

The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Agricultural and Plantation Engineering



Study Programme: Bachelor of Software Engineering Honours
Name of the Examination: Final Examination
Course Code and Title : AGM4367 Economics and Marketing for Engineers
Academic Year : 2022/2023
Date: 19.10.2023
Time: 09.30 to 12.30hrs
Duration: **3 hours**

General Instructions

- Read all instructions carefully before answering the questions.
- Answers should be in clear handwriting.
- Do not use red colour pen.
- This question paper consists of **seven (07)** questions.
- **Question 1 is compulsory** and consists of **ten (10)** sub questions.
- Select any **four (04)** questions from question **2 to 7**.
- Answer for each question should commence from a new page.

-
1. Provide brief answers to each of the following questions (**40 marks**)
 - a. List the factors of production and payments received for them.
 - b. Name the **three (03)** basic forms of economic systems and provide examples for each.
 - c. Differentiate between Microeconomics and Macroeconomics.
 - d. Name **three (3)** macroeconomic goals of a country.
 - e. Differentiate between Nominal Gross Domestic Product (GDP) and Real GDP.
 - f. "Poor countries are trapped into a vicious cycle of poverty". Illustrate the concept of vicious cycle of poverty.
 - g. Name **four (04)** factors that cause shifts in demand curves.
 - h. The price of a steel bar increased from Rs.1000 to Rs.1500 and resulted in the change of quantity demanded from 50 to 30 steel bars. Calculate the price elasticity of demand for steel bars.
 - i. List **five (05)** characteristics of a perfectly competitive market.
 - j. Provide **one (01)** example for **each** type of externalities i.e. positive externalities in production, negative externalities in production, positive externalities in consumption and negative externalities in consumption.

2. Write short notes on the following topics. (3 marks each)

- Marketing Mix
- Inflation
- The Philip's curve
- Circular flow of income
- Oligopoly market

3. Consider two countries A and B producing hardware and software with equal amounts of resources per day. As shown in the following table both A and B can produce Hardware and Software, but their labour productivity is different.

	Country A	Country B
Labor hours available	120,000	120,000
Amount of labour hours required to produce one unit of Hardware.	240	120
Amount of labour hours required to produce one unit of Software.	150	200

- Name the countries with absolute advantage to produce each good. (2 marks)
 - Calculate the production levels by both countries under the specialization on absolute advantage. (3 marks)
 - Calculate the opportunity cost of producing each good for each country and identify the countries with comparative advantage to produce each good. (3 marks)
 - Suppose that the two countries do not engage in any exchanges and half of the resources in each country are used to produce each good. What will be the production of both goods by A and B countries under Autarky? (3 marks)
 - The countries are producing based on their specialization on comparative advantage. Consider an exchange rate of 300 hardware units for 400 software units. Prove that both countries are better off in free trade under the above exchange rate compared to autarky. (4 marks)
4. The government of Sri Lanka decides to impose a price ceiling of Rs. 2200 per 50kg cement bag to protect consumers from skyrocketing cement prices. The demand and supply functions of cement are $Q_d = 12000 - 3P$ and $Q_s = P$, where P is the Price of a 50 Kg cement bag and Q is the number of 50 kg cement bags.
- Calculate the equilibrium price and quantity that would prevail in the absence of any government interventions (2 marks).
 - Calculate producer and consumer surplus at this equilibrium (sketch a diagram showing both). (5 marks)
 - What quantity will eventually be available if the price ceiling is imposed? (3 marks)

- d. Graphically illustrate the new producer surplus and consumer surplus with the price ceiling. **(5 marks)**
- 5.
- What do you understand by “dead weight loss”? **(3 marks)**
 - Graphically illustrate a legal minimum imposed on the market price of a good. **(3 marks)**.
 - Using graphical illustrations describe how the burden of taxes falls more on the inelastic side (demand or supply) of the market. **(3 marks)**
 - Graphically illustrate how a subsidy given by the Government for producers causes inefficiency in the market. **(3 marks)**
 - Describe how a ‘Pigouvian tax’ can eliminate the deadweight loss caused by a negative externality. **(3 marks)**
- 6.
- Explain the effects of banning construction sector imports on the Sri Lankan economy. **(4 marks)**
 - Explain the economic impacts of the COVID-19 pandemic on the industrial sector of Sri Lanka. **(5 marks)**
 - Using your macroeconomic knowledge, explain three current macroeconomic issues faced by Sri Lanka **(6 marks)**
7. Consider an economy that produces only three goods A, B and C. The prices and quantities of the goods produced in three years are given in the following table.

Year	Good A		Good B		Good C	
	Price (Rs)	Quantity (Units)	Price (Rs)	Quantity (Units)	Price (Rs)	Quantity (Units)
2020	100	1500	200	2000	500	1000
2021	160	1550	250	1900	600	1000
2022	170	1500	300	2200	800	1200

- Calculate the nominal GDP for each year. **(3 marks)**
- Calculate the nominal GDP growth rate for 2021 and 2022. **(2 marks)**
- Calculate the real GDP using 2020 as the base year. **(3 marks)**
- Calculate the GDP deflator for each year. **(5 marks)**
- Calculate the inflation in 2021 and 2022. **(2 marks)**

End of the Paper