

RIVER VALLEY HIGH SCHOOL
YEAR 6 Preliminary Examination II
in preparation for General Certificate of Education Advanced Level
Higher 1

ECONOMICS

8819/01

Paper 1

14 September 2016

3 hours

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your index number and 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, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A

Answer **all** questions.
Start each case study on a **new** sheet of paper.

Section B

Answer **one** question.
Start this question on a **new** sheet of paper.

At the end of the examination, fasten all your work securely together.
Your answers for each case study in Section A and the essay in Section B are to be handed in **separately**.

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



This document consists of **8** printed pages.

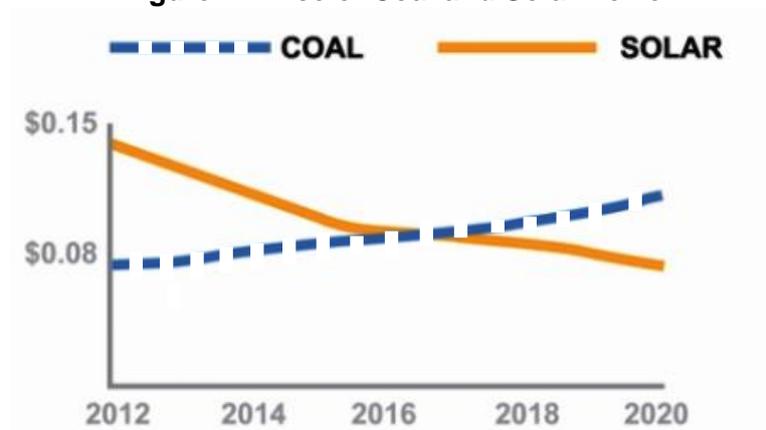
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Section A

Answer **all** questions in this section.

Question 1 The Growth of the Solar Panel Industry

Figure 1: Price of Coal and Solar Power



*prices from 2016 onwards are projected.

Source: www.universalpowerandlight.com.au, 20 August 2014

Extract 1 How much do solar panels really cost?

Between 2009 and 2011, the price of solar panels decreased from A\$2.79 to A\$1.59 per watt. Chinese companies have argued that technical improvements are responsible for these dramatic price reductions. However, not everyone agrees. A MIT report suggested that “this price decline is from an overexpansion in global, primarily Chinese and Asian, production capacity of cells and modules, combined with a reduction in the appeal of solar panels in Europe caused by the financial crisis.”

One reason for the overexpansion by the Chinese producers is due to the financial subsidies the Chinese government has provided for domestic solar manufacturers. For example, Yingli Solar, a solar manufacturer, had secured a US\$5.3 billion loan from the China Development Bank. Such subsidies have caused a supply glut in the solar manufacturing sector and if this continues, it could help double the world’s solar manufacturing supply of solar panels.

Between 2009 and 2011, Chinese manufacturers quadrupled production of solar panels and exported them at prices sufficiently low to expand China’s market share in the solar sector dramatically. The U.S. Department of Commerce concluded that China has been illegally pricing solar exports below production costs to undercut foreign competitors and gain market share.

Source: Forbes, 24 June 2015

Extract 2 Why China is leading the world in solar power

China is the world's top energy consumer, with the vast majority of its electricity coming from domestically-mined coal. But the Asian nation is cutting its dependence on coal, oil and natural gas and replacing it with solar at a breakneck pace. Between January and the end of June, China added 3.3 gigawatts (GW) of solar capacity, double the additions over the same period last year. That brings China's total solar power supply up to 23 GW, second only to Germany's 36 GW.

The main reason, of course, is environmental. Choking clouds of pollution from vehicles and fossil-fueled power plants are the norm for residents of many Chinese cities, and the situation is only getting worse. Earlier this month, the Chinese government announced that it would ban the use of coal in Beijing by the end of 2020 although coal power use outside the capital is expected to continue.

While Germany and the rest of Europe have scaled back government incentives to install solar, in China, increased targets for solar power generation have been backed by subsidies to boost the use of solar power. There is no doubt that China's push to increase solar power is being driven by an acute and pressing national problem – air pollution. Solar offers a way out of the competing pressures China is under to fuel economic growth and also arrest deteriorating air quality. As long as China's solar competitors do not receive the same incentive, they will likely continue to lag behind China in new solar power additions. For that reason, the solar growth story is likely to be centred in China, at least for the foreseeable future.

Source: oilprice.com, 22 August 2014

Extract 3 The dirty side of a “green” industry

As people worldwide increasingly feel the heat of climate change, many are applauding the skyrocketing growth of China's fledgling solar-cell industry. However, it has been revealed that China's booming solar industry is not as green as one might expect. Many of the solar panels that now adorn European and American rooftops have left behind a legacy of toxic pollution in Chinese villages and farmlands. Some investigations have revealed how Luoyang Zhonggui, a major Chinese manufacturer of polysilicon, which is an important resource for the manufacture of solar panels, is dumping toxic factory waste directly onto the lands of neighbouring villages, killing crops and poisoning residents. Firms like Luoyang Zhonggui, are cutting costs and corners by avoiding significant extra investment in pollution control. Other polysilicon factories in the country cause similar problems because they have not installed effective pollution control equipment.

Sometimes the environmental costs of solar panel production can be lost among the drive to encourage the development of clean energy. Although China will eventually benefit from this green technology as costs decline further, for the time being, the industry continues to tread the traditional path of “pollute first, clean up afterwards.”

In China, there are a lot of solar panel makers, and it is something that has been encouraged by the government but there is a need now to regulate it by imposing a tax on carbon emissions involved in the manufacturing of solar panels to help encourage more sustainable production with potentially cleaner technologies. Improved waste treatment and environmental monitoring are essential to avoid the undesirable impact of these otherwise valuable technological advances.

Source: Worldwatch Institute, 2 June 2015

Extract 4 US-China solar products dispute heats up

Solar-energy products became a flashpoint in trade relations between China, the U.S. and the European Union as the global financial crisis slowed the implementation of big solar-energy projects just as production capacity for solar panels was growing sharply. In the latest move, the U.S. Department of Commerce said on Tuesday that it would seek to impose anti-subsidy tariffs ranging from nearly 19% to 35% on Chinese solar panels, even if the panels contained solar cells made outside of China. Solar panels are made from solar cells.

Although U.S. solar-equipment manufacturers have been hit by imports of cheap solar panels from China, falling prices have created a booming business for U.S. solar installers such as SolarCity Corp. The U.S.-based Coalition for Affordable Solar Energy described the latest decision on tariffs as a major setback for the U.S. solar industry that would raise the cost of solar power and cost jobs in “one of fastest-growing sectors of the U.S. economy.” However, the ruling may not hurt Chinese solar manufacturers that much. They are already pivoting away from the U.S., where demand is slowing, to feed a growing appetite for solar panels back home.

The U.S., China and the EU have been battling over the solar industry for several years. In 2012, the U.S. initially imposed tariffs on Chinese products containing Chinese solar cells after it determined that Chinese solar makers got illegal subsidies and sold the products in the U.S. at prices below cost. China retaliated a year later by announcing its own tariffs on raw materials from the U.S. and South Korea that are used to make solar panels.

Source: The Wall Street Journal, 4 June 2014

Questions

- (a) (i)** Using Figure 1, compare the trends of coal prices with that of solar energy prices between 2012 and 2020. [3]
- (ii)** Extract 1 mentions that the price of solar panels decreased between 2009 and 2011. With the help of a diagram, use supply and demand analysis to explain why this is so. [5]
- (b)** Extracts 1 and 4 suggest that the Chinese government have been giving financial subsidies to Chinese solar manufacturers. Explain how the concept of price elasticity of demand can determine the likely impact of such a move on total revenue earned by Chinese solar manufacturers. [4]
- (c) (i)** Explain how market failure can arise in the production of solar panels. [4]
- (ii)** Extract 3 highlights the use of imposing a tax on carbon emissions involved in the manufacturing of solar panels. Discuss the effectiveness of this in encouraging a more sustainable level of production. [6]
- (d)** Discuss the extent to which the “anti-subsidy tariff” imposed by the US on Chinese solar panels is justified in terms of economic theory. [8]

[Total: 30 marks]

Question 2**Issues for the UK Economy****Table 1: Visible Trade Balance (nominal US\$, billion)**

	2011	2012	2013	2014
United Kingdom	-149	-168	-180	-202
United States	-740	-741	-702	-741

Source: World Bank, accessed on 16th June 2016

Extract 5 Sustaining UK Economic Growth

The widening balance of payments and government deficits will probably sap the optimism generated by rising house prices, dampening both consumer and business confidence. This means that the growth which UK economy is currently experiencing may not be sustained. However, there is a way out of the economic future we are facing but it is not a silver bullet which will solve our problems without creating some hazards along the way.

With trade and balance of payments deficits since 1983, it has been impossible for decades to run the economy at full capacity. This is why we have such slow growth and high unemployment.

To achieve a reasonably substantial but also sustainable rate of growth, we need to switch a significant proportion of our GDP towards manufacturing. To do this, we will need to significantly increase the proportion of our GDP going into investment, which includes increasing corporate investment as well as a government programme to improve our infrastructure.

To make the economy more competitive, we have to get the exchange rate down. In addition, to ensure a big increase in effective and sustainable demand, the reduction in the exchange rate will have to be large enough to make sure that this happens. Moreover, the reduction will have to be permanent for the foreseeable future.

Rapidly increasing demand will then require large scale supply side changes to the economy. There will need to be a major focus on educating and training the labour force for many new opportunities and challenges. There will be big pressures on the infrastructure, requiring substantial increases in investment in everything from road and rail to housing and schools and from high speed internet to airport capacity.

Source: *The Huffington Post*, 30 June 2014

Extract 6 Trends in British Trade

The Office for National Statistics confirmed that the UK's trade deficit in goods and services had decreased from £3.1bn in July to £1.9bn.

Historically, the European Union has dominated in both exports and as a source of imports but gradually this trend is changing. Growth is increasingly being driven less by Britain's traditional partners in Europe and other advanced economies around the world and more by emerging and developing nations like China and Africa.

Richard Lowe, Head of Retail and Wholesale, Corporate Banking, Barclays, says "The increases in trade both to and from China relate largely to the clothing and electronics industries. We are also starting to see imports from India pick up, but the reductions in trade from Japan relate to electronics. Increasing numbers of electronics such as iPhones and other telecommunications devices are now coming from China."

Export of petrol remains as UK's top export product for 2014 but the most interesting change in UK exports for Lowe is the export of medicines and pharmaceuticals. "In this area, the UK is showing a true specialism." Europe remains an important market for British imports, however in terms of growth, the fastest growth since 2006 has been exports to China.

Overall, Lowe believes that Britain's trade deficit is something that needs to be monitored and attended to. As he says: "To achieve long term success, businesses will increasingly need to focus on expansion outside domestic markets."

Source: *The Week*, 11 November 2014

Extract 7 Productivity and Standard of Living

Latest figures from the Office for National Statistics show there was no pick up in labour productivity in the last three months of the year, despite jobs being generated at a healthy clip. Productivity, a measure of what we produce for every hour we work, has been flagging since the recession. According to the head of the government's fiscal watchdog, weak productivity growth represents the "biggest risk" to the UK economy getting back on a stable footing.

Productivity is fundamentally linked to the health of the economy. In the long run, our overall prosperity and standards of living are determined by how efficient we are at work. One of the key measures of our standard of living is take home pay, which has failed to keep up with inflation since the crisis. The Office for Budget Responsibility's Robert Chote has warned of erosion in our living standards if our productivity doesn't increase but wages start rising.

Productivity also matters for monetary policy and the future course of interest rates since inflationary pressures do force the Bank of England to raise interest rates.

Source: *Telegraph*, 7 October 2014

Questions

- (a) Using Table 1, identify how the UK visible trade deficit differs from that of the US for the period from 2011 to 2014. [2]
- (b) Using AD/AS analysis, explain how a widening trade deficit explains the “slow growth and high unemployment” in the UK. [4]
- (c) (i) With reference to Extract 5, discuss the effectiveness of the policies suggested to bring about sustainable rate of growth in the UK. [8]
- (ii) Explain how the twin deficits in the UK might be corrected by the suggested policies. [4]
- (d) Using Extract 6, explain two factors that have contributed to the change in UK’s pattern of trade. [4]
- (e) Explain, and comment, on the claim in Extract 7 that there will be an “erosion in our living standard if our productivity does not increase but wages start rising”. [8]

[Total: 30 marks]

Section B

Answer **one** question from this section.

- 3 (a) Explain how the price mechanism allocates scarce resources in a free market. [10]
- (b) Indirect taxes are sometimes imposed on goods and services in order to influence the pattern of consumers’ expenditure. Discuss the view that when indirect taxes are imposed, it is always the consumers who have to bear a greater burden of the tax. [15]
- 4 (a) Explain how price stability can help achieve the aims of the government. [10]
- (b) Discuss the considerations that influence the type of policy the government undertakes to achieve price stability in Singapore. [15]