UPES
End Semester Examination, December 2023

Course: Managerial Economics Semester: I
Program: MBA- All Time : 03 hrs.
Course Code: ECON7006 Max. Marks: 100

Instructions: Attempt all the questions.

SECTION A
10Qx2M=20Marks

S. No.		Marks	CO
Q 1	The modern theory of the firm postulates that the primary objective of managers is to maximize- (a) the firm's total revenue. (b) the value of the firm's output. (c) the present value of the firm's expected future profits. (d) All the above.	2	CO1
Q 2	If we assume the following scenario: as the average income of the consumer increases the demand for "fast food decreases, then we can assume that "fast" food is- (a) a normal good. (b) an inferior good. (c) a Giffen good. (d) none of the above.	2	CO1
Q 3	Differential calculus can be used to solve problems in cases where economic relationships are expressed in the form of- (a) a graph. (b) a table. (c) an equation. (d) Any of the above.	2	CO1
Q 4	If the price elasticity of demand for a firm's product is -2 and the product's price is ₹4, then the marginal revenue is equal to- (a) ₹4. (b) ₹3. (c) ₹2. (d) 1₹.	2	CO1
Q 5	Assume that the following is the result of a demand estimation: $$ln\ Q = ln\ 20 + 5\ ln\ P + 2\ ln\ I$$ Where *I* represent consumer income, *P* is the price, and *Q* is quantity demanded. What is the price elasticity of demand?-	2	CO1

	(a) 20.		
	(b) 5.		
	(c) 2.		
	(d) 4.		
Q 6	The marginal revenue product of labour for a firm- (a) will increase if the price of the firm's output increases. (b) is the firm's demand curve for labour. (c) will decrease if the firm hires more labour. (d) all the above.	2	CO1
Q 7	A line that connects all points where the marginal rate of technical substitution is equal to the ratio of input prices is called the- (a) input demand curve. (b) total product curve. (c) expansion path. (d) isocost line.	2	CO1
Q 8	The contribution margin per unit is equal to the- (a) price of a good. (b) difference between total revenue and total cost. (c) difference between price and average total cost. (d) difference between price and average variable cost.	2	CO1
Q 9	Which of the following markets comes close to satisfying the assumptions of a perfectly competitive market structure?- (a) the stock markets. (b) the market for agricultural commodities such as wheat or corn. (c) the market for petroleum and natural gas. (d) all the above.	2	CO1
Q 10	If a monopolistically competitive firm is earning profits in the short run, then in the long run the behaviour of competing firms- (a) will cause the firm's supply curve to shift to the left. (b) will cause the firm's supply curve to shift to the right. (c) will cause the firm's demand curve to shift to the left. (d) will cause the firm's demand curve to shift to the right.	2	CO1
SECTION B 4Qx5M= 20 Marks			
Q 11	Using a graph, explain the difference between a movement along a demand curve and a shift in the demand curve.	5	CO2
Q 12	Suppose that two units of X and eight units of Y give a consumer the same utility as four units of X and two units of Y. Over this range: (a) What is the marginal rate of substitution over this range of consumption?	5	CO2

	(b) If the consumer obtains one more unit of X, how many units of Y must be given up in order to keep utility constant? (c) If the consumer obtains one more unit of Y, how many units of X must be given up in order to keep utility constant?		
Q 13	The U shapes of the short-run and long-run average cost curves are both based on the operation of the law of diminishing returns. True or false? Explain.	5	CO2
Q 14	With the help of graph and equation shows a break-even level of production.	5	CO2

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SECTION-C
3Qx10M=30 Marks

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Q 15	The general linear demand for good X is estimated to be: $$Q = 250,000 - 500P - 1.50M - 240P_R$$ where P is the price of good X, M is average income of consumers who buy good X, and P_R is the price of related good R. The values of P, M, and P_R are expected to be ₹200, ₹60,000, and ₹100, respectively. Use these values at this point on demand to make the following computations. (a) Compute the quantity of good X demanded for the given values of P, M, and P_R. (b) Calculate the price elasticity of demand E. At this point on the demand for X, is demand elastic, inelastic, or unitary elastic? How would increasing the price of X affect total revenue? Explain. (c) Calculate the income elasticity of demand E_M. Is good X normal or inferior? Explain how a 4 percent increase in income would affect demand for X, all other factors affecting the demand for X remaining the same. (d) Calculate the cross-price elasticity EXR. Are the goods X and R substitutes or complements? Explain how a 5 percent decrease in the price of related good R would affect demand for X, all other factors affecting the demand for X remaining the same.	10	CO3
Q 16	"Whan a manger is using a technically efficient input combination; the firm is also producing in an economically efficient manner." Evaluate this statement.	10	CO3
Q 17	A monopolist faces the following demand and cost schedules: <table><tr><th>Price (₹)</th><th>Quantity</th><th>Total Cost (₹)</th></tr><tr><td>20</td><td>7</td><td>36</td></tr><tr><td>19</td><td>8</td><td>45</td></tr><tr><td>18</td><td>9</td><td>54</td></tr><tr><td>17</td><td>10</td><td>63</td></tr><tr><td>16</td><td>11</td><td>72</td></tr><tr><td>15</td><td>12</td><td>81</td></tr></table> (a) How much output should the monopolist produce? (b) What price should the firm charge? (c) What is the maximum amount of profit that the firm can earn?	10	CO3

SECTION-D
2Qx15M= 30 Marks

Q 18	The Cimmerian Cutlery Company has estimated the following Cobb-Douglas production function using cross-sectional data on 14 firms in the cutlery industry: $$ln\ Q = 1.20 + 0.30\ ln\ K + 0.10\ ln\ L + 0.50\ ln\ S$$ $$\quad\quad\quad (4.19)\quad\quad (2.85)\quad\quad (2.69)$$ $$R^2 = 0.91$$ where Q is the number of utensils produced per month (in thousands), K is the number of units of capital, L is the number of production workers employed, and S is the number of non-production support workers employed. The numbers in parenthesis below the estimated slope coefficients are t values. Use this information solve the following questions: (a) If Cimmerian Cutlery employs 120 units of capital, 600 production workers, and 60 support workers, how many thousands of utensils will be produced per month according to the estimated function? (b) Find the marginal product and average product of each of the inputs when the firm employs 120 units of capital, 600 production workers, and 60 support workers. Is the firm operating in Stage II of production for all of the inputs? (c) Are the estimated slope coefficients of the Cobb-Douglas production function statistically significant at the 5% level? At the 1% level? How much of the variation in Q does the estimated function explain?	15	CO4
Q 19	**Case -Study:** Once, a friend had to travel through the New Delhi Railway station twice in quick succession. During the first journey, my friend was asked a wage of ₹100 for 2 bags. Exactly two days later, at the same platform, with same luggage, and nearly the same time, she was asked to pay ₹250. When she contested this high price with the previous price paid, she was coolly told by the coolie that that day, she travelled through an ordinary express train and today, it is a first-class of Rajdhani, a luxury train. This is an excellent example of price discrimination faced by many of us at varied levels. In fact, the railway station coolies or the outside station auto-rickshaw drivers would change their prices based on the weather, crowd, time of the day, and so on. This is much before Uber making 'surge price' a common term. Surge price is the price charged to customers depending upon demand, environment factors and more. For example, if it rains suddenly and demand for taxis goes up in an area, Uber will	15	CO4

immediately raise the price to get more drivers on the road. When the demand falls, the price comes back to normal.

This strategy has caused an uproar with many labelling it unethical because a user's helplessness is being exploited for commercial gain. However, much before Uber made surge pricing a well-known term, was it not the regular neighbourhood auto-rickshaw driver using the same strategy by asking for 1.5 times the regular fare for far-flung destinations, for night-rides, or even at peak traffic times?

The e-commerce companies, led by Amazon, have been practicing surge pricing in a way more sophisticated and somewhat untraceable way for long. For example, if you search for a product online, the price quoted will depend on the location and device you are using. If you are in Mumbai's affluent Malabar Hill area, surfing on an Apple iPad, you will likely be shown a 20-25% higher price compared with your friend who is searching for the same merchandise at the same time but from a less affluent suburban location and on a Window's installed Dell laptop.

In fact, if you track e-commerce sites, you will be dismayed to find that using smart algorithms, the prices of Merchandise change multiple times a day depending upon demand! One must also understand that not all of these: pricing practices are unethical or unfair within some socially agreed limits. As it becomes easier to access information and plan at a very high pace at very low cost due to progresses made in information technology, we may expect to see more 'exotic' pricing strategies enter popular lexicon. Some of the potential claimants are:

(a) **Dynamic pricing:** It is flexible pricing. Users are charged depending upon when they make the purchase. Say you want to book flight tickets for your vacation. If you book early, you will have to a pay lower price; closer to the time of departure you will have to pay a higher price. Multiplexes too follow this strategy.

(b) **Predatory pricing:** Two or more industry players surreptitiously collude to target a common enemy (company) with a strategic intent of putting it out of business. They take strategic price drops to cause maximum harm to the targeted company till they drive it out of business. They then take the price up. In most countries, including India, it is illegal to indulge in predatory pricing

because customers stand to lose. Recently local taxi aggregators in Chennai filed a case against Ola for allegedly practicing predatory pricing. The Competition Commission of India is authorised to take a *suo moto* action also in such cases.

(c) **Freemium:** The product is made available free, but users are charged for premium features. Take newspapers like *the Wall Street Journal*. The basic content is available free, but if a reader wishes to access premium content, she must pay for it. Most online gaming platforms as well as dating, matrimony, and photo-sharing websites also work under the same model.

(d) **Free (zero) pricing:** New age companies like Google have made this pricing strategy mainstream. They do not charge actual users for using their product. Since it is free, many customers patronize the brand. The company then puts an invisible digital ring around its customers-advertisers must pay a fee to the brand owner. This type of pricing is possible on two-way platforms, where two different parties can be matched and at least one is willing to pay for the meeting.

(e) **Negative pricing:** You pay your users each time they use your brand. This too brings in large number of users to the platform--when the numbers are large, advertisers are willing to pay top dollar to reach these users. Again, the brand owner makes money not from the primary user of the brand but from advertisers. This strategy is already in practice--each time your credit card company offers a cashback, or the retail store gives you loyalty points. Virgin mobile made a success story on the same model worldwide; however, Indian market was too suspicious and therefore, did not respond to this pricing model.

Questions:

(a) Is price discrimination unethical? Is it always morally right or unacceptable? What may be the situational Caveats?

(b) Since surge pricing has attracted very stern social reaction as well as even a legislative crackdown in India, do you consider it a problem or a solution?

(c) Can you approach the surge pricing issue from a marginal demand-supply analysis point of view? Does it change Your understanding of the problem or the solution?		
(d) What are the pros and cons of stepwise pricing function adopted by the Indian railways? Can you discriminate between commercial and social aspects of the same?		
(e) Why is it important to have so many different pricings model and not one single all-encompassing universal Model?		