustainable economic growth.

Mark Scheme:

Level 2 (4-6)	• Thorough knowledge and an excellent ability to analyse and evaluate policies promoting innovation and investment in an economy in ASEAN • Reasoned (analytic) structure to the whole answer
Level 1 (1-3)	• Answer shows some knowledge of the policies promoting innovation and investment in an economy in ASEAN • Meaning of question not properly grasped • Basic errors of theory • Inadequately explained For 1-2m: • A few valid points • Answer mostly irrelevant or inaccurate

	E 2 (2)	• Synthesises economic arguments to arrive at well-reasoned judgements about whether policies encouraging innovation or policies centred on investment promotes sustainable economic growth in an economy in ASEAN		
	E1 (1)	Unsupported evaluative judgment.		
(e)	Discuss whether the Regional Comprehensive Economic Partnership Agreement (RCEP) will, on balance, bring more benefits than costs to an economy in Asia.			**[10]**
	Question Analysis Command: Discuss whether Content: the Regional Comprehensive Economic Partnership Agreement (RCEP) will, on balance, bring more benefits Context: Any economy in Asia			

Schematic Plan

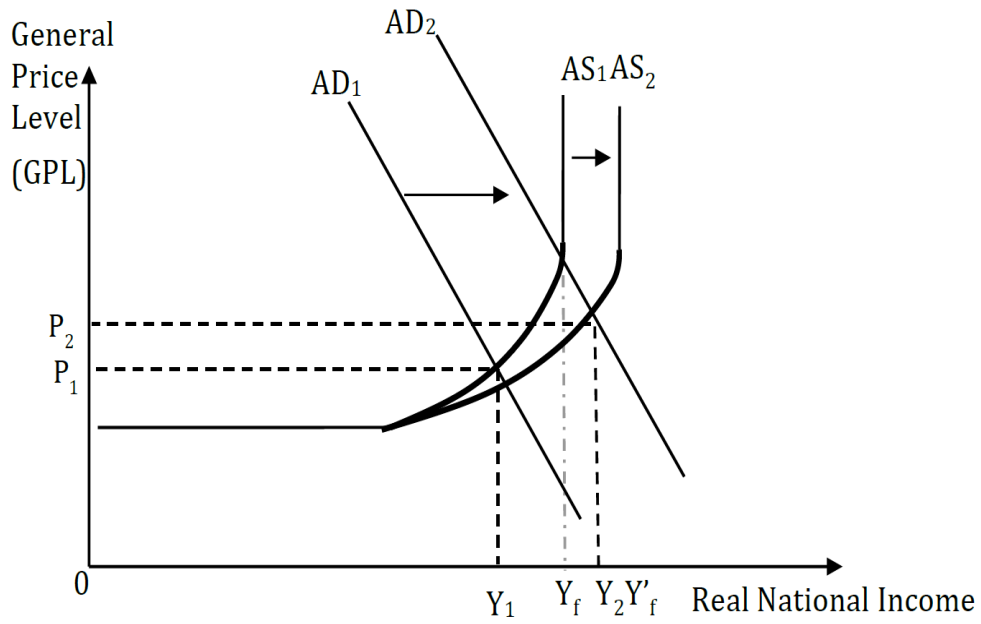
Introduction: Identify RCEP as an FTA	
First requirement: • Explain benefits of the RCEP to an economy in Asia	**Second requirement:** • Explain the costs of the RCEP to an economy in Asia
Synthesis: Whether the benefits outweigh the costs to an economy in Asia	

Introduction:
The RCEP is an FTA which will result in elimination of tariffs on more than 90% of goods over the next 10 to 15 years and introduction of legal rules on investment and intellectual property to promote free trade and foreign direct investment.

Body:
First requirement: Benefits of the RCEP to an economy in Asia
Removal of tariffs results in a reduction in price of trading partner countries' exports. Assuming PED> 1 for these exports, the fall in price will result in a more than proportionate increase in quantity demanded of exports bringing about a rise in net exports. Increase in X-M results in an increase in AD bringing about an increase in RNY via multiplier process. The initial increase in AD (due to the increase in (X-M)) will lead to a rise in output and RNY. The rise in output represents a rise in factor incomes as more factors of production are employed. This will cause households to increase their consumption. This subsequent rise in induced C will lead to a further rise in AD and hence RNY, which leads to further rounds of increases in induced C. Therefore, there is a more than proportionate rise in RNY via the multiplier effect. This process stops when the initial increase in AD equals the total increase in savings, taxes and spending on imports. There is actual economic growth and fall in unemployment. Improvement in BOT may also result.

For example, Japan who do not have bilateral agreements with China benefit from tariff savings. Money can be used by firms to increase investment to increase AD and LRAS. Firms may pay higher corporate taxes resulting in more tax revenue for Japanese government to use to provide public, merit goods and infrastructure. Such government spending may help increase AD and LRAS bringing about both actual and potential economic growth as well as reducing unemployment.

Expansion of market access facilitate FDI inflows bringing about rise in AD from AD1 to AD2 in SR and rise in LRAS from AS1 to AS2 in LR, bringing about sustained economic growth.



For example, expansion of market makes Singapore more attractive to foreign investors and helps to facilitate its growth as business and digital hub. This improves its export competitiveness. The continued rise in FDI and net exports helps Singapore to achieve steady rise in AD helping to achieve actual economic growth and lower unemployment over time.

Removal of tariffs allows for the sourcing of cheaper imported inputs for example from China resulting in a fall in COP, thus leading to rise in SRAS. For example, economies such as Singapore which lack natural resources can benefit in terms of cheaper imported raw materials from other RCEP member countries, which helps to achieve price stability by dampening inflation. Assuming the lowered COP is passed on to consumers in terms of lower prices, this would also benefit the consumers as they would receive a higher consumer surplus.

Second requirement: Costs of the RCEP to an economy in Asia

Relocation of production through outsourcing or off-shoring to lower cost countries in the RCEP such as Vietnam may lead to loss of jobs in large economies such as Japan and China leading to structural unemployment in more labour-intensive sectors in these countries. E.g. when a Japanese manufacturing firm decides to relocate to Vietnam due to lower labour costs, those who were previously employed would now be unemployed due to retrenchment. As these workers are also low-skilled labour, they may thus face difficulties looking for a new job as the skill-sets they possess do not match what the employers are looking for.

The RCEP lacks environmental and worker protections. This could lead to environmental degradation worsening allocative inefficiency and sustainable economic growth. Insufficient worker protections could lead to loss of lives or injuries which is likely to reduce quantity and quality of labour worsening potential economic growth.

Small ASEAN nations such as Cambodia with its relatively cheaper labour and other resources may experience inflow of FDI which may exploit its environment and labour resources, which could affect its ability to achieve sustainable economic growth.

Both the lack of environment and worker protection can affect the non-material SOL of the individuals negatively in the economy.

Small countries in ASEAN such as Singapore which lacks natural resources may remain as net importer in the RCEP which may dampen rise in AD and lead to slower economic growth.

Trade tensions between China and US may spill-over to other members of RCEP especially large economies such as Australia whose dampened economic growth may in turn reduce trade flow to Asia and thus reduce net exports leading to fall in AD and thus negative impact on economic growth and unemployment in an economy in Asia.

Evaluation & Conclusion:

Level of openness to free trade prior to the RCEP
Whether the benefits of the RCEP to an economy in Asia is more than the costs depends on the level of openness to free trade prior to the RCEP. Large, less open economies in Asia such as Japan, which are more reliant on its own domestic consumption and investment as engine of growth, is likely to benefit more from removal of tariffs than smaller and more trade dependent nation such as Singapore which might already experience relatively low trade barriers as they actively pursue FTAs with other countries.

Extract 3 states that it is the first time Japan has FTA with China and South Korea and that Japan is likely to be the biggest winner. This is because with greater openness to free trade arising from RCEP, there is a more rapid rise in net exports which leads to faster rise in AD leading to stronger economic growth assuming the economy has sufficient spare capacity.

OR

Level of development
Whether the benefits of the RCEP to an economy in Asia is more than the costs depends on the level of development. Small economies such as resources scarce and trade-reliant Singapore with its excellent infrastructure and an established financial and business hub can benefit greatly from further expansion of market and boost its net exports and thus its economic growth by leveraging on innovation and restructuring its economy to digital economy.

The development of the economy might be a more significant factor in assessing the net benefit to an Asian economy. Developed economies be it large such as Japan or small such as Singapore likely to benefit more compared to less developed economies such as Cambodia or Indonesia as its governments have greater ability in terms of funds and expertise to leverage on RCEP to expand market bases while ensuring laws are put in place or strengthened to protect environment and workers.

Mark Scheme

Level 2 (4-7)	• Thorough knowledge and an excellent ability to explain benefits and costs of the RCEP to an economy in Asia. • Answer should provide clear and explained examples from the extracts • Reasoned (analytic) structure to the whole answer
Level 1 (1-3)	• Answer shows some knowledge of the benefits and costs of the RCEP • Meaning of question not properly grasped (benefits and costs without reference to an economy in Asia • Basic errors of theory • Inadequately explained For 1-2m: • A few valid points • Answer mostly irrelevant or inaccurate

		E 2 (2-3)	• Synthesises economic arguments to arrive at well-reasoned judgements on whether an economy in Asia, on balance benefit more from the RCEP		
		E1 (1)	Unsupported evaluative judgment.		