

Internal Assessment Test -2

Sub:	Managerial Economics	Code:	18MBA12
Date:	02/12/2019	Duration:	90 mins
		Max Marks:	50
		Sem:	I
		Branch:	MBA

	Marks	OBE	
		CO	RBT
Part A -Answer Any Two Full Questions (2* 20 = 40 marks)			
1(a) Define Law of demand.	[03]	CO1	L1
(b) Describe types of price elasticity of demand.	[07]	CO2	L2
(c) From the demand function, $Q=500-3P+2P_1+0.1Y$ Calculate, price elasticity of demand and income elasticity of demand.	[10]	CO1	L3
2(a) What are fixed and variable costs?	[03]	CO2	L1
(b) Explain exceptions to the law of demand.	[07]	CO1	L2
(c) Explain changes in demand and change in quantity demanded.	[10]	CO3	L2
3(a) What is law of supply?	[03]	CO3	L1
(b) Explain types of elasticity of demand.	[07]	CO2	L2
(c) i) Advertisement Expenses in 1998 is Rs 2,00,000.quantity demanded in1998 is 60000 units. Advertisement Expenses in 1999 is Rs 3,00,000 and quantity demanded in 1999 is 80000 units.Calculate advertisement elasticity of demand. ii)Old Price= Rs. 50,old quantity= 40 units and new price= Rs. 120,new quantity is 20. Find out arc elasticity of demand.	[10]	CO1	L3
Part B – Compulsory-case study (10*1=10 marks)			
4 (a) $P_1 =6, P_2 =4, Q_1 =80$ units, $Q_2 =120$ units. Find Price elasticity of demand.	[5]	CO3	L3
(b) From demand equation: $D= 80-5P$ Find i) Q if $P= 10$. ii) P if $Q= 50$. iii)Highest price which can be charged.	[5]	CO3	L3

Course Outcomes		PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1:	The student will understand the application of Economic Principles inManagement decision making.	1a,1b, 2a,2b,2c, 3a,3b,3c	1c, 4a,4b					
CO2:	The student will learn the micro economic concepts and apply them foreffective functioning of a Firm and Industry.							

CO3:	The Student will be able to understand, assess and forecast Demand.							
CO4:	The student will apply the concepts of production and cost for optimization of production.							

Cognitive level	KEYWORDS
L1	list, define, tell, describe, recite, recall, identify, show, label, tabulate, quote, name, who, when, where, etc.
L2	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss
L3	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify
L4	classify, outline, break down, categorize, analyze, diagram, illustrate, infer, select
L5	grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate
L6	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate

PO1 - Knowledge application; PO2 - Analytical and logical thinking; PO3 - Team work; PO4 - Leadership; PO5 - life-long learning; PO6 - Analyze and practice aspects of business; PO7- Personal and Societal growth;

CCI

HOD

Answer Key/Solutions INTERNAL ASSESSMENT TEST- 1

Question #	Description	Distribution		Marks
1	a) Define Law of demand. In microeconomics, the law of demand states that, "conditional on all else being equal, as the price of a good increases, quantity demanded decreases; conversely, as the price of a good decreases, quantity demanded increases	3M	3M	20M
	b) Describe types of price elasticity of demand. he extent of responsiveness of demand with change in the price is not always the same. The demand for a product can be elastic or inelastic, depending on the rate of change in the demand with respect to change in price of a product. Elastic demand is the one when the response of demand is greater with a small proportionate change in the price. On the other hand, inelastic demand is the one	7M	7M	

when there is relatively a less change in the demand with a greater change in the price.

For better understanding the concepts of elastic and inelastic demand, the price elasticity of demand has been divided into five types, which are shown in Figure-1:

Different Types of Price Elasticity of Demand

Let us discuss the different types of price elasticity of demand (as shown in Figure-1).

1. Perfectly Elastic Demand:

When a small change in price of a product causes a major change in its demand, it is said to be perfectly elastic demand. In perfectly elastic demand, a small rise in price results in fall in demand to zero, while a small fall in price causes increase in demand to infinity. In such a case, the demand is perfectly elastic or $e_p = \infty$.

The degree of elasticity of demand helps in defining the shape and slope of a demand curve. Therefore, the elasticity of demand can be determined by the slope of the demand curve. Flatter the slope of the demand curve, higher the elasticity of demand.

In perfectly elastic demand, the demand curve is represented as a horizontal straight line, which is shown in Figure-2:

Perfectly Elastic Demand

From Figure-2 it can be interpreted that at price OP, demand is infinite; however, a slight rise in price would result in fall in demand to zero. It can also be interpreted from Figure-2 that at price P consumers are ready to buy as much quantity of the product as they want. However, a small rise in price would resist consumers to buy the product.

Though, perfectly elastic demand is a theoretical concept and cannot be applied in the real situation. However, it can be applied in cases, such as perfectly competitive market and homogeneity products. In such cases, the demand for a product of an organization is assumed to be perfectly elastic.

From an organization's point of view, in a perfectly elastic demand situation, the organization can sell as much as it wants as consumers are ready to purchase a large quantity of product. However, a slight increase in price would stop the demand.

2. Perfectly Inelastic Demand:

A perfectly inelastic demand is one when there is no change produced in the demand of a product with change in its price. The numerical value for perfectly inelastic demand is zero ($e_p=0$).

In case of perfectly inelastic demand, demand curve is represented as a straight vertical line, which is shown in Figure-3:

Perfectly Inelastic Demand

It can be interpreted from Figure-3 that the movement in price from OP1 to OP2 and OP2 to OP3 does not show any change in the demand of a product (OQ). The demand remains constant for any value of price. Perfectly inelastic demand is a theoretical concept and cannot be applied in a practical situation. However, in case of essential goods, such as salt, the demand does not change with change in price. Therefore, the demand for essential goods is perfectly inelastic.

3. Relatively Elastic Demand:

Relatively elastic demand refers to the demand when the proportionate change produced in demand is greater than the proportionate change in price of a product. The numerical value of relatively elastic demand ranges between one to infinity.

Mathematically, relatively elastic demand is known as more than unit elastic demand ($e_p > 1$). For example, if the price of a product increases by 20% and the demand of the product decreases by 25%, then the demand would be relatively elastic.

The demand curve of relatively elastic demand is gradually sloping, as shown in Figure-4:

Relatively Elastic Demand

It can be interpreted from Figure-4 that the proportionate change in demand from OQ1 to OQ2 is relatively larger than the proportionate change in price from OP1 to OP2. Relatively elastic demand has a practical application as demand for many of products respond in the same manner with respect to change in their prices.

For example, the price of a particular brand of cold drink increases from Rs. 15 to Rs. 20. In such a case, consumers may switch to another brand of cold drink. However, some of the consumers still consume the same brand. Therefore, a small change in price produces a larger change in demand of the product.

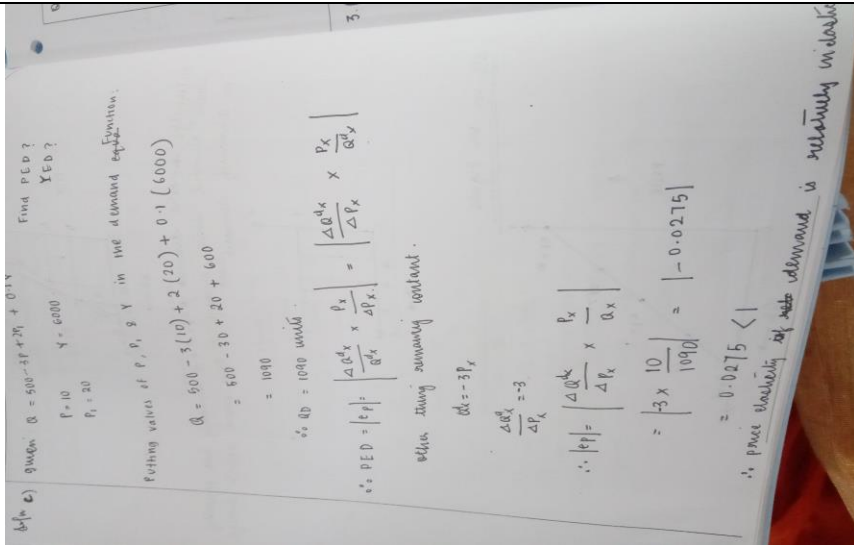
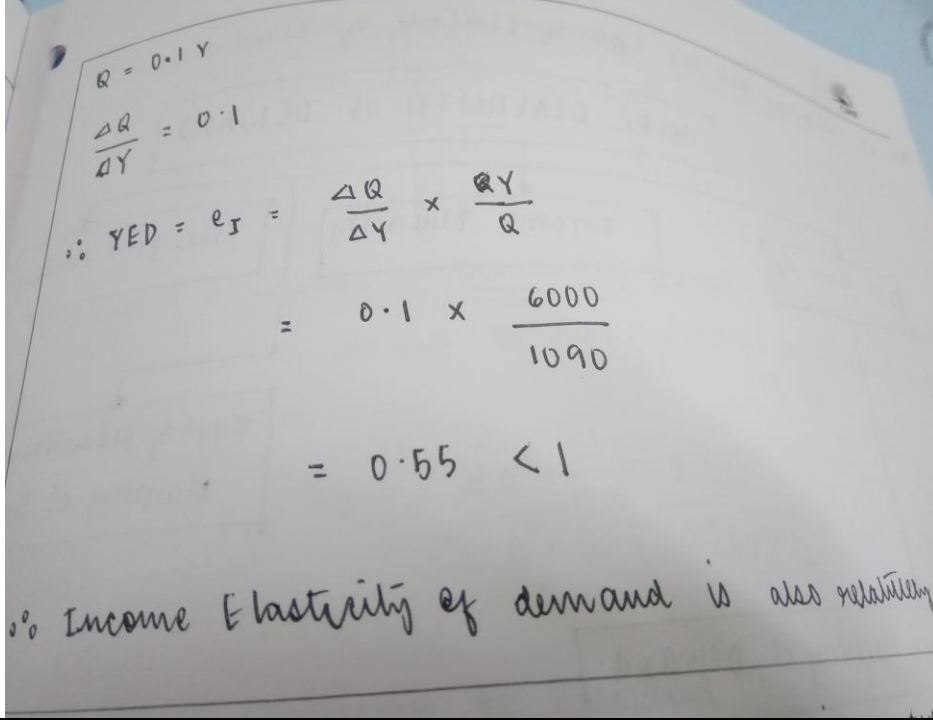
4. Relatively Inelastic Demand:

Relatively inelastic demand is one when the percentage change produced in demand is less than the percentage change in the price of a product. For example, if the price of a product increases by 30% and the demand for the product decreases only by 10%, then the demand would be called relatively inelastic. The numerical value of relatively elastic demand ranges between zero to one ($e_p < 1$). Marshall has termed relatively inelastic demand as elasticity being less than unity.

The demand curve of relatively inelastic demand is rapidly sloping, as shown in Figure-5:

Relatively Inelastic Demand

It can be interpreted from Figure-5 that the proportionate change in demand from OQ1 to OQ2 is relatively smaller than the proportionate change in price from OP1 to OP2. Relatively inelastic demand has a practical application as demand for many of products respond in the same manner with respect to change in their prices. Let us understand the implication of relatively inelastic demand with the help of an example.

<p>C)</p>				
		10M	10M	20 M
<p>2.A)</p>	<p>What are fixed and variable costs?</p> <p>Fixed costs are costs that are independent of output. ... Variable costs are costs that vary with output. Generally variable costs increase at a constant rate relative to labor and capital. Variable costs may include wages, utilities, materials used in production, etc..</p>	03M	03M	
<p>b)</p>	<p>A Giffen good is considered to be an exception to the Law of Demand. The unique features of a Giffen good results in quantity demanded increasing when there is an increase in price. As stated earlier, the Law of Demand states that the quantity demanded should decrease with an increase in price (the inverse relationship).</p>	07 M	07 M	20M

Sir Robert Giffen observed that when the price of bread increased, the low-paid British workers in the early 19th century purchased more bread and not less of it. This phenomenon is a direct contradiction to the Law of Demand.

The reason given for this is that these British workers consumed a diet of mostly bread and when the price of bread went up they were compelled to spend more on a fixed quantity of bread. Therefore, they could not afford to purchase as much meat as before. They substituted bread for meat to maintain their intake of food and calories.

giffen goods exceptions to the law of demand

A Giffen good is considered to be a strongly inferior good. There are very few examples of Giffen goods mostly because it is difficult to prove that they exist. It's when consumers consume more of an inferior good when the price of the good rises, which is in direct violation of the Law of Demand.

For example, for staple foods like rice, when the price of rice rises, people with lower incomes will spend less on other superior foods and instead buy more rice.

Giffen Good

Exceptions to the Law of Demand – Veblen Goods

The other exception to the Law of Demand is associated with the name of the economist, Thorstein Veblen who propounded the doctrine of conspicuous consumption. Veblen suggested that some people viewed higher utility in higher priced goods.

Veblen goods are generally more visible in society than Giffen goods. For example, economists often view diamonds as a Veblen good because of the higher prestige value of a diamond; the higher

	<p>is the desirability. Some people will also buy fewer diamonds when the price falls.</p> <p>Veblen Good</p> <p>They are goods that people buy more of when or if the price increases. These goods tend to be status symbols and displays of wealth. For example, Rolls Royce cars and Patek Phillippe watches can be considered to be Veblen goods.</p>			
<p>c)</p>	<p>Explain changes in demand and change in quantity demanded</p> <p>In economics the terms change in quantity demanded and change in demand are two different concepts.</p> <p>Change in quantity demanded refers to change in the quantity purchased due to increase or decrease in the price of a product.</p> <p>In such a case, it is incorrect to say increase or decrease in demand rather it is increase or decrease in the quantity demanded.</p> <p>On the other hand, change in demand refers to increase or decrease in demand of a product due to various determinants of demand, while keeping price at constant.</p> <p>Changes in quantity demanded can be measured by the movement of demand curve, while changes in demand are measured by shifts in demand curve. The terms, change in quantity demanded refers to expansion or contraction of demand, while change in demand means increase or decrease in demand.</p> <p>1. Expansion and Contraction of Demand:</p>	<p>10 M</p>	<p>10M</p>	

The variations in the quantities demanded of a product with change in its price, while other factors are at constant, are termed as expansion or contraction of demand. Expansion of demand refers to the period when quantity demanded is more because of the fall in prices of a product. However, contraction of demand takes place when the quantity demanded is less due to rise in the price of a product.

For example, consumers would reduce the consumption of milk in case the prices of milk increases and vice versa. Expansion and contraction are represented by the movement along the same demand curve. Movement from one point to another in a downward direction shows the expansion of demand, while an upward movement demonstrates the contraction of demand.

Figure-11 demonstrates the expansion and contraction of demand:

Expansion and Contraction of Demand

When the price changes from OP to OP1 and demand moves from OQ to OQ1, it shows the expansion of demand. However, the movement of price from OP to OP2 and movement of demand from OQ to OQ2 show the contraction of demand.

2. Increase and Decrease in Demand:

Increase and decrease in demand are referred to change in demand due to changes in various other factors such as change in income, distribution of income, change in consumer's tastes and preferences, change in the price of related goods, while Price factor is kept constant Increase in demand refers to the rise in demand of a product at a given price.

		<p>On the other hand, decrease in demand refers to the fall in demand of a product at a given price. For example, essential goods, such as salt would be consumed in equal quantity, irrespective of increase or decrease in its price. Therefore, increase in demand implies that there is an increase in demand for a product at any price. Similarly, decrease in demand can also be referred as same quantity demanded at lower price, as the quantity demanded at higher price.</p> <p>Increase and decrease in demand is represented as the shift in demand curve. In the graphical representation of demand curve, the shifting of demand is demonstrated as the movement from one demand curve to another demand curve. In case of increase in demand, the demand curve shifts to right, while in case of decrease in demand, it shifts to left of the original demand curve.</p> <p>Figure-12 shows the increase and decrease in demand:</p> <p>Increase in Demand</p> <p>The movement from DD to D1D1 shows the increase in demand with price at constant (OP). However, the quantity has also increased from OQ to OQ1.</p> <p>Decrease in Demand</p> <p>The movement from DD to D2D2 shows the decrease in demand with price at constant (OP). However, the quantity has also decreased from OQ to OQ2.</p>			
3	a)	<p>What is law of supply?</p> <p>The law of supply is the microeconomic law that states that, all other factors being equal, as the price of a good or service increases, the quantity of goods or</p>	3 M	3M	20 M

	<p>services that suppliers offer will increase, and vice versa. The law of supply says that as the price of an item goes up, suppliers will attempt to maximize their profits by increasing the quantity offered for sale.</p>			
<p>b)</p>	<p>Explain types of elasticity of demand.</p> <p>Meaning of Elasticity of Demand:</p> <p>Demand extends or contracts respectively with a fall or rise in price. This quality of demand by virtue of which it changes (increases or decreases) when price changes (decreases or increases) is called Elasticity of Demand.</p> <p>“The elasticity (or responsiveness) of demand in a market is great or small according as the amount demanded increases much or little for a given fall in price, and diminishes much or little for a given rise in price”. – Dr. Marshall.</p> <p>Elasticity means sensitiveness or responsiveness of demand to the change in price.</p> <p>This change, sensitiveness or responsiveness, may be small or great. Take the case of salt. Even a big fall in its price may not induce an appreciable extension in its demand. On the other hand, a slight fall in the price of oranges may cause a considerable extension in their demand. That is why we say that the demand in the former case is ‘inelastic’ and in the latter case it is ‘elastic’.</p> <p>The demand is elastic when with a small change in price there is a great change in demand; it is inelastic or less elastic when even a big change in price induces only a slight change in demand. In the words of Dr. Marshall, “The elasticity (or responsiveness) of demand in a market is great or small according as the amount demanded increases much or little for a given fall in price, and diminishes much or little for a given rise in price.” But the demand cannot be perfectly ‘elastic’ or ‘inelastic’.</p> <p>Completely elastic demand will mean that a slight fall (or rise) in the price of the commodity concerned induces an infinite extension (or contraction) in its demand. Completely inelastic demand will mean that any amount of fall (or rise) in the price of the commodity would not induce any extension (or contraction) in its demand. Both these conditions are unrealistic. That is why we say that elasticity of demand may be ‘more or less’, but it is seldom perfectly elastic or absolutely inelastic.</p> <p>Types of Elasticity:</p> <p>Distinction may be made between Price Elasticity, Income Elasticity and Cross Elasticity. Price Elasticity is the responsiveness of demand to change in price; income elasticity means a change in demand in response to a change in the consumer’s income; and cross elasticity means a change in the demand for a commodity owing to change in the price of another commodity.</p> <p>Degrees of Elasticity of Demand:</p> <p>We have seen above that some commodities have very elastic demand, while others have less elastic demand. Let us now try to understand the different degrees of elasticity of demand with the help of curves.</p>	<p>07 M</p>	<p>07M</p>	

(a) Infinite or Perfect Elasticity of Demand:

Let us first take one extreme case of elasticity of demand, viz., when it is infinite or perfect. Elasticity of demand is infinity when even a negligible fall in the price of the commodity leads to an infinite extension in the demand for it. In Fig. 10.1 the horizontal straight line DD' shows infinite elasticity of demand. Even when the price remains the same, the demand goes on changing.

Infinite Elasticity

(b) Perfectly Inelastic Demand:

The other extreme limit is when demand is perfectly inelastic. It means that howsoever great the rise or fall in the price of the commodity in question, its demand remains absolutely unchanged. In Fig. 10.2, the vertical line DD' shows a perfectly inelastic demand. In other words, in this case elasticity of demand is zero. No amount of change in price induces a change in demand.

Zero Elasticity

In the real world, there is no commodity the demand for which may be absolutely inelastic, i.e., changes in its price will fail to bring about any change at all in the demand for it. Some extension/contraction is bound to occur that is why economists say that elasticity of demand is a matter of degree only. In the same manner, there are few commodities in whose case the demand is perfectly elastic. Thus, in real life, the elasticity of demand of most goods and services lies between the two limits given above, viz., infinity and zero. Some have highly elastic demand while others have less elastic demand.

(c) Very Elastic Demand:

Demand is said to be very elastic when even a small change in the price of a commodity leads to a considerable extension/contraction of the amount demanded of it. In Fig. 10.3, DD' curve illustrates such a demand. As a result of change of T in the price, the quantity demanded extends/contracts by MM', which clearly is comparatively a large change in demand.

Very Elastic Demand

(d) Less Elastic Demand:

When even a substantial change in price brings only a small extension/contraction in demand, it is said to be less elastic. In Fig. 10.4, DD' shows less elastic demand. A fall of NN' in price extends demand by MM' only, which is very small. Less Elastic Demand

C)

3c) $\frac{1998}{1999}$

$P_1 = 200000$ $P_2 = 300000$
 $Q_1 = 60000$ $Q_2 = 80000$

\therefore arc elasticity = $\frac{\Delta Q}{Q} \div \frac{\Delta P}{P}$

advertisement elasticity (E_A) = $\frac{\frac{\Delta Q}{Q}}{\frac{\Delta A}{A}}$

= $\frac{\frac{80000 - 60000}{60000}}{\frac{300000 - 200000}{200000}}$

$\Rightarrow \frac{20000}{60000} \times \frac{200000}{100000}$

$E_A = 0.66$

$E_A = 0.66 < 1$ i.e. relatively inelastic

ii) old price = 50 Rs old qty = 40 units
new price = 120 Rs new qty = 20 units

arc elasticity (E_A) = $\frac{\frac{Q_2 - Q_1}{Q_2 + Q_1}}{\frac{P_2 - P_1}{P_2 + P_1}}$

$\Rightarrow \frac{\frac{20 - 40}{20 + 40}}{\frac{120 - 50}{120 + 50}}$

10 M

10 M

20 M

a)

PART - D

$Q_1 = 80$ units
 $Q_2 = 120$ units

$P_1 = 6$
 $P_2 = 4$

$\Delta Q = Q_2 - Q_1 = 120 - 80 = 40$
 $\Delta P = P_2 - P_1 = 4 - 6 = -2$
 $\therefore \Delta Q_x = 40$
 $\Delta P_x = -2$

$PED = \left| \epsilon_P \right| = \left| \frac{\Delta Q_x}{Q_x} \times \frac{P_x}{\Delta P_x} \right|$
 $= \left| \frac{40}{80} \times \frac{6}{-2} \right|$
 $= |0.6 \times -3|$
 $= 1.5 > 1$

\therefore Price elasticity of demand is relatively elastic in nature.

To find:
 (i) if $P = 10$ ~~shortest price~~
 (ii) if $Q = 5$ ~~changed~~

Putting $P = 10$ in demand Function -
 $D = 80 - 5P$
 $= 80 - 5(10)$
 $= 80 - 50$
 $= 30$ //

10 M

10 M

20 M

b)

Putting $Q = 50$ in demand Function.
 $QD = 80 - 5P$
 $50 = 80 - 5P$
 $5P = 80 - 50$
 $P = \frac{30}{5}$
 $P = 6$ //

\therefore Price = 6

(ii) ~~shortest~~ Assuming $QD = 0$ when Price changed ~~is the highest~~
 \therefore Putting $QD = 0$ in the Demand Function; we get,
 $0 = 80 - 5P$
 $0 = 80 - 5P$
 $5P = 80$
 $P = \frac{80}{5}$
 $P = 16$

\therefore Highest price charged is 16 when $QD = 0$.

10 M

10 M
