

## **FAQs**

### **1. What is technical progress?**

Technical progress is an economic measure of innovation. It is defined as new, and better ways of doing things, and new techniques for using scarce resources more productively.

### **2. What is a patent?**

A patent is a government authority or license conferring a right or a title for a set period, especially the sole right to exclude others from making, using or selling an innovation.

### **3. Why is innovation important?**

Innovations may occur in response to pressures on the commodity markets. With the rise of population and the increase of the scarcity of land, greater pressure on the demand for agricultural commodities. This may induce innovations in agriculture to take advantage of increasing profit opportunities. Market expansion increases profitability and makes firms to reap the benefits of scale – economies, which are characteristic of modern industrial innovations.

### **4. Explain the endogenous technological progress.**

Endogenous technological progress is a function of the supply of labor  $L$ , future profit  $\pi$ , the amount of resources needed to create an innovation  $\beta$  and the interest rate with which future profit is discounted  $r$ .

$$\text{i.e. } g = f(L, \pi, \beta, r)$$

Where  $g$  = the number of innovations per year.

### **5. Which are two basis of classification of technical progress?**

**Harrods's** classification of technical progress employs the concept of capital output ratio. **Hick's** classification of technical progress takes the

concept of the marginal rate of substitution between factors, which is the rate at which one factor must be substituted for another leaving output unchanged.

#### **6. How does improvisation contribute to technical progress?**

Improvisation of the current procedures can be again referred to a) process development and b) product development. Process development involves the introduction of new and improved processes, so far technology and production is concerned. Product development refers to improvisation of features of products, changes in the nature of the product, the use and value of the product.

#### **7. Define invention with reference to technical progress.**

Invention occurs when a completely new idea is developed into a product or a process. It entails the conception of a basic idea. This is the product of laboratory scientists.

#### **8. Define innovation with reference to technical progress.**

An innovation is an economic process that occurs as a response to perceived profit opportunities, through an act of foresight of the capitalist entrepreneurs, who create or realize these opportunities. Innovation is referred to as refinement and development of product from viewpoint of commercial viability.

#### **9. Define diffusion with reference to technical progress.**

Diffusion occurs when the product or process seems to be feasible for the organization and the organization decides to adopt or imitate the product or the process.

#### **10. Why is the curve of diffusion S- Shaped?**

The diffusion of a technology generally follows an S-shaped curve as early versions of technology are rather unsuccessful, followed by a

period of successful innovation with high levels of adoption, and finally a dropping off in adoption as a technology reaches its maximum potential in a market.

**11. What is Mansfield's study of diffusion?**

Mansfield studied the speed of diffusion under various market structures, its speed and variables affecting the speed of diffusion. He studied the diffusion of 12 techniques in four large industries of the U.S.A.

**12. What is economics of research?**

Economics of research is the consideration of the paybacks alongside the limitations of research. The externalities associated with research limit the scope of organization's inventive attitude and hence it studies the ways in which R & D activity can become more penetrative so far economic and societal progress is concerned.