

<PGDM RM, 2020-22>
<Managerial Economics for Retailers>
<RM-103>
Trimester – I End-Term Examination: October 2020

Time allowed: 2 Hrs 30 Min
Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. All other instructions on the reverse of Admit Card should be followed meticulously.

Sections	No. of Questions to attempt	Marks	Total Marks
A	Minimum 3 question with internal choices and CILO (Course Intended Learning Outcome) covered	3*10	30
B	Compulsory Case Study with minimum of 2 questions	20	20
			50

Section A

QA1a (CILO1) Most production functions include both labor and capital as factors. How can you tell if a function is increasing returns to scale, decreasing returns to scale, or having no effect on returns to scale? Explain the same with the help of suitable diagram.

Or

QA1b (CILO1) Florida Citrus Mutual, an agricultural cooperative association for citrus growers in Florida, needs to predict what will happen to the price and output of Florida oranges under the conditions below. What are your predictions? For each part, sketch a graph showing the appropriate demand and supply analysis.

- a. A major freeze destroys a large number of the orange trees in Florida.
- b. The scientists in the agricultural extension service of the University of Florida discover a way to double the number of oranges produced by each orange tree.
- c. The American Medical Association announces that drinking orange juice can reduce the risk of heart attack.
- d. The price of Florida grapefruit falls

QA2a (CILO2) HoneyBee Farms, a medium-size producer of honey, operates in a market that fits the competitive market definition relatively well. However, honey farmers are making losses in the short run. Will they be making losses in the long run as well? Explain the long term & short term behavior of honey farmers with the help of a suitable diagram.

Or

QA2b (CILO2) Consider the following information for a simultaneous move game. If you advertise and your rival advertises, you each earn \$5 million in profits. If neither of you advertise, you will each earn \$10 million in profits.

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However, if one of you advertises and the other does not, the firm that advertises will earn \$15 million and non-advertising firm will earn \$1 million

- a. Use a payoff matrix (prisoners Dilemma) to depict this problem.
- b. What is the cooperative solution to this game?
- c. What is the likely outcome

QA3a (CILO3) (Total Cost and Marginal Cost) Complete the following table, where P is Price of the commodity, Q is units of output, and MC is the marginal Cost.

P	Q	AVC	TC	MC	AC
0	0	0	12		
1	6	3	15		
2	15	6			
3	21	9			
4	24	12			
5	26	15			

- a. At what level of labor input do the marginal returns to labor begin to diminish?
- b. What is the average variable cost when Q = 24?
- c. What is this firm 's fixed cost?

Or

QA3b(CILO3) The accompanying table lists the cross-price elasticities of demand for several goods, where the percent quantity change is measured for the first good of the pair, and the percent price is measured for the second good.

Good	Cross-price elasticities of demand
Air-conditioning units and kilowatts of electricity	-0.34
Coke and Pepsi	+0.63
High-fuel-consuming sport-utility vehicles (SUVs) and gasoline	-0.28
McDonald's burgers and Burger King burgers	+0.82
Butter and margarine	+1.54

- a. Explain the sign of each of the cross-price elasticities(Type of Cross elasticity). What does it imply about the relationship between the two goods in question? Use the information in the table to calculate how a 10% decrease in the price of gasoline affects the quantity of SUVs demanded
- b. Use the information in the table to calculate how a 5% increase in the price of Pepsi affects the Quantity of Coke demanded.

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Section B

Case Study : M-PESA

In the early 2000s, research by Gamos and the Commonwealth Telecommunications Organisation found that African people were using mobile airtime as a virtual currency. They purchased airtime and sent the activation code to others, who would either use the airtime themselves or sell the airtime.

The researchers presented the findings to several telecoms providers. In 2004, Mcel in Mozambique implemented airtime sharing, and others, including Safaricom in Kenya followed. Following further discussions, the U.K. Department for International Development sponsored a pilot project with Safaricom to implement a system to directly transfer money through mobile phone services. The researchers also approached Western Union, but were dismissed with the assertion, "Mobile Phone-enabled money transfers will never threaten

Western Union's core business model". In 2007, Safaricom launched M-PESA ("pesa" is Kiswahili for "money"). M-PESA users may deposit money into a mobile phone account at any agent to get an "e-float", transfer the e-float by short message service to others, and redeem e-float for cash at any agent. Safaricom charges fees for e-float, transfer, and withdrawal of cash, and does not pay interest on e-float. The fees are differentiated between registered and non-registered users. For migrant workers in urban areas who wanted to send money to their home villages, M-PESA provided a reliable service, far safer and cheaper than remitting money through people traveling to the home village. In 2008, researchers William Jack and Tavneet Suri surveyed 3000 households on their usage of M-PESA. The average M-PESA transaction is about half the size of the average Automatic Teller Machine (ATM) transaction and one-hundredth of the average check transaction. For transfers to and from registered users, M-PESA is cheaper than Western Union, especially for amounts greater than 100,000 Kenya shillings.

The table below compares non-users vis-à-vis users,

	Non-users	Users
Number of households	1685	1315
Share of households	56%	44%
Annual household expenditure (Kenya shillings)	197,344	329,348
Share of unbanked population	75%	25%
Share of rural population	71%	29%

M-PESA funds are held by a trust which is owned by Vodafone (40% owner of Safaricom). The trust deposits M-PESA funds in commercial banks and gives the interest to the M-PESA Foundation. Since 2012, the Commercial Bank of Africa has offered savings and loans through M-PESA. In financial year 2016, M-PESA had 100,744 agents, 16.6 million 30-day active users, each of whom carried out an average of 7.43 chargeable transactions, totaling 5.29 trillion Kenya shillings a year. Safaricom's revenue was 177.8 billion Kenya shillings, of which the top three services were voice, M-PESA, and mobile data. M-PESA contributed 41.5 billion or 23%. By comparison, in 2013, total revenue was 118.1 billion Kenya shillings, of which M-PESA contributed 21.84 billion or 18.5%.

Questions

B1(CILO1) Explain the concepts of price elasticity and income elasticity of demand and throw light on how M-PESA exploits the same.

B2(CILO3) Differentiate between economies of scale and/or scope & How can Safaricom exploit economies of scale and/or scope to provide voice, data, and M-PESA services?