

7.5

Quiz: Economics for Engineers [Even Semester Jan-July 2019]

Department of Humanities and Social Sciences

The LNM Institute of Information Technology (*Deemed-To-Be-University*)

Maximum Marks: 10

Date: 16th February, 2019

Time: 20 Minutes

Name: Vishakha Bhanwani

Roll No.: 16UPEC126

General Instructions: Please read them carefully

- There is only one correct answer to the multiple-choice questions. *All multiple-choice questions carry 0.5 mark each.*
- Mention only 'True' or 'False' for question no. 8. Any other symbols or alphabets (such as 'T' or 'F') will not be accepted as an answer. *All True-False type questions carry 1 mark each.*
- There is no negative marking.

Q. 1. Harmanpreet Kaur of the India's women cricket team has decided to spent one-third of her income on sports shoes. Based on this information answer the following question:

- a. What is the value of income elasticity of her demand for sports shoes?
- 0
 - ∞
 - 1
 - Greater than 0 but less than 1

Answer: III

- b. What is the price elasticity of her demand for sports shoes?
- ∞
 - 1
 - Greater than 0 but less than 1
 - 0

Answer: II

- c. If Harman's taste changes and she decides to only spend one-fourth of her income on sports shoes, how does the demand curve change?
- shift leftward (downward)
 - upward movement along the demand curve
 - shift rightward (upward)
 - downward movement along the demand curve

Answer: i

- d. What is the income and price elasticity of her demand for the sports shoes *now* (i.e., with one-fourth of income spent on sports shoes), respectively?
- i. ∞ and 0
 - ii. 0 and ∞
 - iii. 0 and 0
 - iv. None of the above

Answer: IV

- Q. 2. If manufacturers of steel are producing more steel than what the consumers demand. Which of the following would be true?
- i. there is a surplus in the market and price will rise
 - ii. there is a shortage in the market and price will fall
 - iii. there is a surplus in the market and price will fall
 - iv. there is a shortage in the market and price will rise

Answer: III

- Q. 3. What is the function of the government in a command economy?
- i. They determine the type and quantity of goods to be produced through Five Year Plans
 - ii. They allow the laws of supply and demand to control the economy
 - iii. Trade policies mandated that imports exceed exports
 - iv. The success of the agricultural sector controls the manufacturer's goods

Answer: i.

- Q. 4. The problem of allocation of resources is concerned with:
- i. What to produce
 - ii. How to produce
 - iii. For whom to produce
 - iv. All of the above

Answer: IV

- Q. 5. Which of the following explains a mixed economy?
- i. Allocates resources via supply but not demand
 - ii. Allocates resources via demand but not supply
 - iii. Allocates resources via supply and demand
 - iv. Allocates resources via market forces and government intervention

Answer: IV

- Q. 6. The demand for good X and Y are perfect complements? Which of the following would be true?
- i. If price of good X increases, demand for good Y increases
 - ii. If price of good Y decreases, demand for good Y increases
 - iii. If price of good X increases, demand for good Y decreases
 - iv. If price of good X decreases, a decrease in demand for both good X and Y

Answer: III

- Q. 7. A decrease in the real income of a consumer makes her to demand more of that good while an increase in real income of the consumer makes her to demand less of that good. What good is being referred here?

- i. Inferior Goods
- ii. Normal Goods
- iii. Giffen Goods
- iv. Substitute Goods

Answer: i

- Q. 8. Answer the following with 'True' or 'False':

- a. When weather turns warm in Kashmir every summer, then the equilibrium price of hotel rooms in Kerala drops. Answer: True
- b. If there is a technological advancement in a product that is being supplied in the market; then its equilibrium price would rise. Answer: True
- c. Consider the markets for TV screens, Tickets at Multiplexes and DVDs. For each of the pair of goods, answer the following questions
 - i. TV screens and DVDs are example of substitute goods. Answer: True
 - ii. DVDs and Tickets at Multiplexes are example of complementary goods.Answer: False
- d. The production possibility curve is convex to the origin because some resources are more specialized than others. Answer: False

Signature: 

Date: 14/2/19

(28)



The LNM Institute of Information Technology

Department: HSS Economics for Engineers (201)

Exam Type: Mid Term

Time: 90 minutes

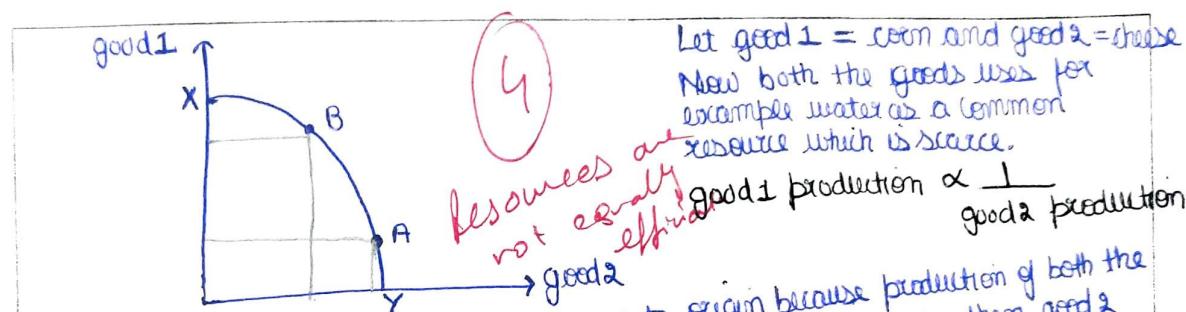
Date: 04/03/2019

Max. Marks: 30

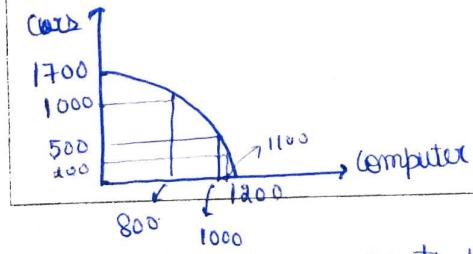
Roll No. 16UEC126 Student's Name & Sign. Nishantika Shanwari

Instructions: No partial credits. Marks will be deducted for rewriting or change of response in the answers. Write the paper legibly and neatly. NO clarifications will be entertained. Apply your own discretion based on the class room discussion. **THIS EXAM PAPER HAS TOTAL 6 QUESTIONS & 6 PAGES.**

Q.1 Explain using a two commodity example how the shape of the production-possibility frontier implies increasing opportunity cost. [5]



Shape of production possibility curve is concave to origin because production of both the goods is inversely related as if resource is provided more to good 2 then good 2 will be produced more than good 1. good 2 is produced at opportunity cost of good 1. To produce more of one good opportunity cost increases as to for example say produce good 2 more, then more & more units of good 1 are to be forgone. If all the resources are provided to good 1 then X quantity is produced. If all the resources are provided to good 2 then Y quantity of good 2 is produced. At point B more of good 1 is produced and at point A more of good 2 is produced. Shape of PPC is like as shown above as resources are scarce. So in order to increase one good, more & more of other goods are to be forgone and this increases opportunity cost. More will be opportunity lost to produce more of other good.



To increase production of computers more and more number of cars are to be forgone this is opportunity cost.

e.g. to increase production of Computer from 800 to 1000, production of car decreases by 500

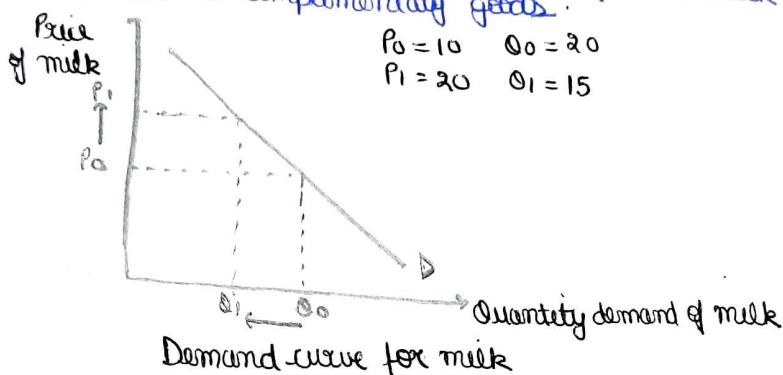
This 500 is opportunity cost.
To further increase Computer to 1100, car decreases to 200 i.e. opportunity cost ↑

Q.2 The values in following table refer to the change in an individual's consumption of milk and tea at home when the price of milk rises (ceterius paribus).

Commodity	Before		After	
	Price	Quantity	Price	Quantity
Milk (unit)	10	20	20	15
Tea (cup)	20	40	20	35

- a. Draw a figure for milk showing these changes, and explain the figure drawn. [2.5]

as price of milk increases, consumption of both milk and Tea decreases.
 milk and Tea are complementary goods.



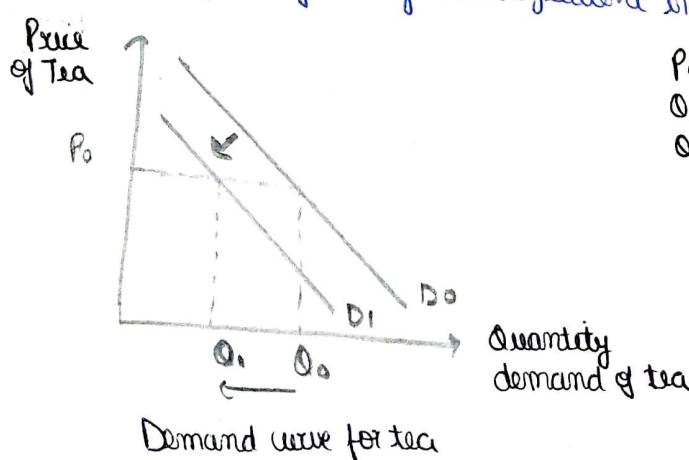
Movement along Demand curve
 as price changes

1. Contraction of demand

as price of milk rises from P_0 to P_1 , its quantity demanded decreases from Q_0 to Q_1 .

- b. Draw a figure for tea showing these changes, and explain the figure drawn. [2.5]

There will be shift in demand curve as Price of Tea remains same but its demand decreases because price of one of its ingredient increases. Demand curve for tea shifts left



Shift of demand curve

2. Shift of demand curve

Q.3 Using only the total expenditure method, determine the degree of price elasticity from the following table for X and Z goods and comment on the degree of elasticity of demand.

[2.5+2.5]

P (Rs)	6	5	4	3	2	1
Q _X	100	110	120	150	200	300
Q _Z	100	150	225	325	500	1100

X good:

As price of good X increases from 1 to 6, Total expenditure increases as shown in table.
This implies good X is essential good and demand is inelastic.

Good X → inelastic demand is not elastic to price

as expenditure increases with increase in price $\Rightarrow e_p < 1$

Let $P_0 = 4$ $Q_0 = 120$
 $P_1 = 6$ $Q_1 = 100$

$$e_p = \frac{P_0}{Q_0} \left(\frac{\Delta Q}{\Delta P} \right) = \frac{4}{120} \left(\frac{-20}{2} \right) = -\frac{1}{3}$$

P Q_X Ex

6	100	600
5	110	550
4	120	480
3	150	450
2	200	400
1	300	300

6
price elasticity
2.5

Z good:

As price increases from 1 to 3, Total expenditure decreases but as price increases from 3 to 4, Total expenditure increases.

For good Z as price increases from 1 to 6, Total expenditure decreases \Rightarrow Z is not a luxury good i.e. something which is not necessary to be bought if its price increases

$\Rightarrow e_p > 1$

demand is elastic to price as price increases, expenditure on that good decreases

Let $P_0 = 4$ $Q_0 = 225$
 $P_1 = 6$ $Q_1 = 100$

$$e_p = \frac{P_0}{Q_0} \left(\frac{\Delta Q}{\Delta P} \right) = \frac{4}{225} \left(\frac{-125}{2} \right)$$

$$e_p = -1.092$$

P Q_Z Ez

6	100	600
5	150	750
4	225	900
3	325	975
2	500	1000
1	1100	1100

Q.4 Below is a table depicting information of a production process in a local factory producing bathing soaps in Jaipur. The clerk in the factory is careless and accidentally drops water on this piece of information.

a. You are asked to identify the stages in this table: [No partial credits]

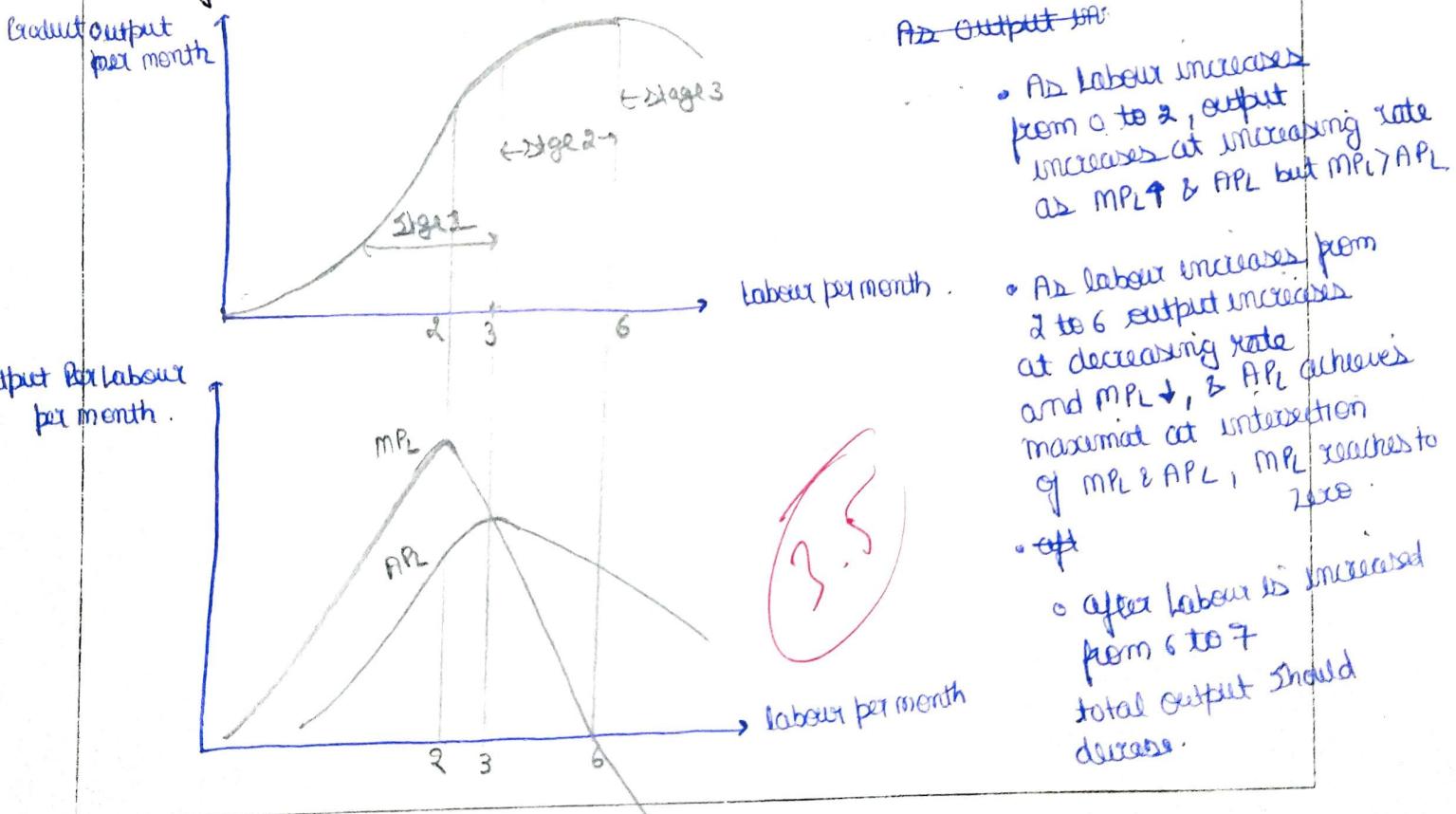
[1.5]

Labour	Capital	Total Product	Marginal Product	Average Product	Stages
0	175	0	NA	NA	P
1	175	225	225	225	1
2	175	600	375	300	1
3	175	900	300	300	1
4	175	1140	240	285	2
5	175	1365	225	273	2
6	175	1365	0	227.5	2
7	175	1575	-210	225	3

For Labour 7 AP should be such that Total Product Starts decreasing i.e. AP should be around 180

b. Explain with a suitable diagram which law of production explains the above table. [3.5]

Law of Diminishing Return / Law of Variable factor explains above table.

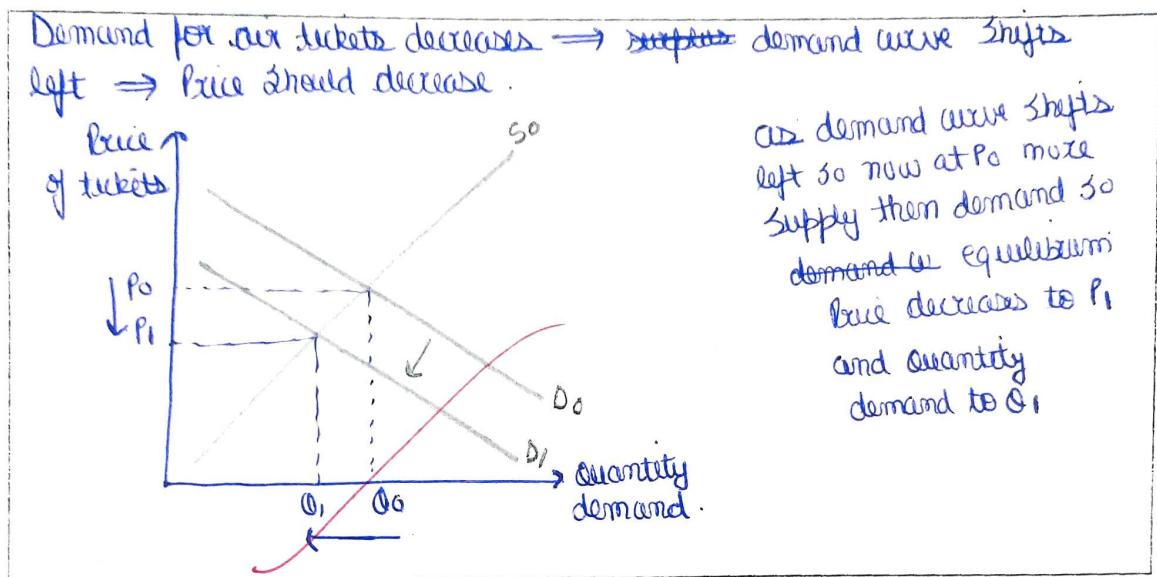


Stage 1 \Rightarrow Quantity of Product \uparrow , M with 1 rate till labour 2 and then \uparrow at decreasing rate till labour 3. $MPL \uparrow$ and then \downarrow then \downarrow .

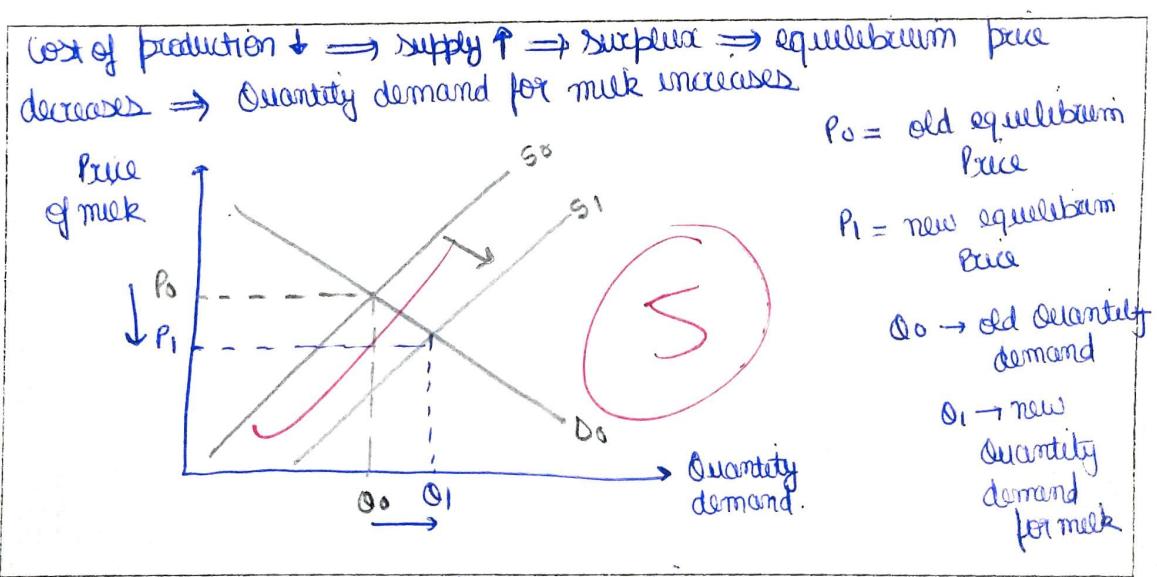
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Stage 2 \rightarrow both $MPL & APL \uparrow$
 $MPL < APL$
Product reaches maximum
Stage 3 \rightarrow O/P \downarrow , $MPL < 0$, $APL \downarrow$

Q.6 Using demand and supply diagrams, show what changes in equilibrium price and quantity would be expected in the following scenarios:

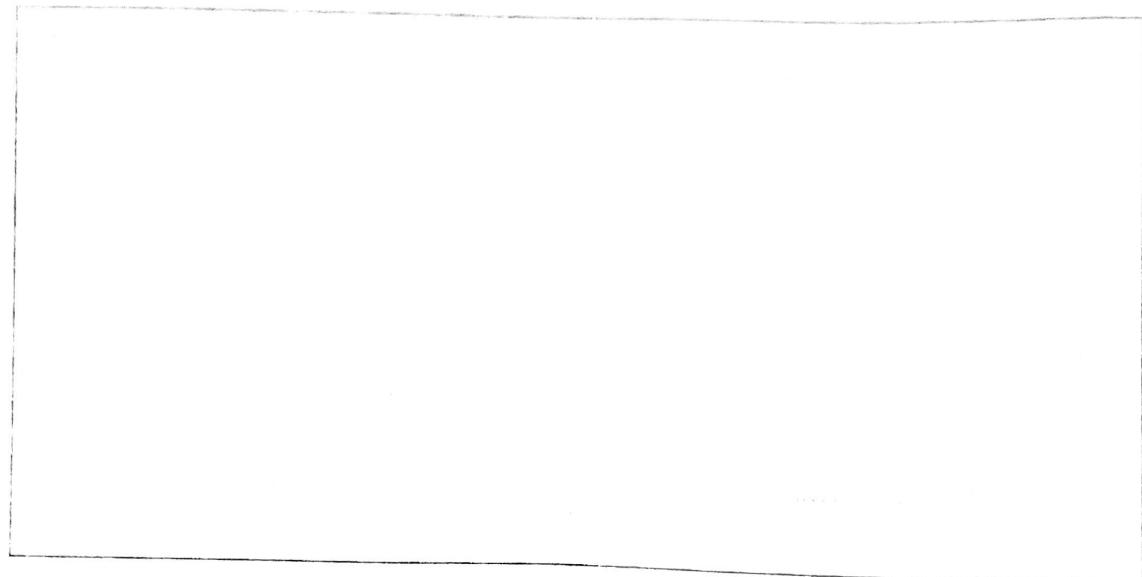
- a. Continuous disruption of flights caused by agitations by Air Traffic Controllers office and other cause majority of travellers to shy away from air travel. [2.5]



- b. Newly repaired roads cause the cost of delivering milk to residents in Jaipur to come down. [2.5]



Supply curve shifts right



Q.5 Answer with either 'True' or 'False'.

[$1 \times 5 = 5$]

- a. The market for a book in Economics by Paul Samuelson has the following demand (Q_D) and supply (Q_S) functions: $Q_D = 42 - P$ and $Q_S = P/2$. The equilibrium quantity is found to be 15.

False

- b. A price ceiling imposed above the market equilibrium price will result in a shortage of the product. False

- c. A firm will not witness increasing returns to scale, if it the labour employed there is specialized.

False

- d. The production function shows the maximum output that can be produced from different combinations of inputs. True

- e. At least one input is fixed in the long run. False



$$42 - P = \frac{P}{2} \Rightarrow 84 - 2P = P \Rightarrow 3P = 84 \Rightarrow P = 28$$

$$\text{at } P = 28, Q = 14$$



The LNM Institute of Information Technology

Department: HSS

Economics for Engineers (201)

Exam Type: End Term

Time: 180 minutes

Date: 29/04/2019

Max. Marks: 50

Instructions: No partial credits. Marks will be deducted for rewriting or change of response in the answers. Write the paper legibly and neatly. NO clarifications will be entertained. Answer new question on a new page. For numerical questions, highlight your answer in a box.

Q. 1. Based on the following information answer the questions below:

An airline is considering introducing an advance purchase fare to supplement its existing economy fare. It conducts a study to assess the patronage of such fare. The following table summarizes the projected weekly sales for various advance purchase sales. The economy class fare is 200 USD.

[2 + 2 = 4]

Advance Purchase Fare (USD)	No. of Advance Purchase Tickets	No. of Economy Tickets
50	2000	200
100	1200	400
120	900	500
150	600	600
180	200	1000

a) What is the cross-price elasticity of economy tickets in response to advance purchase fares when the advance fare increases from 50 to 150 USD?

b) What is the own-price elasticity of advance purchase tickets when the fare rises from \$100 to \$180?

Q. 2. Suppose a Chair manufacturer firm is producing at the following levels of production corresponding to different numbers of workers:

[1+1+1+2=5]

No. of workers	No. of Chairs
1	10
2	18
3	24
4	28
5	30
6	28
7	25

- a) Calculate the marginal and average product of labor for this production function.
- b) Is the firm operating in the short run or long run? Why?
- c) Does this production function exhibit diminishing returns to labor? Explain.
- d) Explain what might cause the marginal product to become negative.

Q. 3. Joe quits his computer programming job, where he was earning a salary of \$50,000 per year, to start his own computer software business in a building that he owns and was previously renting out for \$24,000 per year. In his first year of business he has the following expenses: salary paid to himself, \$40,000; rent, \$0; other expenses, \$25,000. Provide the definitions of accounting and economic cost. Also find the accounting and the economic cost associated with Joe's computer software business. [2 + 1 + 2 = 5]

Q. 4. Explain with the help of a diagram how the long run average cost curve is an envelope of short run average cost curve. [6]

Q. 5. A certain car manufacturer regards his business as highly competitive because he is keenly aware of his rivalry with the other few car manufacturers in the market. Like the other car manufacturers, he undertakes vigorous advertising campaigns seeking to convince potential buyers of the superior quality and better style of his automobiles and reacts very quickly to claims of superiority by rivals. Is this the meaning of perfect competition from the economist's point of view? Explain. [6]

Q. 6. Discuss the shape of demand curve in Perfect Competition market, Monopoly market, and Oligopoly market. [6]

Q. 7. Explain the concepts of Bank Interest Rate, Cash Reserve Ratio, Statutory Liquidity Ratio, and Reverse Repo Rate. Explain how does monetary policy instruments of Bank Interest Rate and Cash Reserve Ratio control for inflation in an economy. [2 + 4 = 6]

Q. 8. Explain with a suitable diagram the four sector model of an economy. [6]

Q. 9. True / False (Only indicate with a full word) [1 × 6 = 6]

- a) The slope of the production possibilities curve is the marginal rate of transformation.
- b) A private limited company shares cannot be bought and sold on the Stock Exchange.
- c) Average fixed costs are constant for all output levels.
- d) If marginal product is decreasing, then average product must also be decreasing.
- e) A market protected through patent system does not faces an imperfect competition.
- f) Public goods can be subject to free rider problems.