

# EC1B5 August 2024 IRDAP Course Work

This paper counts as 10% of your final grade.

**Section A has 4 questions and Section B has 2 questions.**

*We strongly recommend that students answer the course work paper using a word-processing software on a computer (e.g. Word). Doing so greatly enhances the accuracy and efficiency of the marking process, as markers do not have to decipher potentially ambiguous handwriting or other signs and marks produced by the scanning of hand written documents. Nevertheless, students who absolutely feel that using word processing will negatively affect their performance can use pen and paper (then scanned), or an iPad or tablet. You can draw figures by hand on a separate paper.*

*We strongly recommend that students answer straight to the point and irrelevant content will be penalised.*

## Section A (12 marks each)

- A1.** Some economists conducted an accounting exercise to understand why income per worker is different across countries (see Table below).

Country	Income per Worker in 2010	Average Years of Schooling	% of U.S. Physical Capital Stock per Worker in 2010	Income per Worker If Technology Were at U.S. Level
(1)	(2)	(3)	(4)	(5)
United States	82,359	13.1	100.0	SAME
United Kingdom	67,025	9.8	65.8	61,548
South Korea	54,315	11.8	87.7	74,496
Spain	54,539	10.4	83.9	68,684
Mexico	27,625	9.1	33.5	47,725
Brazil	15,975	7.5	16.9	35,045
China	12,961	8.2	14.9	34,881
India	9,010	5.1	8.9	24,071
Ghana	4,928	7.1	4.2	21,502
Afghanistan	3,980	4.2	3.7	16,818
Dem. Rep. of the Congo	628	3.5	0.8	9,625

Explain how this table is constructed. According to the Table, which country has the highest technology level? Explain your answer.

- A2.** The Happy Land is an isolated island with three sectors: agriculture, manufacturing, and services. The total revenue for the service sector was \$50 million. The total revenue for the manufacturing sector was \$30 million. The total revenue of the agricultural sector was \$20 million. The agricultural and manufacturing sectors only use labour in production. The service sector uses both labour and \$20 million of manufacturing product in its production. The total consumption and investment expenditure was \$40 million. Explain whether you can use the three approaches (Production, Expenditure and Income) to compute the GDP, government expenditure and labour payment in Happy Land. If yes, what are their values.
- A3.** Since January 2022, the UK economy has been experienced the so called “cost of living crisis”. What is the key economic statistic that was used to describe the “cost of living crisis”? How should the Bank of England response to this? Explain your answer.
- A4.** Compare the effects of lower unemployment benefit in (i) the search model and (ii) the competitive labour market model with perfect information.

## **Section B (26 marks each).**

### **Section B (26 marks each)**

Where appropriate, make use of graphs and equations in your answers.

- B1.** The economic growth rates in Country A and B are both equal to 3% per year during the last three decades. An economist conducts a growth accounting exercise for each country. She finds that technology has contributed to two-third of the economic growth in Country A and one-third of the economic growth Country B, and human capital has not contributed to economic growth in both countries.
- Explain the purpose of the growth accounting exercise and how it is conducted. Use the numbers given in the questions in your explanations. **[7 marks]**
  - Explain why the Malthusian theory is not useful for understanding the growth experience of Country A and B. **[6 marks]**
  - Explain how we can use the Solow growth model to understand the growth experience of Country A and B. **[7 marks]**
  - Using the results from the growth accounting exercises, which country do you think will grow faster in the long run based on the Solow growth model? Explain the reasoning behind the argument. **[6 marks]**
- B2.** Consider a world with three countries: country A, B and C. Country A has pegged its currency against country B. Country B and C both have a flexible exchange rate regime.
- Suppose there is a shift in investment from country C to country B. Discuss what will happen to the nominal exchange rate between country B and C. **[6 marks]**
  - Suppose the reason that investment is flowing into country B is because some major technological innovations happening in Country B. Those innovations have also attracted a shift of investment from country A to country B. Discuss what will happen to the nominal exchange rate between country A and B. **[7 marks]**
  - There is some concern that if the situation described in part (b) continues for too long, then Country A may have to abandon the fixed exchange rate regime. Explain the concern. **[6 marks]**
  - What would happen to the nominal exchange rate between Country A and country B if Country A abandon the fixed exchange rate regime? Explain how this may lead to future recovery in Country A's GDP. **[7 marks]**