[Frequently Asked Questions]

SOLOW MODEL

Subject:	Business Economics
Course:	B. A. (Hons.), 6th Semester, Undergraduate
Paper No. & Title:	Paper – 641 Elective PaperE2 – Economic Growth and Policy
Unit No. & Title:	Unit – 2 Growth Model
Lecture No. & Title:	Lecture – 2 SOLOW MODEL

Frequently Asked Questions

Q1. What is the Cobb-Douglas Production function?

A1. It is a production function widely used to express relationship of labour and capital inputs with the output which they help to produce. It was developed by Charles Cobb and Paul Douglas after studying many real production functions between 1927 and 1947. It is given as, $Y=AK^{\alpha}N^{1-\alpha}$.

Q2. What is the residual output in Solow model of growth?

A2. The increase in output which cannot be explained as contribution of the inputs such as labour and capital is the residual output which is attributed to technological progress in Solow model of growth. In other words, it is the output growth which occurs because of technological progress and not because of contribution of labour or capital.

Q3. Is technological progress in Solow's model exogenous or endogenous?

A3. Technological progress in Solow model of growth is exogenous.

Q4. Is technological progress in Solow's model embodied or disembodied?

A4. Technological progress in Solow model of growth is disembodied.

Q5. What is the steady state of growth in Solow model?

A5. It is a state where the amount of capital stock per capita remains constant over time. That means a nation makes savings

and investment which are just enough to keep the capital stock per capita constant. This also means that capital increases in a proportion just enough to maintain the new population and replace the depreciated capital; so that the capital stock per capita remains constant over time.

Q6. What is convergence in the Solow model of growth?

A6. Convergence is a situation where the growth rates of rich and poor countries become similar. When poor countries save and invest in capital their output increases as the capital to labour ratio improves. The rich countries which have already got very high stocks of capital may slow down in savings and capital investment; as also the productivity of their capital may decline when there is excess stock of capital per capita. Hence, their growth rate declines and that of the poor countries tend to increase. But, a situation occurs when the growth rate of rich and poor countries converge at the steady state.

Q7. Does the growth rate of the rich and poor countries converge necessarily in the long run?

A7. The growth rate of rich and poor countries may not necessarily converge because when the rich countries have more capital, they start investing it in enhancing human capabilities and in research owing to which once again the productivity of labour and capital may rise more than the productivity of labour and capital in the developing countries. The developing countries may succeed in matching the per capita capital stock with that of the developed countries, but until they invest in human capabilities and research, they may not experience convergence of the kind explained in Solow model of growth.

Q8. What is meant by technological progress?

A8. Technological progress means technical innovation which helps to increase output.

Q9. Which types of models of technological progress are presented in theory of economic growth?

A9. Theories of economic growth have presented models of exogenous technological progress, endogenous technological progress, embodied technological progress and disembodied technological progress.

Q10. According to the theory of economics in which ways can technological progress take place?

A10. Technological progress in various growth models of economics can take place owing to invention of new methods, new forms of organization, new knowledge, improvement in human capital, discovery, innovation and so on.