

#### [Frequently Asked Questions]

#### **Production Equilibrium**

Subject:

**Business Economics** 

**Course:** 

Paper No. & Title:

Unit No. & Title:

Lecture No. & Title:

B. A. (Hons.), 1st Semester, Undergraduate

Paper – 101 Microeconomics – I

Unit – 3 Production Equilibrium

Lecture – 2 Production Equilibrium

#### **Frequently Asked Questions**

#### Q1.What relationship does the factor prices include?

**A1.** Factor prices include the relationship between the prices of commodities and the prices (or wages or rents) of the productive factors used to produce them and also the relationships between the prices of commodities and productive factors, on the one hand, and also the quantities of these commodities and productive factors that are produced or used.

#### Q2. What is the meaning of optimum factor combination?

**A2.** The optimum factor combination can be understood as the prices of factors that are represented by the iso-cost line (the locus of various combinations of factors which a firm can buy with a constant outlay) plays an important part in determining what combination of factors the firm will choose for production.

## Q3. How will the entrepreneur make the choice of inputs in terms of least cost combination of factors?

**A3.** The entrepreneur may desire to minimize his cost for producing a given level of output, or he may desire to maximize his output level for a given cost or outlay. To produce a given level of output the entrepreneur will choose the combination of factors which minimizes his cost of production, for only in this way he will be maximizing his profits. Thus a producer will try to produce a given level of output with least-cost combination of factors and this least cost combination of factors will be optimum for him.

## Q4. How can we explain the maximization of output for a given outlay?

**A4.** A rational producer will be interested in maximizing the output of the commodity.

Example: suppose the firm has decided to incur an outlay of Rs 5000 on labor and capital which is represented by the iso-cost line AB. The firm has a choice to use any factor combination of labor and capital such as R, S, E, T,J etc. lying on the given iso-cost line AB to produce the product, an isoquant map showing a set of isoquants that represents various levels of output (200, 300, 400, 500 units) has been superimposed on the given iso-cost line AB. We can see from the figure that the firm will choose the factor combination E consisting of ON of labor and OH of capital.

#### Figure 3(maximization of output for a given outlay)

#### **Q5.** What is expansion path? Explain briefly.

**A5.**Expansion path represents minimum cost combinations for various levels of output; it shows the cheapest way of producing each output, given relative prices of the factors. It is certain that when both factors are variable and the prices of factors are given, a rational entrepreneur will seek to produce at one point or the other on the expansion path.

### Q6. Explain the concept of elasticity of substitution and write its definition.

**A6.** Definition of elasticity of substitution:

The relative change in the factor-proportions (or input ratios) as a consequence of the relative change in the marginal rate of technical substitution (MRTS) is known as Elasticity of substitution between factors.

The concept of elasticity of substitution can be explained with reference to capital and labor as factors of production. If K stands for the quantity of capital, L for the quantity of labor and  $\sigma$  for the elasticity of substitution, then in accordance with the above definition, elasticity of substitution of capital for labor can be expressed as follows:

σ

=

#### proportionate change in the ratio of inputs(K and L)USED proportionate change in the marginal rate of technical substitution of L for K

#### **Q7.** What is the meaning of substitution of factors?

**A7.** Substitution of factors means that one variable factor can be substituted for others; as a general rule a more lavish use of one variable factor will permit an unchanged amount of output to be produced with fewer units of some or all of the others. Like in any industry a labor could be substituted for any other good. But the dilemma is that always this kind of substitution can work practically.

## Q8. Define cost function and briefly give an idea about short run cost function and long run cost function.

**A8. Definition:**The cost function expresses a functional relationship between total cost and factors that determine it. The factors that determine the total cost of production of a firm are the output (Q), the level of technology (T), the prices of factors  $(^{p}f)$  and the fixed factors (F). Symbolically, the cost function becomes:

### C=f (Q, T, $p_{f'}$ F)

# Q9. Briefly give an idea about short run cost function and long run cost function

#### A9. Short run costs

The short run costs are those costs which are incurred by the firm during a period in which some factors, especially, capital equipment, land and management are held constant. It is incurred on the purchases of labor, raw materials, chemicals, fuel etc. which vary with the changes in the level of output.

The short run cost function can be written as:

### C= f (Q, T, P<sub>F</sub>, K)

Where,

Q= the level of output

K= the capital (and other fixed factors) which are held constant

T= the technology (taken as given)

P<sub>f</sub>= factor prices (taken as given)

#### Long run cost

The long run costs are the costs incurred during a period which is sufficiently large to allow the variation in all factors of production including capital equipment, land and managerial staff to produce a level of output.

The long run cost function can be written as:

### $C = f(Q, T, P_F) OR C = f(Q)$

Where,

 $C = f(Q, T, P_F)$ 

C= total cost of production

Q= the level of output

T= the technology

 $P_F$ = the prices of factors of production used for the production of a particular product.