



**Catholic Junior College**  
**JC2 Preliminary Examinations**  
**Higher 2**

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**ECONOMICS**

Paper 1

**9757/01**

**18 August 2017**

**2 hours 15 minutes**

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**READ THESE INSTRUCTIONS FIRST**

Write your name, class and question number 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 highlighters, glue or correction fluid.

**Begin each question on a new sheet of paper.**

Answer **ALL** questions.

At the end of the examination, **hand in ALL questions separately.**

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

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This document consists of **7** printed pages and **1** blank pages.

**[Turn over]**

Answer **ALL** questions

### Question 1

#### The Zika Virus Epidemic

In early 2015, a widespread epidemic of Zika fever caused by the Zika virus in Brazil, spread to other parts of South and North America. It also affected several islands in the Pacific, and Southeast Asia. Zika virus is transmitted primarily by *Aedes* mosquitoes.

#### Extract 1: Spike in Sale of Mosquito Repellent Products amid Zika Concerns

##### U.S.A

Fear of the mosquito-borne Zika virus is spurring sales of well-known mosquito repellents. Companies pushing natural products are hoping to grab a share of the market as well, saying their methods will keep the bugs at bay without the ‘ickiness’ of traditional DEET<sup>1</sup> chemical-based repellents.

“There is no ‘natural’ substitute for DEET – it is the first-line repellent and should be used by those seeking to lower their risk of being bitten by mosquitoes,” said Amesh Adalja, senior associate at the University of Pittsburgh Center for Health Security. But some consumers are turned off by DEET chemical-based repellents. They don’t like the odd smell and say it irritates their skin, while others are leery of anything that smacks of chemicals, as reflected in the “buy organic” trend in supermarkets.

Pharmacy operators such as Walgreens, the nation’s largest drugstore chain, are helping to boost insecticide sales. At its 120 stores in Puerto Rico, Walgreens has cut the price on mosquito repellent products that the Communicable Disease Centre says can fight Zika.

##### Singapore

Sales of mosquito repellent products have doubled or even tripled in Singapore since news of the first locally transmitted Zika case emerged.

“We now restock all mosquito repellent products on a daily basis rather than fortnightly to meet the increased demand,” a spokesperson for NTUC said. The company is working with suppliers to ensure sufficient stocks at its stores and warehouse, she said. “Prices of these items have also remained the same, and kept affordable through store promotions,” the spokesperson added.

Meanwhile, some people are trying to make a quick buck from the demand for mosquito repellents and related products. On online marketplace Carousell, several buyers were buying a box of 10 Baygon mosquito coils - which normally costs 75 cents - for as much as \$10. A pack of Tiger Balm mosquito repellent patches - priced at \$8.50 on the NTUC website - was going for \$15.

Adapted from: *Washington Times*, 5 Jun 2016 and *The Straits Times*, 7 Sep 2016

#### Extract 2: Zika Virus: The Last Thing Brazil Needs Now

Brazil is in the midst of the longest economic downturn since the 1930s, and the fear-inducing Zika virus is not helping matters. The virus has become big news around the world

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<sup>1</sup> Diethyltoluamide (DEET) is a chemical that is the most common active ingredient in mosquito repellents.

and is raising concerns about its impact on Brazilian tourism, which supports nearly one-tenth of Brazil's economy.

With Brazil's economy in the dumps and its currency trading near all-time lows versus the U.S. dollar, many Brazilians are opting to vacation at home, which could keep the tourism sector afloat. Furthermore, travel companies also say they are seeing great sales on international vacations to Brazil and say the strong U.S. dollar have a lot to do with it.

"The negative impacts from Zika could be counteracted by a general increase in tourism that we're expecting in 2016 because of the exchange rates," said a business analyst.

Adapted from: *money.cnn.com*, 28 Jan 2016  
and *ABC Eyewitness News*, 11 Feb 2016

### **Extract 3: The Socioeconomic Impact of the Zika Virus in Latin America**

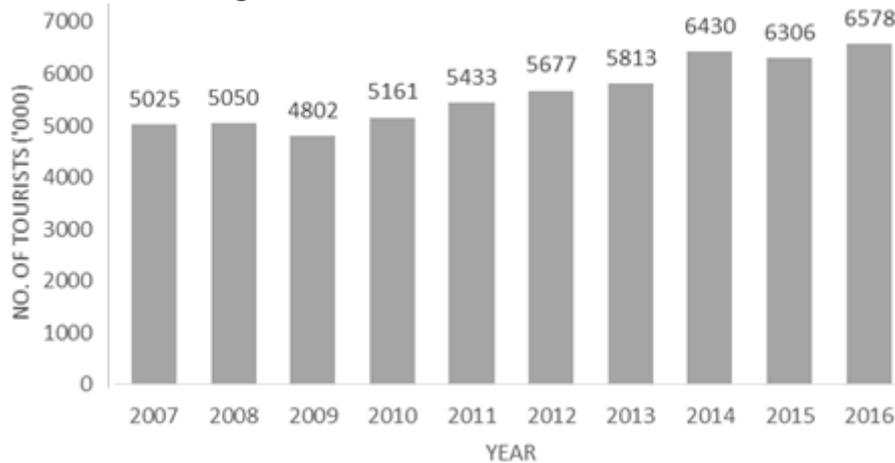
The sustainable development goal on health and wellbeing includes a call for the strengthened capacity of countries for early warning, risk reduction and management of national and global health risks. If inadequately addressed, Zika will strain the capacities of already overburdened health systems. Moreover, caring for a child with microcephaly or developmental disorders often forces family members, especially women and adolescent girls, to leave the labour market or formal education, contributing to lost productivity, lost opportunity and increasing economic hardship on already marginalized populations. This increasingly common scenario can impede other development goals on ending poverty, quality education, gender equality, economic growth and reducing inequalities.

In the short term, the largest cost is loss of international tourism revenues, followed by the direct cost of diagnosing patients. In the long term, the lifetime indirect costs related to the care of children with microcephaly are substantial. Many parents (often the mothers) will withdraw from or not enter the labour force to care for a child with Zika-related congenital conditions. These costs could run in excess of \$1.3 billion to \$4.8 billion. These figures likely underestimate the relevant costs because of the difficulties in evaluating the increase in the burden of non-market activities that will often accompany the birth of children with microcephaly, as well as its impact on affected infants.

Additionally, there is a profound equity challenge at the core of the Zika epidemic. The impact is disproportionate on the poorest countries of the region, as well as on the poorest and most vulnerable groups, especially poor women in peri-urban communities (i.e. those living in the peripheries of cities). Besides unequal access to health services, clean water and sanitation, findings from recent studies of microcephaly in north-eastern Brazil found that most reported cases occurred in low-income families, with very few from the middle-income, suggesting that the epidemic could contribute to widening socioeconomic inequities. Larger economies like Brazil are expected to bear the greatest share of the absolute cost, but the severest impacts will be felt in the poorest countries.

Source: *Paper on Socio-economic impact assessment of the Zika virus in Latin America and the Caribbean*, 3 Apr 2017

Figure 1: Tourist Arrivals into Brazil



Source: <https://tradingeconomics.com>, accessed 20 Jul 2017

Table 1: Short-term and Long-term Costs of Zika in Selected Latin America Countries

Country	Total Short-term Cost (in 2015 USD)	Total Short-term Cost (% of GDP)	Total Long-term Cost (in 2015 USD)	Total Long-term Cost (% of GDP)
Argentina	495,976,647	0.03	9,337,928	0.001
Bolivia	86,839,996	0.09	4,063,506	0.004
Brazil	1,674,408,354	0.03	251,676,089	0.005
Peru	367,758,428	0.06	6,699,638	0.001

Source: *Paper on Socio-economic impact assessment of the Zika virus in Latin America and the Caribbean*, 3 April 2017

### Questions

- (a) With reference to the data, analyze the likely value of the cross elasticity of demand between repellents with DEET and the natural products. [2]
- (b) Different retailers, such as NTUC, Walgreens and individual sellers on Carousell, have changed prices of repellents differently in view of Zika. Explain two possible factors affecting the pricing decisions of the above retailers. [4]
- (c) In the event of a Zika outbreak, discuss whether a maximum price legislation or a subsidy on mosquito repellent products should be implemented by governments. [8]
- (d) From Extract 2, identify and explain a reason for the upward trend in tourist arrivals into Brazil shown in Figure 1. [2]
- (e) (i) Explain how “economic hardship on already marginalized populations” due to Zika worsens the economic inefficiency in Latin America. [4]
- (ii) Using data where appropriate, evaluate whether the Zika outbreak is the most worrisome problem that the Brazilian government has to consider in achieving sustainable and inclusive economic growth. [10]

[Total: 30]

## Question 2

### Peru's Economic Challenges

#### Extract 4: Peru Mining Steady despite Volatile Prices

By any measure, Peru is a giant of the global mining industry. Since the liberalisation of the industry in the 1990s, significant local and foreign investment has been made to develop major modern mines. The pace of investment further gathered speed since 2010, when the commodities cycle pushed up prices of the country's key mineral exports. The mining industry has been the driver behind the growth of the Peruvian economy for 10 years, today accounting for about 17.6% of GDP and half of exports.

The industry's primary exports is copper, which is an essential component in virtually every electrical and electronic device and wiring. The last three years of falling copper prices is thus a cause for concern. The slowdown of the Chinese economy is one of the factors for the decline. Mining operators around the world are readjusting their calculations to assess whether developing their projects is still feasible under the current conditions. That being said, output is still growing in Peru's operating mines, setting Peru well on its way to becoming the world's second-largest copper producer in the next few years.

Source: [www.oxfordbusinessgroup.com/peru-2016](http://www.oxfordbusinessgroup.com/peru-2016), accessed 18 July 2017

#### Extract 5: Commodity Slump Stalls Global Trade Growth

World trade growth has ground to a halt as the commodity price slump hits economic growth in emerging markets, many of whom rely heavily on commodity exports.

Emerging markets imported lots of capital equipment and other supplies to expand their commodity production during the commodity boom. Rising incomes at that time also stimulated a big increase in local consumption, some of which was in turn spent on imported goods and services. Now that the boom has turned into a slump, as capital investment has shriveled, causing a decline in demand for imported industrial equipment. Lower incomes also inevitably caused import demand for consumer goods to have fallen.

Source: *Reuters*, 27 Oct 2016

#### Extract 6: Trouble Brews in Peru

Peru's currency closed last week at just over the psychological barrier of 3.20 per dollar, a six-year low, on falling commodity prices and strong economic data from the United States.

In Peru, economic activity has shown a poor performance mainly as a result of three factors. First, private consumption slowed down due to lower dynamism in the labor market which reduced job creation and increased the unemployment rate. Furthermore, food prices have risen. Second, growth was adversely hit by the contraction in public and private investment due in part to the worsening of business expectations. This suggests that investment will continue being sluggish in 2015.

However, the biggest threat to financial stability in Peru is a sharp slowdown in China. Copper remains one of Peru's key exports and China, which uses 40% of the world's copper, is seeing its lowest GDP growth since 1990. The result is large inventories of copper and other commodities, prompting investors to sell the Nuevo (Peru's currency), and leading to the decline in Peru's exchange rate. The exchange rate pressures limit the scope for new reductions in the interest rate by the monetary authority.

Coupled with high inflation, Peru's central bank is unable to cut its interest or exchange rates to give its economy a boost. They must now look more to productivity improvements to boost GDP, and that is its Achilles heel.

Productivity has improved a bit, but still lags behind Asia's. Although Latin Americans have more education than in the past, international tests show that they still do not learn enough in school. Furthermore, there is a whole range of other issues ranging from a lack of innovation by Latin American firms of all sizes, to poor transport networks and to a lack of competition, especially in services.

Fixing the productivity problem is far more complicated than slashing the fiscal deficit. Assembling land, permits and finance for infrastructure projects can take many years in Latin America. Education reforms take a similar time to have an effect.

But governments can no longer afford to put off reforms indefinitely. The risk the region faces is the clash between low growth and the aroused expectations of growing middle classes that could be politically explosive.

Source: <http://perureports.com/2015/08/10>, accessed 21 July 2017

### **Extract 7: Peru's Road to Recovery**

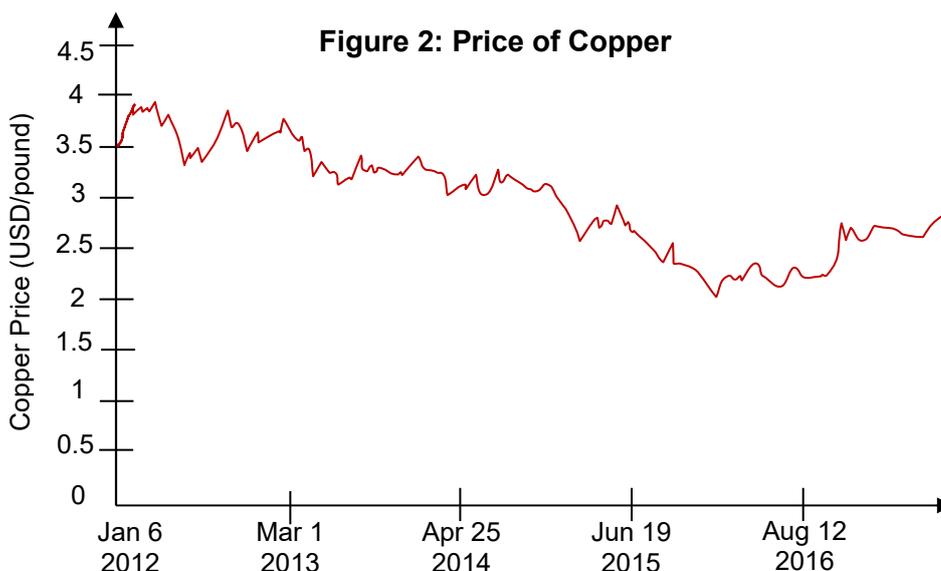
After a considerable slowdown in 2014, a recovery in economic growth is projected for 2015 and 2016. This recovery will be driven by a fiscal stimulus, and the reversal of the adverse supply shocks such as climate factors that caused temporary disruptions in mining, fishing and agriculture, that affected the economy in 2014.

Fiscal policy is expected to be expansionary in 2015 and neutral in 2016. A drop in fiscal revenues is foreseen due to various tax measures announced at the end of last year. These measures include a reduction in corporate and personal income tax rates and a decrease in the Selective Tax on Fuel. New important infrastructure spending will also take place, which will boost growth by the end of this year and the next one. The space for new cuts in the interest rate is limited because it could increase pressures in the exchange rates.

In the coming years, growth will gain momentum thanks to the increase in mining production, especially copper, as a result of the new mines beginning to operate. However in the long-run, lower levels of metal prices suggest that the mining sector may no longer be an engine of strong growth. Therefore, to boost productivity and growth of potential output, structural policies are required.

Two important external risks remain. First, there is the risk of a stronger than expected slowdown of growth in China that could reduce terms of trade even further. Second, faster than expected increase in U.S. interest rates could lead to a reversal of capital flows and stronger pressures to the exchange rate. On the domestic side, downside risks are related to a weaker than expected recovery in investment that could be affected by continuing uncertainties in mining, or a stronger than expected impact from El Niño weather phenomenon.

Source: <http://www.oecd.org/eco/outlook/peru-economic-forecast-summary.htm>,  
accessed 26 July 2017



Source: [www.infomine.com](http://www.infomine.com), accessed 25 July 2017

**Table 2: Peru Economic Data**

	2011	2012	2013	2014	2015
Economic Growth (GDP, annual variation in %)	6.5	6.0	5.8	2.4	3.3
Unemployment Rate	7.7	6.8	6.0	5.9	6.5
Inflation Rate (CPI, annual variation in %)	3.4	3.7	2.8	3.3	3.6
Exchange Rate (vs USD)	2.70	2.55	2.80	2.99	3.41
Current Account Balance (USD billion)	-3.0	-5.4	-9.4	-8.9	-9.4
Trade Balance (USD billion)	9.2	6.4	0.5	-1.5	-2.9

Source: [www.focus-economics.com/countries/peru](http://www.focus-economics.com/countries/peru), accessed 27 July 2017

### Questions

- (a) (i) Account for the changes in price of copper from 2012 – 2015. [3]
- (ii) Explain the relevance of a price elasticity concept in determining the Peruvian copper producers' standard of living. [2]
- (b) How far does the data in Table 2 support the theoretical relationship between trade balance and exchange rate? [5]
- (c) Assess the relative importance of internal factors and external factors in explaining Peru's economic slowdown. [8]
- (d) (i) Explain why any two indicators from 2011 to 2015 might have been of concern to the Peruvian government. [2]
- (ii) Discuss the effectiveness of the various policies mentioned in the extracts in dealing with the above problems. [10]

[Total: 30]

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