

CAP-I NEW, Fundamentals of Economics, Dec 2013
Suggested Answer

Roll No.....

Maximum Marks - 25

Total No. of Questions - 2

Total No. of Printed Pages -1

Time Allowed – 1 hour

Marks

Attempt all questions.

1. Long Answer Questions:

(2×5=10)

- a) Explain the derivation of short run average cost curve.
- b) What are the problems of Nepalese agriculture? Explain.

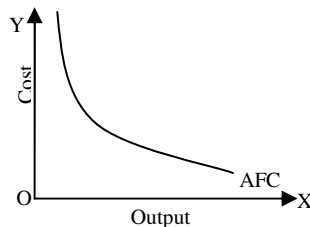
Answer

a) Cost means the amount of money which is spent to produce certain commodity. Cost occupies important place in economics especially in the field of production. The producer produces the commodity by employing various factors of production. So, he has to pay some money to various factors of production. The total sum of money which a producer has to pay for various factors of production is cost of production.

Cost of production is a function of the volume of output produced. Total cost is made up of two components. Some of the inputs are fixed and indivisible. Their aggregate cost remains constant and, hence, goes on falling in an average proportion as output increases. Other factors of production are variables and go on increasing with the level of output produced. Hence, the variable cost of production continuously increases but in different proportions. The behavior of the total cost of production is a mixture of these two influences. Like the law of returns, there are similar laws for cost behavior. The cost behaves exactly in an opposite manner as compared to the behavior of the returns or the output.

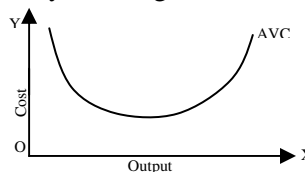
Short Run Average Cost: The short run average cost can be derived by adding AFC and AVC. So, it is necessary to know what are AFC and AVC.

AFC: Average fixed cost is the total fixed cost divided by output. That means AFC can be derived dividing TFC by the total output. i.e. TFC/Q



TFC cannot change in short run whatever be the output. But AFC diminishes with every increase of output. It diminishes in the same proportion as the output is increased. The shape of AFC will be rectangular hyperbola. AFC falls steeply in the beginning and tends to touch the horizontal axis, but it never succeeds in doing so. That means AFC cannot be zero but goes on diminishing.

AVC: Average variable cost can be derived by dividing total variable cost by output. i.e. $AVC = \frac{TVC}{q}$



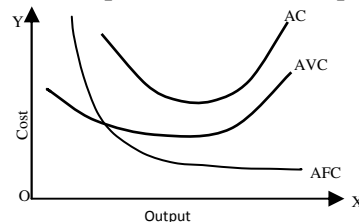
(2)

AVC decreases first and it increases with every increase in output. It decreases in the beginning up to a certain point and then starts rising sharply after that point. The average variable cost becomes lowest when it will be nearest to the X axis. After that point AVC increases. Now, we can get average cost with the help of AFC and AVC.

Units of output	TFC	TVC	TC	AFC	AVC	AC
1	30	10	40	30	10	40
2	30	18	48	15	9	24
3	30	24	54	10	8	18
4	30	32	62	7.5	8	15.5
5	30	50	80	6	10	16
6	30	72	102	5	12	17

From the above table, it becomes clear that the average cost is the sum of average fixed cost and average variable cost. In the above table, there are 7 columns. As we know the short run AC is the summation of AFC and AVC it goes on increasing with every increase in output. When output is 1 unit it is $30 + 10 = 40$. As the output increases to 2 units it becomes 48 units because of the increase in production. After that it begins to increase and becomes 17 at 6th units of production. The average cost goes on decreasing at first and becomes minimum which is 15.5 it becomes at the output of 4th unit and it increases when output increases. It is clear from the table that the average fixed cost decreases continuously as the output increases. From the above table, it is clear that the average cost decreases first becomes minimum and begins to increase with every increase in output.

The short run average cost curve can be explained with the help of following diagram.



In the diagram, AFC is the Average Fixed cost and AVC is the Average variable cost. AC is the Average Cost curve. The AC is derived by the vertical summation of AFC and AVC curves. The AC curve decreases first, becomes minimum and begins to increase. So, the shape of AC will be, as the English Alphabet U. AFC tends to touch the X axis but it can never touch it. Similarly, AC also tends to touch the AVC but it can never touch it.

b) Agriculture is the main stay of Nepalese economy. Hence, it has been accorded top most priority in almost all economic plans of Nepal, but despite various efforts made, the agriculture production and productivity is low. The major problems of agriculture are as follows:

- i. **Traditional technology:** Technology adopted in Nepalese agriculture is traditional. High yielding varieties and improved seeds, chemical fertilizers, improved tools and implements, crop rotational practices and water delivery systems have not been adopted to an adequate extent. Agriculture productivity can be substantially increased if these devices are extended. Because of the lack of pesticides and plant protection systems, it is estimated that about 22 percent of edible food grain production is destroyed by various kinds of pests and insects every year.
- ii. **Inadequate irrigation facility:** Irrigation is the life blood of agriculture. But the irrigation facilities are inadequate in Nepal. Nepal's agriculture is still largely dependent on monsoon, which is uncertain. Only 42% of cultivated land has irrigation facilities. Hence, it is rightly said Nepal's agriculture is a gamble on monsoon.
- iii. **Lack of agricultural credit:** Nepalese farmers are still largely dependent on village money

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lenders. Interest rates are as high as 50% to 300% in various forms are quite common in traditions credit. Only about 21% credit comes from institutional sources.

- iv. **Lack of marketing and storage facility:** The rural areas lack marketing facility due to the absence of road facility. The farmers are compelled to sell their products, cheaply to local shopkeepers and rich farmers. There is no guarantee of receiving reasonable price. Similarly, the farmers are compelled to sell the products at low price during the harvesting season due to the lack of storage facility.
- v. **Defective land tenure system:** In Nepal there is dual ownership on land. One class of people cultivates the land, the other class reaps the benefits without any labour. The tenancy rights of the farmers is not still secure. The rent charged by land owners is high. Small size of land holdings is another defect. Hence, the farmers do not have any enthusiasm to increase production.
- vi. **Lack of agricultural research:** Cropping pattern suitable to ecological conditions should be adopted. The findings of foreign agricultural research are unsuitable for Nepal. But Nepal lacks the adequate agricultural research related to cropping productivity suitability of crops, technology, etc. The agricultural research and extension is not based on general farmers' need.

2. Short Answer Questions (Any Five):

(5×3=15)

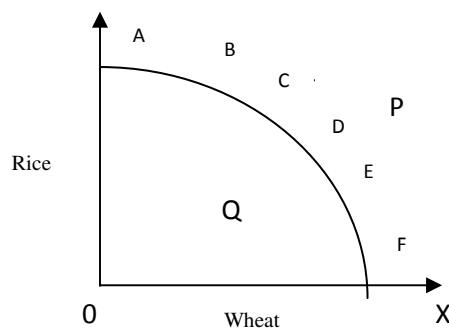
- a) Explain production possibility curve.
- b) Explain the scope of microeconomics.
- c) What are the determinants of demand? Explain any two.
- d) Explain the laws of returns to scale.
- e) What are the characteristics of perfect competition? Explain any two.
- f) What are the roles of foreign trade in economic development of Nepal? Explain any two.

Answer

- a) Production possibility curve (PPC) in economics is a graph that shows different possible combinations of inputs for different level of production in the limited resources during a certain time. This curve is concave from the origin. This approach represents a number of economic concepts, such as scarcity of resources, opportunity cost (or marginal rate of transformation), productive efficiency, allocation efficiency, and economies of scale.

This curve shows all possible combinations of two goods that can be produced simultaneously during a given time period, *ceteris paribus*. When we have to increase the quantity of one good produced, production of the other good must be sacrificed. Or it has to sacrifice its less urgent needs to select most urgent or essential needs.

Let us take two products, rice & wheat. If production of wheat gets priority over the production of rice, resources should be diverted towards the production of wheat.



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Any production possibility curve above it represents higher level production and needs more resources. Similarly any production possibility curve below it shows lower level production, which needs lesser amount of resources.

In the above Diagram P lies beyond the production possibility curve. In order to produce this combination the economy requires more resources than are available and therefore this is impossible. The economy may decide to produce at point Q, but at this combination the available resources would remain under utilized. Therefore it has no option rather than to choose any one of the combination from A to F falling within the production possibility curve.

- b) Scope of microeconomics can be explained with the help of following points
- **Allocation of Resources:-**
Microeconomics assumes that total quantity of resources is given and it seeks to explain how they are allocated in production of various goods and services. Therefore, microeconomics studies the allocation of resources and determines what to produce? How to produce? And for whom to produce?
 - **Theory of product pricing:-**
Microeconomics studies the process of price determination of goods and services in different market structure. The market can be perfect competition, monopoly, monopolistic and oligopoly. The theory of product pricing is also known as the theory of the firm. The subject matter of theory of product pricing is theory of demand and theory of production and cost.
 - **Theory of demand:**
Goods are produced for consumer. Microeconomics studies the consumer behaviour. It studies law of demand, elasticity of demand, law of diminishing marginal utility, consumer's surplus, and indifference curve, revealed preference theory and so on.
 - **Theory of production and cost:**
One of the important scopes of microeconomics is production and cost theory. It includes law of variable proportion, law of return to scale, least cost combination of inputs, different concepts of cost, linear programming and so on.
 - **Theory of factor pricing:**
The theory of factor pricing is another scope of microeconomics. It is also called as theory of distribution. Microeconomics studies about the determination of price of factor of production, i.e. land, labour, capital and organisation. The rewards for these factors are called rent, wages, interest and profits.
 - **Theory of economic welfare:**
The theory of economic welfare is also known as welfare economics. The theory of economic welfare refers to the economic efficiency of factors of production in the line of production, consumption, distribution and exchange. The important function of welfare economics is to define and analyze the law of economic efficiency which is the main scope or subject matter of microeconomics
- c) Demand always relates to price and other determinants of demand at a period of time. Demand for a commodity is defined as the quantity of that commodity which a consumer is willing and able to purchase at given price of that commodity for a specified period of time.
The main determinants of demand are: Price of a commodity, Income of the consumer, Price of related goods, Taste and fashion of The consumer, Advertisement expenditure, Size of population, taxation policy, money supply, climate and weather, state of business, conventions etc
- i. **Price of a commodity:** Other things being equal, demand for a commodity varies inversely with price of same commodity. In other words, when price of a commodity increases, demand for that commodity decreases and vice versa. It is due to the operation of law of diminishing marginal utility, income effect, substitution effect, etc.
 - ii. **Income of the consumer:** The relationship between income and demand can be established as follows:

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- (a) **Normal goods:** Other thing being equal, when income increases, demand for normal goods also increases and vice versa. It implies that demand for normal goods varies positively with income.
- (b) **Inferior goods:** Other things being equal, when income increases, demand for inferior good decreases and vice versa. It implies that demand for inferior good varies inversely with income.
- d) The law of returns to scale explains how the proportional increase in all the inputs affects the total output as its various levels. When a firm increases all its inputs proportionally, there are three possibilities, which are described as below.
- i. **Increasing returns to scale:** When the increase in output is more than proportionate to the given increase in the quantities of all factor-inputs, it is termed as increasing returns to scale.
 - ii. **Constant returns to scale:** The constant returns to scale means that if all factor inputs are varied at a certain percentage rate, output will change by the same rate.
 - iii. **Diminishing returns to scale:** When the increase in output is less than proportionate to the given increase in the quantities of all factor inputs, it is termed as diminishing returns to scale.
- e) Perfect competition is that market structure in which there are large number of sellers and buyers of homogeneous product, there are perfect substitutes of its product and there is free entry and exit of the firm into the industry.
- The main characteristics are: large number of buyers and sellers, Product homogeneity, Free entry and exit of the firms, Perfect mobility of factors of production, Perfect knowledge, No govt. regulation, Absence of transport cost and Profit maximisation
- Large number of buyers and sellers:** The industry or market includes a large number of firms (and buyers), so that each individual firm, however large, supplies only a small part if the total quantity offered in the market. The buyers are also numerous so that no monopsonistic power can affect the working of the market. Under these conditions each firm alone can not affect the price in the market by changing its output.
- Product homogeneity:** The industry is defined as a group of firms producing a homogenous product. The technical characteristics of the product as well as the services associated with its sale and delivery are identical. There is no way in which buyer can differentiate firms, and will have some discretion in setting its price. This is not possible in perfect competition.
- f) The foreign trade is of special significance to both developed as well as developing countries. The foreign exchange can be earned from foreign trade, which can be spent on the import of machinery and equipments. This helps to accelerate the pace of economic growth.
- The roles of foreign trade in economic development of Nepal are: benefit of technological progress, availability of raw materials, Expansion of market, increase in employment opportunities, benefit of specialization, increase in public revenue etc.
- Benefit of technological progress:- The less developed countries (LDCs) like Nepal are technologically backward. There is rapid technological progress in developed countries. Hence, the goods like machinery and equipments for industrial, electrical, transport and communication projects can be imported through foreign trade. The technical know-how, managerial skill is exchanged through foreign trade.
 - Availability of raw materials:- The geographical position of different countries is not uniform. All countries are not rich in all types of raw materials. The countries can import raw materials for foreign countries. The developed countries also import significant volume of raw materials from foreign countries.