YISHUN INNOVA JUNIOR COLLEGE
JC 2 PRELIMINARY EXAMINATION
Higher 2

CANDIDATE NAME

CG

INDEX NO

ECONOMICS **9570/01**

Paper 1 **23 August 2024**

Case Study Questions **2 hour 30 minutes**

Additional Materials: Writing Papers
Cover Pages

READ THESE INSTRUCTIONS FIRST

Write your name, CG and index number on the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid/tape.

There are **two** questions in this paper. Answer **all** questions.
Start **each question** (not each part) on a **fresh piece of writing paper**.

At the end of the examination, fasten your work for each question **separately**.

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

Question 2 Sustainability Efforts in Singapore and China

Table 1: Singapore, selected indicators

	2019	2020	2021	2022	2023
Real GDP Growth rate	1.35%	-3.87%	9.69%	3.84%	1.08%
Inflation Rate	0.57%	-0.18%	2.31%	6.12%	4.82%
Carbon emissions per capita (tons)	5.8	9.3	9.4	8.9	9.46

Table 2: China, selected indicators

	2019	2020	2021	2022	2023
Real GDP Growth rate	5.95%	2.24%	8.45%	2.99%	5.24%
Inflation Rate	2.9%	2.49%	0.92%	1.98%	0.23%
Carbon emissions per capita (tons)	7.5	7.7	8.0	8.0	8.9

Source: https://www.statista.com, *accessed 5 August 2024*
https://ourworldindata.org, *accessed 5 August 2024*

Extract 5: Towards a sustainable and resilient Singapore

Since our founding, we have designed policies with longterm sustainability in mind. We integrated nature into our Garden City and prudently managed scarce resources such as water and energy. Today, all Singaporeans, rich or poor, young or old, enjoy clean air, water and sanitation, quality healthcare and education, as well as lush greenery and safe common spaces because of these policies. As a tropical small island developing state, we are vulnerable to extreme weather patterns and rising sea levels. We have designated 2018 as the Year of Climate Action and taken concrete steps to tackle climate change. We will implement an economy-wide carbon tax from 2019, one of the first Asian countries to do so.

Singapore's carbon tax regime was first implemented from 2019, with an initial tax rate of $5 per tonne of greenhouse gas emissions. This tax rate was in place until 2023. Climate advocates had long said that a carbon tax of $5 per tonne was too low to prompt large emitters to do more to cut their planet-warming emissions. In February 2022, Finance Minister Lawrence Wong said in his Budget speech that Singapore's carbon tax rate would be adjusted upwards, to $25 per tonne of greenhouse gas emissions in 2024 and 2025. This will be raised further to $45 per tonne from 2026 to 2027, with a view of reaching between $50 and $80 per tonne by 2030.

Source: *The Straits* Times, 3 April 2024
Singapore Voluntary Review Report, accessed 5 August 2024

Extract 6: Firms tapping Budget 2024 green initiatives can gain from lower costs, business boost

Local firms that tap the initiatives announced in Budget 2024 to support them in adopting green solutions can stand to gain from lower set-up costs as well as a boost to competitiveness as suppliers to multinational companies. Industry observers said that enhancements to the Enterprise Financing Scheme and the Energy Efficiency Grant, announced by Deputy Prime Minister Lawrence Wong during his Budget speech on Feb 16, can also bolster Singapore's sustainability goals.

Mr Samuel Han, director of energy and sustainability management at Savills Singapore, said that, "By enhancing the existing schemes, these grants serve as a powerful incentive for businesses to embrace green solutions and prioritise energy efficiency initiatives. This not only promotes environmental stewardship, but also offers tangible benefits for businesses, including cost savings and improved competitiveness." He added: "By incentivising the adoption of sustainable practices, the grants empower commercial organisations to play a more active role in reducing their carbon footprint and contributing to Singapore's broader sustainability goals." First announced in 2022, the Energy Efficiency Grant provides local companies in the food services, food manufacturing and retail sectors with up to 70 per cent of financial support to invest in energy-efficient appliances such as LED lighting, air-conditioners, refrigerators, cooking hobs and water heaters. As part of Budget 2024, the scheme will be expanded to include companies in more sectors, including manufacturing, construction and maritime, as well as data centres and their users.

DBS Bank chief sustainability officer Helge Muenkel said: "Additional financial levers such as the tax credit scheme and loans for SMEs to adopt green solutions will also progress the move towards sustainable practices and contribute to fostering a more resilient and sustainable business landscape in Singapore."

Source: *The Straits Times, 22 Feb 2024*

Extract 7: Advancing China's Sustainable Economic Growth

For the world, the year ahead will require careful calibration of monetary and fiscal policies to secure a soft landing — bringing inflation down while maintaining growth firmly in positive territory. Many central banks have the difficult task of deciding when to cut interest rates and by how much, based on data. They can no longer take cues from others as both the pace of disinflation and growth are diverging across countries. It will be also a challenging year for fiscal authorities in most countries — they need to embrace consolidation to reduce debt and rebuild buffers, and at the same time finance the digital and green transformations of their economies. The good news is that the digital and green transformations present opportunities to boost productivity growth and improve living standards. Deep structural reforms can enhance the conditions for entrepreneurship, innovation and economic performance.

Zooming in on China, we saw a strong post-Covid rebound in 2023, with growth exceeding five percent. A key feature of high-quality growth will need to be higher reliance on domestic consumption. Doing so depends on boosting the spending power of individuals and families that is driven by the strong social security system in China that covers pension and insurance for medical, unemployment, work- related and maternity.

Domestic consumption also depends on income growth, which in turn relies on the productivity of capital and labor. Policies that drive reforms such as deregulating the business environment and ensuring a level playing field between private and state-owned enterprises will improve the allocation of capital. Investments in human capital — in education, by subsidizing life-long training and reskilling and quality health care will deliver higher labor productivity and higher incomes.

This is particularly important as China seeks to seize the opportunities of the AI "big bang." Countries' preparedness for the world of artificial intelligence is no longer a goal for the future — it is already an issue for today. The IMF has identified four areas that are critical for countries' AI preparedness — digital infrastructure, human capital and labor markets, innovation, and regulation and ethics. Our analysis finds that China is at the forefront of emerging economies in terms of AI preparedness, with well-developed digital infrastructure providing a head start. Establishing a robust AI regulatory framework and strengthening economic ties with other innovative countries will help China power ahead. Similarly, China has enormous potential in advancing the green economy. It is already the global leader in deploying renewable energy and is making rapid progress in green mobility. Its continued leadership is vital to addressing the global climate crisis.

Source: *International Monetary* Fund, 23 March 2024

Questions

a)	**(i)**	Compare the changes in real GDP for Singapore and China between 2019 and 2023.	**[2]**
		[1] Both experienced General Increase [1] In 2020, Singapore experienced a decrease in GDP while China has an increase in GDP Markers' comments: Most students demonstrated a strong understanding of the requirements for identifying similarities and differences, excelling in their responses to this question. However, some students experienced confusion regarding the interpretation of the data, specifically when presented with a positive but decreasing growth rate. They mistakenly believed that this indicated a decline in GDP, rather than understanding it as GDP increasing at a slower rate.	
	(ii)	Explain how real GDP growth rate can illustrate an improvement in standards of living in an economy.	**[4]**
		[2] Illustrate an improvement in mat SOL - Positive real GDP Growth rate shows an increase in GDP, with higher purchasing power - Higher consumption of G&S, increase in satisfaction and utility, therefore increase in material SOL [2] Illustrate an improvement in non- mat SOL - Positive real GDP Growth rate shows an increase in GDP, with higher tax revenue collected	

		- More budget to spend on healthcare and education, improve literacy rate and life expectancy which shows improvement in quality of life indicated by HDI, shows a higher non- material SOL. Markers' comments: Most students demonstrated a strong understanding of the requirements for identifying similarities and differences, excelling in their responses to this question. However, some students experienced confusion regarding the interpretation of the data, specifically when presented with a positive but decreasing growth rate.	
b)	With reference to Extract 5 and using an aggregate demand and aggregate supply diagram, explain **one** likely impact of the carbon tax on the economic growth of Singapore.		**[3]**
	[1] higher unit COP-> Decrease SRAS or Higher unit COP-> Decrease I-> Decrease AD [1] Diagram [1] Reference to diagram, reference a decrease in RNY (Slower economic growth) Markers' comments: Most students effectively addressed the question requirements, either by analyzing SRAS or AD. However, a number of students incorrectly focused on the increase in LRAS without considering the immediate effects of the carbon tax on economic growth. This was not an acceptable approach, as it failed to acknowledge the short-term implications of the policy on aggregate demand or supply.		
c)	Extract 7 mentions how other economies uses interest rates to manage inflation, explain how interest rates can help to manage inflation.		**[3]**
	[1] Increase interest rate-> increase COB-> [1] reduce Consumption of big ticket items, Investments also decrease [1] Fall in AD-> Decrease GPL (Reduce demand pull inflation) Markers' comments: Most students demonstrated a clear understanding of the question, effectively explaining the decrease in the general price level (GPL). However, there was noticeable confusion among some students regarding the distinction between the cost of borrowing and the cost of production, which led to errors in their analysis. Furthermore, a subset of students incorrectly anchored their responses on the assumption that a decrease in interest rates is expansionary and would exacerbate inflation, which was a misinterpretation of the question's context. This detracted from the quality of their responses.		
d)	In the light of the sustainability issues raised in the case study, assess whether economies should prioritise sustainable economic growth as the main macroeconomic goal.		**[8]**
	Question Analysis **Command** | Assess		

Content	Consequences of sustainable economic growth
Context	Generic
Trigger-> End	sustainable economic growth-> Other aims
Key Requirements	R1: Economies should prioritise sustainable economic growth as the main macroeconomic goal. R2: Economies should not prioritise sustainable economic growth as the main macroeconomic goal.

R1: Economies should prioritise sustainable economic growth as the main macroeconomic goal.

Economic Analysis:
Sustainable Economic Growth

- Increasing income level from sustained economic growth
- Generally Positive Growth rates from Table 1
- Rising purchasing power
- Increase Consumption of G&S
- Higher Satisfaction and utility
- **Increase in material standards of living**

- Sustainable environmental impact
- Lower environmental degradation
- Sustainability of resources over generations
- Extract 5 info:
    - Integrated nature into our Garden City and prudently managed scarce resources such as water and energy.
    - Enjoy clean air, water and sanitation, lush greenery and safe common spaces because of these policies.
- Better quality of environment and longer sustainable use of resources
- According to MEW, with a better environment sustainability indicates a higher quality of life
- **Higher non- material SOL**

**Any other Macroeconomic goals as a consequence is also acceptable, however, students should not be using Economic Growth as one of the consequence.*

R2: Economies should not prioritise sustainable economic growth as the main macroeconomic goal

Economic Analysis:
Low inflation should be prioritized as the main macroeconomic goal

- To be able to achieve sustainable economic growth, it is necessary that the economy is experiencing low inflation
- If the economy is experiencing high inflation
    - The higher cost of production of production would discourage investments by firms
    - Decrease in I -> decrease AD-> Decrease actual economic growth

- Decrease in I-> decrease quantity of capital-> decrease productive capacity-> decrease LRAS-> Decrease potential economic growth (Slows down the increase)
- Discourages the attempts be sustainable that might be costly/ reduces profits
  - Extract 5, Singapore's carbon tax regime was first implemented from 2019 which will further increase cost and discourage investment
  - Extract 6, further invest in energy-efficient appliances such as LED lighting, air-conditioners, refrigerators, cooking hobs and water heaters which will be costly for the firms and might also discourage investments.

**Any other Macroeconomic goals as a consequence is also acceptable.*

Evaluative Conclusion:

Stand	Priorities of the economy should be dependent on the key macroeconomic problems faced by the different economies.
Substantiation	If the current problem faced is inflation, as seen in Extract 7 For the world, the year ahead will require careful calibration of monetary and fiscal policies to secure a soft landing — bringing inflation down while maintaining growth firmly in positive territory.
Suggestion	In the long run, the economies could continue to focus on sustainable economic growth, however, in the short run, it might be more applicable for economies to consider the key macroeconomic problem they are facing.

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed answer that has: ● **good scope and balance** – two-sided discussion on whether economies should prioritise sustainable economic growth as the main macroeconomic goal ● **good application to different context** – uses the case material where appropriate **Max 4m** – one sided discussion	4 – 6
L1	For an under-developed answer that: - lacks scope and balance – only explains how economies should prioritise sustainable economic growth as the main macroeconomic goal (1 sided) - lacks application to different context	1 – 3

Level	Evaluation	Marks
E	A well-reasoned judgement on whether data are sufficient to assess changes in standard of living in India.	1 – 2

Markers' comments:
This was the poorest-performing question, as many students failed to adequately explain the consequences of sustainable economic growth to justify why economies should prioritize it. A significant number of students instead focused their discussion on how sustainable economic growth can be achieved or how it leads to sustained growth. These approaches did not effectively address the question's requirements, as they shifted away from explaining the direct benefits and implications of prioritizing sustainable economic growth.

e) Both Singapore and China targets to achieve sustainable growth. **[10]**

Using economic analysis and based on the evidence provided, discuss the extent to which policies implemented by China to achieve sustainable growth can be applied to the Singapore economy.

Question Analysis	
Command	Discuss
Content	Policies implemented by China to achieve sustainable growth can be applied to the Singapore economy.
Context	China, Singapore
Trigger-> End	Policies in China-> Sustainable Growth-> Applied to Singapore?
Key Requirements	R1: policies implemented by China to achieve sustainable growth can be applied to the Singapore economy. R2: policies implemented by China to achieve sustainable growth can be applied to the Singapore economy.

R1: policies implemented by China to achieve sustainable growth can be applied to the Singapore economy to a small extent

Extract 7:
Doing so depends on boosting the spending power of individuals and families that is driven by the strong social security system in China that covers pension and insurance for medical, unemployment, work- related and maternity.

Economic Analysis:
- strong social security system in China that covers pension and insurance for medical, unemployment, work- related and maternity
- Good planning of insurance on basic needs
- More spending available for consumption of other G&S

- Increase in C-> Increase in AD-> Increase RNY by k-> Actual Economic Growth
- If applied to Singapore context, not as effective as:
    - Small domestic market, the increase in C is insignificant in increasing RNY
    - Small k in Singapore, does not increase RNY to large extent

R2: policies implemented by China to achieve sustainable growth can be applied to the Singapore economy to a large extent

Extract 7: Policies that drive reforms such as deregulating the business environment and ensuring a level playing field between private and state-owned enterprises will improve the allocation of capital. Investments in human capital — in education, by subsidizing life-long training and reskilling and quality health care will deliver higher labor productivity and higher incomes.

Economic Analysis:
- Retraining and reskilling
- Increase in quality of labour
- Increase productive capacity
- Increase LRAS
- Increase potential Economic Growth
- Deregulation
- Increases investments
- Increase AD-> Increase RNY by k-> Actual Economic Growth
- If applied to Singapore context, highly applicable:
    - With the small population size and constraints to increasing quantity of labour given the small land space, improving the quality of labour is an alternative
    - Labours are generally high skilled with good foundational knowledge, training will be more effective to bring about increase in LRAS.

Extract 7: Seeks to seize the opportunities of the AI “big bang.” Countries’ preparedness for the world of artificial intelligence is no longer a goal for the future — it is already an issue for today. The IMF has identified four areas that are critical for countries’ AI preparedness — digital infrastructure, human capital and labor markets, innovation, and regulation and ethics.
(Encouraging the use of AI)

Economic Analysis:
- Increase in quality of Capital
- Increase productive capacity
- Increase LRAS
- Increase potential Economic Growth
- If applied to Singapore context, highly applicable:
    - With the small population size and ageing population, the switch from labour intensive production to capital intensive production can sustain growth
    - Labours are generally high skilled and equipped with relevant skills set necessary to support development

Extract 7: Establishing a robust AI regulatory framework and strengthening economic ties with other innovative countries will help China power ahead. Similarly, China has enormous potential in advancing the green economy. It is already the global leader in deploying renewable energy and is making rapid progress in green mobility

Economic Analysis:

- Increase in quality of Capital
- Increase productive capacity
- Increase LRAS
- Increase potential Economic Growth
- Bringing about Technological transfer especially with regards to green technology-> Cleaner production processes-> lesser carbon emissions-> manage environmental degradation
- Deploying renewable energy-> manage use of resources and energy-> ensures availability of energy over generation
- If applied to Singapore context, highly applicable:
    - As a small economy with limited talents, we thrive to work closely with other economies to learn the skills and transfer the technology, this reduces the training and development period necessary for new and green technology to take place. Furthermore, the R&D is often costly and does not guarantee success.
    - Carbon emission per capita has been increasing over the year and the deployment of renewable energy will reduce the emissions and better help to sustain the environment.

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed answer that has: ● **good scope** – analyses two policies used by China on sustainable growth ● **good balance** – explains both the workings and addressed the extent to which it can be applicable to Singapore ● **good rigour** – uses AD/AS analysis and diagram(s) where appropriate; and ● **good application to context** – uses the case material where appropriate, to support analysis or relating to the Singapore context **Max 4m** – one policy **Max 6m** – without addressing sustainable economic growth (need not be one point, can be overall)	4 – 7
L1	For an under-developed answer that: ● lacks scope – analyses only one policy, or lacking either AD or AS effects	1 – 3

	● lacks balance – analyses only the workings or Singapore's applicability of the policies ● lacks rigour – descriptive explanation little use of AD/AS analysis or diagram ● lacks application to context – limited use of case material to support analysis or policies chosen are not fully applied to the Singapore context	
Level	**Evaluation**	**Marks**
E	● A well-reasoned judgement on whether Singapore was able to effective use policies implemented by China to achieve sustainable economic growth.	1 – 3

Markers' comments:

This question was relatively well answered. Most students effectively identified the policies used by China to achieve sustainable economic growth and demonstrated a solid understanding of the contextual differences between China and Singapore. Students were able to recognize how the differing economic structures influenced the applicability of these policies. However, some students missed the key aspect of achieving sustainable economic growth, while others neglected to explain supply-side policies. These omissions were critical, as they were essential components of the required economic analysis.

[Total: 30]