Study Programme	: Bachelor of Technology Honours in Engineering
Name of the Examination	: Final Examination
Course Code and Title	**: AGM4307 Economics and Marketing for Engineers**
Academic Year	: 2020/21
Date	: 25/02/2022
Time	: 14.00 to 17.00hrs
Duration	: **3 hours**

SECTION II

Answer **any four (04)** Questions
Answer for each question should commence from a new page.
.You may spend **two (2) hours**

1. The elected officials in the Western Provincial council are concerned about the high rents being charged to university students. The town council is expecting to impose a rent ceiling of Rs. 2500 per month per student on rooms in the city. The demand and supply curves for rooms have been estimated as:
   $QD = 12{,}000 - 4P$ $QS = 200 + 2P$, where P = monthly rent, and Q = number of rooms available for rent.
   For purposes of this analysis, the rooms can be treated as identical.
   a. Calculate the equilibrium price and quantity that would prevail without the price ceiling. (**5 marks**)
   b. Calculate producer and consumer surplus at this equilibrium. *(5 marks)*
   c. Sketch a diagram showing both consumer surplus and producer surplus. *(5 marks)*
   d. What quantity will eventually be available if the rent ceiling is imposed? *(5 marks)*
   e. Graphically illustrate the new producer surplus and consumer surplus with price ceiling. *(5 marks)*

2.
   a. Describe why a government needs to enforce an efficient tax system. *(5 marks)*
   b. What do you understand by "**dead weight loss**"? *(5 marks)*
   c. Using graphical illustrations describe how tax could make market inefficient. *(5 marks)*
   d. "*It doesn't matter to whom the tax is levied on, the burden is shared by both producers and consumers*". Elaborate the statement using graphical illustrations. *(5 marks)*
   e. Using graphical illustrations describe how the burden of taxes falls more on inelastic side (demand or supply) of the market. *(5 marks)*

3. Write short notes on any **five (05)** of the following topics. ***(5 marks each)***
   a. Comparative advantage
   b. Investments on renewable energy
   c. Economic impacts of COVID-19 pandemic
   d. Disadvantages of GDP as an indicator of development of a country
   e. Circular Flow Diagram
   f. CPI and Inflation

4. Perera produces Masks for sale, which requires a building and other machines. He rents a building for Rs. 30,000 per month and rent sewing machines for Rs. 20,000. These are his fixed costs. His variable cost per month is given in the table below.

Quantity	Variable Cost (Rs.)
1000	5000
2000	8000
3000	9000
4000	13000
5000	22000
6000	35000
7000	52000
8000	75000
9000	102000
10000	135000

   a. How do you categorize the costs for renting the building and sewing machines? (*2 marks*)
   b. Calculate Perera's, average variable cost, average total cost, and marginal cost for each quantity of output. *(3 marks)*
   c. There is free entry into the industry, and anyone who enters will face the same costs as Perera. Suppose that currently the price of a mask is Rs. 25. What will Perera's profit be? Is this a long-run equilibrium? If not, what will the price of masks be in the long run? *(5 marks)*
   d. Assume that mask production is a perfectly competitive industry. For each of the following questions, explain your answers.
      i. What is Perera's break-even price? What is his shut-down price? *(4 marks)*
      ii. Suppose the price of a Mask is Rs. 2. What should Perera do in the short run? *(3 marks)*
      iii. Suppose the price of a Mask is Rs. 7. What is the profit-maximizing quantity of Masks that Perera should produce? What will his total profit be? Will he produce or shut down in the short run? Will he stay in the industry or exit in the long run? *(4 marks)*
      iv. Suppose the price of Masks is Rs. 20. Now what is the profit-maximizing quantity of Masks that Perera should produce? What will his total profit be now? Will he produce or shut down in the short run? Will he stay in the industry or exit in the long run? *(4 marks)*

5. *"Sri Lanka is facing a deepening financial and humanitarian crisis with fears it could go bankrupt in 2022 as inflation rises to record levels, food prices rocket and its coffers run dry".*

   Using the macroeconomic knowledge gained by following this course explain the possible macroeconomic reasons for this situation in the country. (***25 marks***)

6.
   a. Discuss **two (02) key** macroeconomic issues related to Construction Sector in Sri Lanka. *(4 marks)*
   b. GDP data at constant (real) and current (nominal) prices from 2010 to 2015 from the Department of Census and Statistics of Sri Lanka are given below.

	Constant prices (Bn.USD)	Current prices (Bn.USD)
2015	80.6	80.6
2016	84.2	82.4
2017	87.2	87.4
2018	90.1	87.9
2019	92.1	83.9
2020	88.8	80.7

   i. What was the growth rate of nominal GDP between 2015 and 2020? Use both methods of calculating and compare the values *(8 marks)*
   ii. What do you understand by GDP deflator? *(4 marks)*
   iii. Calculate the GDP deflator at each year between 2015 and 2020. *(5 marks)*
   iv. What was the real GDP in 2015 measured in 2020 prices? *(2 marks)*
   v. What was the real GDP in 2020 measured in 2015 prices? *(2 marks)*