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16627

MBA - 72

FINAL TERM EXAM

MANEGERIAL ECONOMICS

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Question # 1: What is cost? Differentiate the following:

Answer: Cost is normally considered from the manufacturer a a company's point of view in manegerial economics. In the ~~to~~ Production of a comodity or service, a firm has to employ an aggregate of various factors of Production such as land, labour, capatial and entrepreneurship. These factors are to be compensated by the firm for there efforts or contribution made in producing the commodity. Thus the cost of production of a commodity is ~~increased~~ the aggregate of price paid for the factors of production used in producing the commodity.

ⓐ Fixed and Variable cost:

Fixed costs are the amount spent by the firm on fixed inputs in the short time. fixed costs are, thus, those costs which remain constant, irrespective of the level of output. These costs remain unchanged ~~ea~~ even if the output is non existant. These are the reasons why fixed cost are also known as supplementary costs. A couple of examples of fixed costs are given below.

(i) payements of rents for buildings
(ii) Interest paid on the capital
(iii) Depreciation and mainteince allowances.
(iv) Administative expenses.

Variable costs are the costs that are incurred on various factors. These factors vary directly with the level of output. Such costs rise when the output expands and similarly fall when output contracts. When the output is completely non-existent, the variable cost is reduced to zero.

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Some examples of variable cost are given below:

(i) Wages of labour

(ii) Feul & petrol charge.

(iii) Price of raw material.

(iv) Sales tax & excise duties.

Ⓑ Direct & Indirect Cost

Direct costs are expenses that a company can easily ~~com~~ relate to a specific cost object which might be a product, department or project. This includes labour as labour is specific to the product, department or project. Usually, most direct costs are variable. for, instance smart phone hardware is a direct ~~cost~~ variable cost as it's production depends on the number of units ordered. An exeption is labour cost which usually remains constant throughout the year. As a comparison, the salary of an employee donot increase or decrease in direct relation to the number of products produced per year. All the raw materials required to make a product come in the ambitt of direct cost.

To summarize, direct costs include:

(i) Manufacturing supplies

(ii) Equipment

(iii) Raw materials

(iv) labor costs.

(v) production cost.

Indirect cost extend beyond the expenses you incur creating a product to include the cost include the costs involved with maintaining and running a company. These overhead costs are the ones left over after direct costs have been computed. The materials and supplies required for a company's day to day operations are examples of indirect costs. They include supplies, utilities, office equippment rental, desktop computers and cell phones. Indirect costs can also be

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fixed or variable. fixed indirect costs include things like rent while variable indirect costs include utilities (like electricity bill) which are mostly fluctuating.

To summarize, indirect costs include:

(i) Utilities
(ii) Office supplies
(iii) Office technology
(iv) Insurance cost.
(v) payroll services.

(c) Explicit and Implicit Cost:

Explicit cost refers to the actual money outlay or out of pocket expenditure of the company to hire the productive resources it needs in the process of production. It is mostly referred to as out of pocket cost. Explicit costs have clearly defined amounts which flow through to the income statement. It is a physical outlay of cash or financial expenditure that a company reports on it's financial statement. Theses costs pertain to the production factors that a firm or company owns, utilizes and spends money for. and have a direct impact on it's profitebility.

Example include:

(i) wages & salaries.
(ii) Power charges.
(iii) Interest payements of factory premises.
(iv) cost of raw materials.

Implicit cost is not directly incurred by the firm or company through market transactions. They are included in the measurement of total money cost of production. These are in a way dependant on and estimated on the bases of opportunity cost which means it is estimated by the company itself from what factors the firm could earn from thier next best alternative emplogement. Implicit cost is also called notoinal cost. These are any costs

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that have already ~~incurred~~ occured but not necessarily shown or reported as a seperate expense.

ⓓ Actual and oppurtunity cost:

Actual cost means the amount of money that was paid to accquire a product or an asset. It is exactly what it sounds like. It could be eithe a historical, past or present day cost of a product. The actual cost of manufacturing a product is the total expenditure required to build or manufacture the product. It is basicaly the end result of a manufacturing process. The managment of a company might set a budget to ~~buy~~ buy new equipment but usually, this budget donot happen. Sometimes companies can get discounts while at other times product prices might increase. However the end result always is the actual cost.

Oppurtunity cost means that since the real production cost cannot be measured / gauged in actual sense, the concept of oppurtunity cost is evolved to measure it in actual objective sense. This concept is based on the scarcity and versatility characteristics of productive resources. This is the most fundemental concept of economics.

There are a number of factors that make oppurtunity cost very essential. It helps in determination of relative price of goods, It helps in determing the normal renumeration to a factor and also helps in decision making and effecient resource allocation.

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Question # 2

ⓐ Suppose there is a shortage of face masks - on the market equillibrium?

Answer:

A shortage basically occurs when the quantity of a good demanded by consumers tends to be greater than the quantity supplied by the producers. Inorder to create a balance between demand and supply, an equilibrium is very importent. If an equilibrium is estebilished for a specific product on its price and quantity, than it is important to maintain the equilibrium as the quantity demanded will be fulfilled by the quantity supplied. An economic pressure will arise if the market is not in equilibrium as the quantity required or demanded is more than the ~~Avait~~ available supply in the market. In such a situation, it is likely by the consumers to mob the stores where face masks are available. The ~~store~~ ~~are~~ suppliers recorginizes the need and urgency of facemasks and thus take this as an opptortunity to increase the prices of the facemasks inorder to make high amounts of profits

The price hike will stimolate the quantity supplied and hence reduce the quantity demanded which will lead to reducing the shortage. The price will continue to rise until the market reaches equilibrium.

Because of this, the supply curve will shift to the left side in the equillibrium diagram. The increase in price is due to the high and unexpected demand. The demand curve will shift to the right in case of the equillibrium diagram.

In this current scenario where the entire world is struck by COVID-19 and a facemask is the most essential

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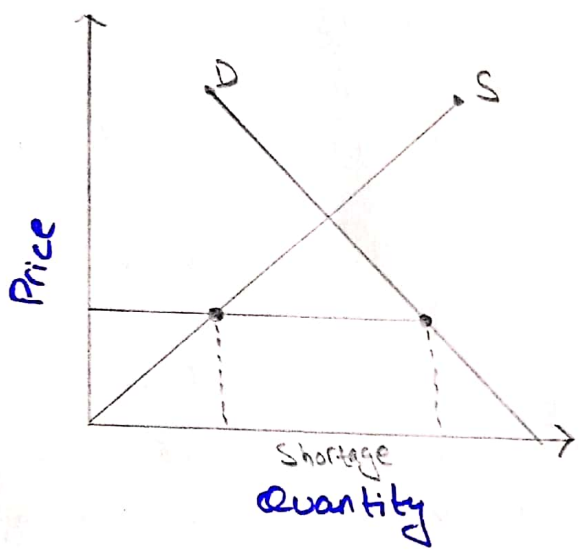
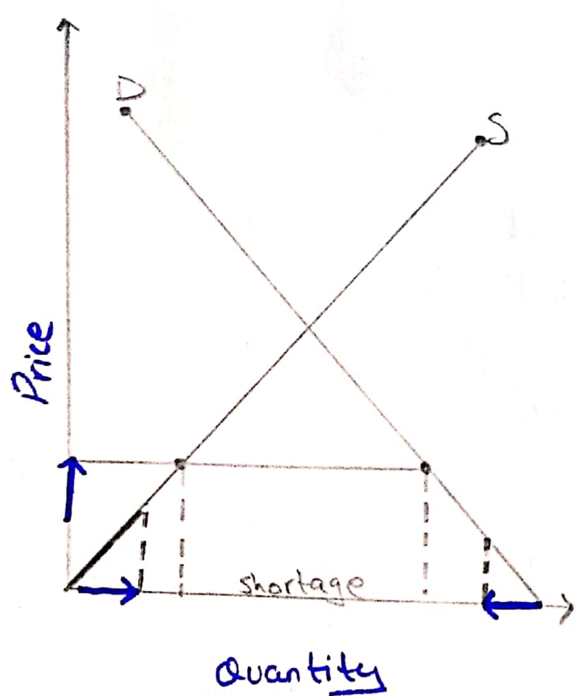
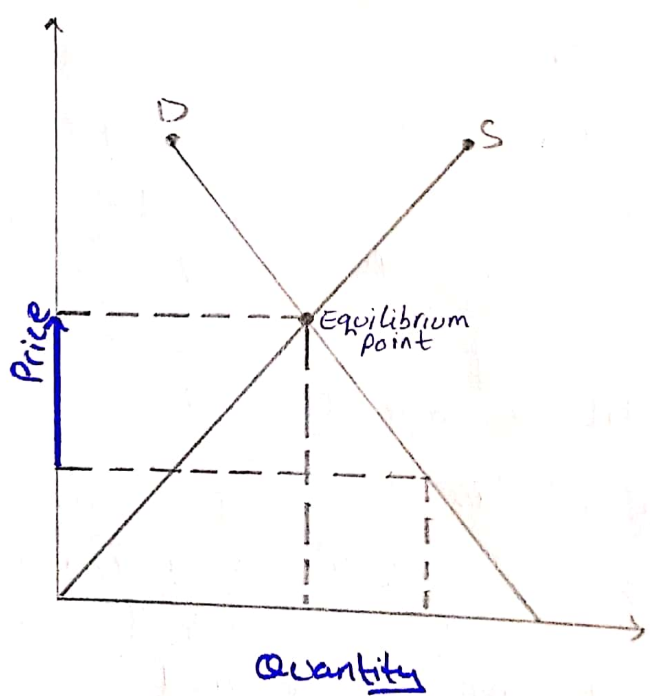
safety measure that can be taken by anyone, the shortage in supply will be equal to the rise in demand hence the quantity will remain constant ~~eve~~ eventually as the quantity increased due to increase in supply will also be decreased simultaneously due to the increase in demand. while the prices will increase due to both increase in supply and increase in demand.

Graphs:





↳ In shortage situation, the sellers will raise the price resulting in a fall in demand and an increase in supply which will lead to reducing the shortage.



↳ Price continues to rise until market reaches equilibrium point.

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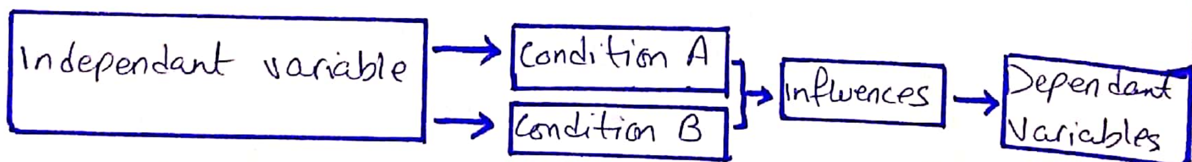
Question # 2

(b) What are variables . . . . with examples.

Answer: A variable is a number or denotes a quantity that varies (increase or decreases) over time. It is a value that can change in different situations and can adopt different values in different enviroments. There are two basic types of variable namely dependant and independant variables. There is quite a big difference between both the two types of variable as both behave differently in different situations.

Dependant variables: A variable whose value is to be estimated on the basis of something else is called a dependant variable. It is also known as explained, predictioned, response and endogeneous variable. In statistics the dependant variable is denoted by "Y". This is the variable that is being tested or measured in a process.

Indendant variables: The variable that is the basis of any estimation where more than one variable is involved is called independant variable. It is also known as explanatory, regressor or exogeneous variable. In a regression analysis an independent variable is denoted by "x". It basically is the experimenter which changes or controls and is assumed to have a direct effect on the dependant variable.



Examples:

↳ If we want to gauge the sales of a company in relation with its advertising cost: where the sales of a company will be the dependant variable while the advertising cost will be the independant variable.

Y = Sales of company X = Advertising Cost.

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Question # 3

ⓐ What is Regression analysis and what is its importance in manegerial economics?

Answer: Regression basically means the dependancy of one variable over another variable. It shows the dependancy of direct variables on indirect variables. This phenomena is called regression. Regression analysis is the technique of studying the dependance of one variable on one or more than one variables. which are known as explanatory variables to estimate or predict the average value of dependant variables. in terms of known or fixed values of the independant variables.

Regress analysis is the most relaible method of identifying which variables have an impact on a topic of interest. The Process of performing a regression allows you to confidently determine which factors matter the most, which factors can be ignored and how these factors influence each other. Dependant variables is the main factor that you are trying to understand or predict. while independant variables are the factors that you think have an impact on your dependant variables.

for instance if we have to do the regression analysis of a training session or program, the attendee's satisfaction with the training is our dependant variable while the training material, length of sessions, food provided and the registration charges are all independant variables.

Importance

Regression analysis is one of the most important satistical

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techniques for any buisness and its application. It helps to estimate the strength and direction of the relationship between two or more variables. It estimates the relation between ~~direct and In~~ dependant and independant (explanatory) variables. It helps in determining the effect of each of Independant variables on dependant variables ~~and~~ due to which we can gauge to control the effects of all independant variables. It's major importance is to predict value of dependant variable for a given value of independant variable. Apart from all the importance stated and explained above, regression analysis has the below given importances as well:

→ understanding patterns: it can show you what factors drives the sales, what touchpoints make impact on users etc.

→ Correcting errors: It can help buisness understand their failures. It can help buisnesses plot data lines like sales, ~~buisnesse laun~~. product launches, new website launch etc. It can help the buisness see both short and long term aspects.

→ Optimizing Processes: It can help maximize effeciency and refine processes so that buisness could get the most out of them as statistical data is very essential for buisness optimization.

Question#3:

(b) Estimate the parameters & interpret your results.

Answer:

Y	X	$x = X - \bar{X}$	$y = Y - \bar{Y}$	xy	x^2
25	100	−1183.33	−218.33	258356.43	1400269.88
55	250	−1033.33	−188.33	194607.03	1067770.88
68	500	−783.33	−175.33	137341.24	613605.88
90	800	−483.33	−153.33	74108.98	233607.88
122	1050	−233.33	−121.33	28309.92	54442.88
200	1300	16.67	−43.33	−722.31	277.88
280	1650	366.67	36.67	13445.78	134446.88
450	2400	1116.67	206.67	230782.18	1246951.88
900	3500	2216.67	656.67	1455620.62	4913625.88

$\Sigma Y = 2190$ $\quad\quad$ $\Sigma X = 11550$.

$$\bar{X} = \frac{\Sigma X}{n} = \frac{11550}{9} = 1283.33$$

$$\boxed{\bar{X} = 1283.33}$$

$$\bar{Y} = \frac{\Sigma Y}{n} = \frac{2190}{9} = 243.33$$

$$\boxed{\bar{Y} = 243.33}$$

$\Sigma xy = 239184993$

$\Sigma x^2 = 966499992$

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$$\hat{b} = \frac{\sum xy}{\sum x^2}$$

$$= \frac{2391849.93}{9664999.92}$$

$$\boxed{\hat{b} = 0.247}$$

$$\hat{\alpha} = \bar{Y} - \hat{b}\bar{X}$$

$$\hat{\alpha} = 243.33 - (0.247)(1283.33)$$

$$= 243.33 - 316.98$$

$$\boxed{\hat{\alpha} = -73.65}$$

$$Y = \hat{\alpha} + \hat{b}X$$

$$\boxed{Y = -73.65 + (0.247)X}$$

Interpretation:

→ Both X and Y have a positive relation between them.

→ increase in one unit of X will result in an increase in 0.247 units of increase in Y.