Q. What do we mean by the growth of an economy over time, and how do we measure growth? Why is the growth of an economy an important issue in economics?

Ans. The growth of an economy is the increase in the amount of goods & services available in the economy, over time. Growth of an economy is dependent in the long run on the discovery of newer and more efficient technology, increase in the labor force, better training of the labor force, the savings behavior of households, and the discovery & usage of more natural resources. These things can be affected by long-term government policy (and also ones adopted by firms that take decisions considering the long term), like one that provides incentives to fundamental research, builds up the skills of the labor force through a better schooling system, etc. In the short-run, many of these long-term factors are fixed, but even so the growth of the economy can be provided a stimulus by government policies (fiscal & monetary). This is especially true when the economy is operating below its potential level.

Growth of the economy is an important issue in economics, since it is the process by which the living standard of the economy increases. Availability of more goods & services usually leads to a higher living standard for the people, on an average. So, we measure the growth of an economy between time period $t$ and $t+1$ as the percentage change in RGDP of the economy between those periods. Note that the growth rate may also be negative:

$$G_t = \left(\frac{Y_{t+1} - Y_t}{Y_t}\right) \times 100$$

Q. What is inflation?

Ans. Inflation is the rise in price level over time, leading to the loss of value of money. A one-time change in the price level is not inflation – it has to be an ongoing process.

Note: If the price level is more in year 2 compared to year 1, then $100 in year 2 buys fewer goods than it would in year 1.
We measure inflation by calculating the inflation rate, which is the annual percentage change in price level between year $t$ and $t+1$. The inflation rate may be negative as well, in which we term it as a ‘deflation’. So, the inflation rate is:

$$I_t = [(P_{t+1} - P_t)/ P_t]*100$$

There are two types of inflation, dependent on whether the cause of inflation arises from the demand side or the supply side: Demand-pull & Cost-push

**Demand-Pull Inflation**

Demand-pull inflation can arise from any factor that increases aggregate demand, like:

1. Increase in the quantity of money.
2. Increase in government purchases.
3. Increase in exports

(See Fig. 14.2, Parkin, page 333)

Figure 1. Increase in demand (outward shift of demand curve) from long run equilibrium (causing over-employment), due to any or all of the above causes. The price level rises.

Figure 2. Money wage rate response shifts the supply curve back, causing output to drop back to potential level (as real wage rate converges to its full employment level), and the price level to rise even further.

**A Demand–Pull Inflation Spiral**

For this to happen, aggregate demand must persistently increase. The only way this can happen is if the quantity of money persistently increases. How could this happen? Suppose the government has a budget deficit and it finances that deficit by selling government bonds to the Fed, which gives the government money, which the government uses in the economy to pay its debts in the economy. (This method of spending by the government, in which it spends more than its revenue earnings, is called ‘deficit financing’. The process of selling bonds by the government to the Fed, getting money for it return, and injection of that money in the economy is called the ‘monetization of the government debt’. This increases money supply in the economy (and decreases the interest rate), shifting out the demand curve. If this situation (the government indulging in deficit spending) continues year after year, we will have a demand-pull inflation spiral.

(See Fig. 14.3, Parkin, page 334).
Cost-Push Inflation

An inflation that results from an initial increase in production costs is called cost-push inflation.

The main sources of increases in costs are:

1. An increase in money wage rate.
2. An increase in the money prices of raw materials.

Diagrammatic analysis

Figure 1. Decrease in supply (inward shift of supply curve) from long run equilibrium (causing underemployment), due to any or all of the above causes (oil cartel formation, unionization, etc.). The price level rises.

(See Fig. 14.4, Parkin, page 336)

The situation seen above is called stagflation: Rise in price level + fall in RGDP

Figure 2. The demand response: Unemployment occurs in this economy, as seen in the above figure. In response to this, the government may increase money supply in order to push the economy back towards full employment. This causes the demand curve to shift out. Full employment may be restored, but the price level rises even higher.

(See Fig. 14.5, Parkin, page 336)

A Cost–Push Inflation Spiral

Figure 3. If the union or oil cartel sees the prices of goods that it buys rising, it may push the price of oil, or money wages even higher (as they now lose purchasing power in real terms). This will cause the supply curve to shift back once again, evoking another round of demand response by the government, which raises prices yet again. The government faces a dilemma between allowing unemployment, or creating inflation through its own policy.

(See Fig. 14.6, Parkin, page 357)