MBA(FT) – November 2015

MBAFT-6103

Paper Title: Managerial Economics

Time : 3 Hours *Max. Marks : 50*

Instructions

This is a closed book examination. Calculators are allowed. Answer any five out of six questions. All questions carry equal 10 marks

1. *FabTex* employs only labor for its garment manufacturing, although the same job can be done by textile machines. The production function is such that the elasticity of substitution is strictly greater than zero. Labor costs *Rs. 500* per day and each additional labor can produce *2,000* more units per day. Installation of the first textile machine will increase output by *18,000* daily. Currently *FabTex* produces *54,000* units per day.
   i. The cost of renting a textile machine is *Rs. 6,000* per day. Can management reduce the cost by purchasing a textile machine and using less labor? Explain.
   ii. The textile workers are planning to go on strike demanding higher wages. If they are successful, the cost of labor will increase to *Rs. 1,000* per day. Is that going to change your answer to part i? Explain.
   iii. Explain the difference between marginal returns to variable inputs and returns to scale. Illustrate using a Cobb-Douglas function.

   3+3+4

2. The market for shrimp in *Arthopoda* is competitive. The domestic demand is given by $Q_d = 100 - P$ and domestic supply is given by $Q_s = -20 + P$.
   i. *Arthopoda* does not allow free trade. Calculate the equilibrium price and quantity. Show graphically.
   ii. Now suppose *Arthopoda* opens up and allows free trade. The world price for shrimp is *50*. Find out the quantity sold by domestic producers and the quantity demanded by the consumers. If there a gap between the domestic demand and supply, how is that gap being taken care of in equilibrium? Show graphically.
   iii. Now suppose a few of the major foreign shrimp producers decide to engage in "dumping". In this case, assume that these foreign producers manage to push the price below *50* to *40*, which is an artificial price and not determined by the market. Explain how that impacts the total surplus compared to that in case ii. Show graphically. Who all are loosing out because of this dumping?

   3+3+4

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3. The demand for Vani's homemade ice cream is $P = 20 - 0.2Q_d$ where Q_d is the number of ice creams sold per week and P is the price of ice cream. Vani is considering raising her price above the current *Rs. 15*. Vani does not want her revenue to fall.

   i. Should Vani raise the price above *Rs. 15*? Explain with a graph clearly marking the various elasticity regions. What is Vani's marginal revenue at the current price?

   ii. Find the output which Vani's total revenue will be maximized. What should the price at that point? Show using an appropriate graph.

   iii. Suppose now due to change in consumer preference and as a result demand takes the problem, $Q = 36P^{-1}$. Should not Vani consider raising price again above Rs. 15? Explain.

   iv. If we can estimate fairly accurately the demand function of a particular good in a market, do we still need the value of income elasticity of demand to figure out changes in demand due to change in income? Explain.

$Q = 36P^{-1}$

3+2+2+3

4. *QuadPlex* Cinema is the only movie complex in *Bramgarh*. The nearest movie hall is 25 kms away. Therefore it can be assumed that *QuadPlex* has some amount of market power. Despite that *QuadPlex* is suffering losses. You are hired as the manager of *QuadPlex*. You are contemplating a price increase for movie tickets keeping in mind that this is a local monopoly.

   i. Justify your strategy. Go through the entire discussion regarding how monopoly chooses quantity and price. At the end of the discussion, evaluate your current strategy.

   ii. How can the market power of *QuadPlex* be measured?

   iii. What options should *QuadPlex* consider in the long run?

   iv. Discuss whether you should consider price discrimination. If yes, then which kind of price discrimination would be most appropriate?

4+2+2+2

5. *Pizza Castle* and *Pizza Palace* are located side-by-side across the street from a major University. The pizzas sold by *Castle* and *Palace* are almost identical, so they compete on price only. Each store can charge the following three prices for a pizza: *Rs. 100* (High) or *Rs. 80* (Medium) or *Rs. 60* (Low). The payoffs are given by: a) If they both charge a High price, then each make a profit of *1,000* (the unit is not important). b) If both charge a Medium price, each makes a profit of *800*. c) If both charge a Low price, each makes a profit of *400*. d) If *Castle* charges Medium and *Palace* charges High then *Castle* makes *1,100* and *Palace* makes *400*. e) On the

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other hand, if *Palace* charges Medium and *Castle* charges High then *Castle* makes *900* and *Palace* makes *1,100*. f) If *Castle* charges Low and *Palace* charges High then *Castle* makes *1,200* and *Palace* makes *300*. g) On the other hand, if *Palace* charges Low and *Castle* charges High then *Castle* makes *500* and *Palace* makes *1,200*. h) If *Castle* charges Low and *Palace* charges Medium then *Castle* makes *500* and *Palace* makes *350*. i) On the other hand, if *Palace* charges Low and *Castle* charges Medium then *Castle* makes *450* and *Palace* makes *500*.

i. Write down the payoff matrix assuming that this is a simultaneous move game.

ii. Define a strictly dominated strategy. Find out whether *Castle* or *Palace* or both have strictly dominated strategies.

iii. Determine the equilibrium by successive elimination of strictly dominated strategies. Show your work.

4+3+3

6. Write comments on any *two*:
   i. Relevance of price rigidity models for managerial decision making
   ii. Sales maximization versus profit maximization
   iii. Long-run versus short-run cost minimization problem for mangers

5+5

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