AHMEDABAD UNIVERSITY

AMSOM & SAS

UNDERGRADUATE PROGRAMMES

2024 WINTER SEMESTER

END SEMESTER EXAMINATION

ECO100 MICROECONOMICS

Date: 21-04-2024 Total Marks: 50

Time: 05.00 pm – 07.30 pm No. of printed pages: 02

Instructions: Please be precise and to the point and show clear, legible graphs when required. The marks are indicated in square [] brackets.

Questions

1. Answer the following questions based on the table. A consumer is able to consume the following bundles (in kgs) of rice and dal when the price of rice is Rs. 50 per kg. and the price of dal is Rs. 75 per kg. It is assumed that both rice and dal are normal goods.

RICE	DAL
12	0
6	4
0	8

a) Calculate the consumer's income, draw the budget constraint with this information and label all points. [3]

b) Construct a new budget constraint if the consumer's income increases to Rs. 800 given (i) the original prices and (ii) if the price of rice rises to Rs. 80 per kg and the price of dal decreases to Rs. 60 per kg. Show in separate graphs. [4]

c) Suppose now that rice becomes an inferior good for the consumer, while dal is a normal good. If the price of rice rises to Rs. 80 per kg and the price of dal decreases to Rs. 60 per kg, what happens to the optimal consumption if the income effect dominates the substitution effect and vice versa. Show in graphs. [3]

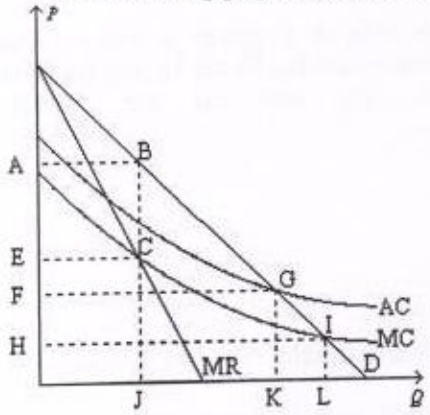
2. Suppose that Arjun owns a cupcake bakery. In the short run, at least one of his inputs is fixed while his variable costs only includes the labor hired in the bakery. Refer to the following table for Arjun's bakery:

Labor	**Output**	**Marginal Product**	**Variable Cost**	**Fixed Cost**
0	0	--	$0	$5
1	100	100	$5	$5
2	250		$10	$5
3	350		$15	$5
4		50	$20	$5
5		25	$25	$5

6	430		$30	$5

a) Calculate the missing values for Output and Marginal Product in the table. [2]
b) Calculate the Total Cost, Average Total Cost, Average Cost and Marginal Cost from the table. Plot them ATC, AVC, MC in one graph. [8]
c) What can you say about the shape of the Total Cost curve? From your calculations above, how can you explain the relation between Marginal Product and Marginal Cost? [1+2]
d) Suppose the firm is in a competitive industry where it faces the constant price of Rs. 70 per cupcake. Find out the price for which the firm would shut down in the short run. Find out if the industry is in a long-run equilibrium. [1+1]

3. The following graph represents the case for a natural monopoly.



a) Find the price and quantity combination for the monopolist. [1]
b) What price quantity combination shows the socially optimum outcome? Show the area of deadweight loss comparing the monopoly outcome with the socially efficient outcome. [1+2]

4. If donuts (kind of bread) and coffee are consumed together as complements,
   a. We observe that the equilibrium price of coffee and the equilibrium quantity of donuts have risen. Is this because of a fall in the price of flour or fall in the price of coffee beans? Explain your answer using a graph. [4]
   b. We observe that the equilibrium price of coffee has risen and the equilibrium quantity of donuts have fallen. Is this because of a rise in the price of flour or rise in the price of coffee beans? Explain your answer using a graph. [4]

5. Suppose the government requires Kaffa Coffee Roaster's Café to pay a tax of Rs. 20 on each unit of coffee sold.
   a) Draw a supply and demand diagram for Kaffa Coffee Roaster's with the tax. What is the difference between the price paid by consumers, the price received by the café? Compare the areas of Producer Surplus, Consumer Surplus, Tax Revenue before and after the tax is imposed. Has the quantity of coffee sold increased or decreased? [7]
   b) Assuming now the demand from consumers of Kaffa Coffee Roaster's is quite inelastic. Show in a diagram how the burden of the tax would change from part a). [3]

6. If large scale vaccination causes a positive externality, show with help of a diagram how social benefits exceed private benefits. Also prescribe the policy that government can undertake to internalize the externality in the same diagram. [3]