The LNM Institute of Information Technology, Jaipur

HSS204: Economics for Engineers (204)

2022-23 Odd Semester

Mid Term Exam (2022-23)

MAX MARKS: 30 **Date: 26th September 2022** **TIME: 90 MINS**

Total Questions	Total Marks	Question number and Total marks allocated for		
		CO1	CO2	CO3
8	30	19/30 = 64%	-	11/30 = 36%

Instructions: READ THE QUESTIONS **VERY** CAREFULLY! Draw diagram wherever necessary. **NO** negative marking & **NO** partial credits. Calculator permitted. Attempt the paper in sequence answering new question on new page.

1	**ONLY indicate whether True/False:** **a.** The average product and the marginal product of the variable input are equal at the level of output that corresponds to the inflection point on the short-run production function. **b.** In the short run, total cost is equal to zero when output is equal to zero. **c.** A recession will have no effect on an economy's production possibility curve since the curve is only analyzing two goods, and price is not involved. **d.** The marginal rate of technical substitution measures the number of units of one input that can be allotted with while holding output constant when one additional unit of the other input is added. **e.** Indifference curves for consumers are similar to isoquants of producers.	[1x5=5]	CO1
2	**Choose the best answer choice (ONLY indicate):** Along an indifference curve, if the marginal rate of substitution is 3, then the consumer is willing to: **a.** pay ₹3 for one unit of the good measured along the Y-axis. **b.** give up 1 unit of the good measured along the Y-axis for 3 units of the good measured along the X-axis. **c.** give up 3 units of the good measured along the Y-axis for 1 unit of income, that is, ₹1 of income. **d.** give up 3 units of the good measured along the Y-axis for 1 unit of the good measured along the X-axis. **e.** pay ₹3 for one unit of the good measured along the X-axis.	[3]	CO1
3	Dr. Gulshan starts his own dental practice after quitting his ₹150,000 job at the Clove Dental Clinic. His revenues for the first year are ₹500,000. He paid ₹90,000 in rent for the dental office, ₹60,000 for his office manager's salary, ₹24,000 for the dental hygienist, ₹150,000 for insurance, and ₹6,000 for other miscellaneous costs. The normal profit from running his business is ₹20,000. Calculate his economic profit.	[3]	CO3

4	Profit maximizing firms in a perfectly competitive industry are producing 14,000 units per day, but can only sell 12,000 units per day at the current market price of ₹23. Find out the market equilibrium price.	[3]	CO1
5	Answer the questions based on the table below showing the marginal utility schedules for product X and product Y for a hypothetical consumer. The price of product X is ₹4 and the price of product Y is ₹2. The income of the consumer is ₹20.	[1x3= 3]	CO1

Product X		Product Y	
Quantity	**MUx**	**Quantity**	**MUy**
1	32	1	24
2	28	2	20
3	24	3	16
4	20	4	12
5	16	5	8

NOTE: ***Highlight your answer in one word and in a single line.***

a. If the consumer can only buy product X, how much will the consumer buy and what will be the total utility?
b. If the consumer buys both product X and product Y, how much will the consumer buy of each to maximize utility?
c. When the consumer purchases the utility-maximizing combination of product X and product Y, total utility will be:

6	Food doesn't easily convert into weapons so more resources must be used as more weapons are produced. If the resources were perfectly substitutable, how would you draw the PPC? Explain.	[3]	CO3
7	Consider the market for petrol that is initially in equilibrium. Suppose that Saudi Arabia, a major supplier of petroleum used to produce petrol, erupts into a widespread war. At the same time suppose that the price of electric vehicles falls. Given these changes and holding everything else constant, what happens to the equilibrium price and quantity in the market for petrol relative to the initial equilibrium price and quantity in the market? Explain with diagram.	[5]	CO3
8	"Average cost of production always falls when a firm increases its scale of production". Discuss with diagram.	[5]	CO1