# UNIT 4 INFLATION

## Structure



## 4.0 OBJECTIVES

After studying this unit, you should be able to :

- explain the meaning and definition of inflation
- explain the types of inflation
- outline the concept of inflationary gap
- describe the demand-pull and cost-push inflation
- comprehend the effects of inflation
- suggest' how inflation can be controlled.

## 4.1 INTRODUCTION

The modem economies in general have been facing the problem of inflation more severely in recent years. These economies, therefore, concentrate on the study of specific causes of price rise and designing of policies to promote price stability. Earlier, only the underdeveloped economies of the world faced the serious problem of persistent price rise. But lately even the developed countries have fallen victim to this problem. In this unit we will discuss the meaning and nature of inflation, types of inflation, effects of inflation and various methods available to overcome this problem.

## 4.2 MEANING OF INFLATION

According to Pigou inflation takes place **"when money income is expanding relatively to the output of work done by the productive agents for which it is the payment".** At another place he says that **"inflation exists when money income is expanding 'more than in proportion to income earning activity".**

RC. **Hawtrey** associates inflation with **"the issue of too much currency".** T.E. Gregory calls it a state of **"abnormal increase in the quantity of purchasing power".** In general, inflation may be defined as a sustained rise in the general level of prices brought about by high rates of expansion in aggregrate money supply. All these definitions have a common feature. They stress the point that inflation is a process of rising prices (and not a state of high prices) showing a state of disequilibrium between the aggregate supply and the aggregate demand at the current level of prices. In other words, prices rise due to an increase in money supply compared to the supply of goods. This is quantity theory approach to price change. However, any rise in price level should not be taken to mean inflation, as prices in a dynamic economy do rise on account of factors other than that discussed above.

Keynes does not agree with the quantity theory approach that it is the volume of money that is responsible for price rise. According to Keynes, inflation is caused by an excess of effective demand, and the state of true inflation begins only after the level of full employment, employment will change in the same proportion as the quantity of money, and when there is full employment, prices will change in the same proportion as the quantity of money. He believes that we do not unduly fear inflation because as long as there are unemployed human and material resources, an increase in the quantity of money will go to increase employment. After full employment all increases in money supply will increase the price level. Keynes does not deny that prices may rise even before full employment but such a phenomenon he called as 'semi-inflation' or 'bottlencck inflation'.

Keynes introduced a new concept called the inflationary gap. The inflationary **gap** shows a situation in the economy when anticipated expenditures (demand) exceed the available output (supply) at base prices or at the pre-inflation prices. Thus, the inflationary gap is measured by the difference between the disposable income on the one hand, and the output available for consumption on the other. In other words, when on account of increased investment expenditure or government expenditure or both, money income rises, but due to limitations of the capacity to produce, the supply of goods and services does not increase in the same proportion, an inflationary gap emerges, giving fillip to rise in prices. It arises only when the total money income that people are keen to spend on the consumption exceeds the total output available at pre-inflation prices.

The prices continue to rise so long as the inflationary gap exists. Look at Figure 4.1 which shows how inflationary gap arises in an eco'nomv.

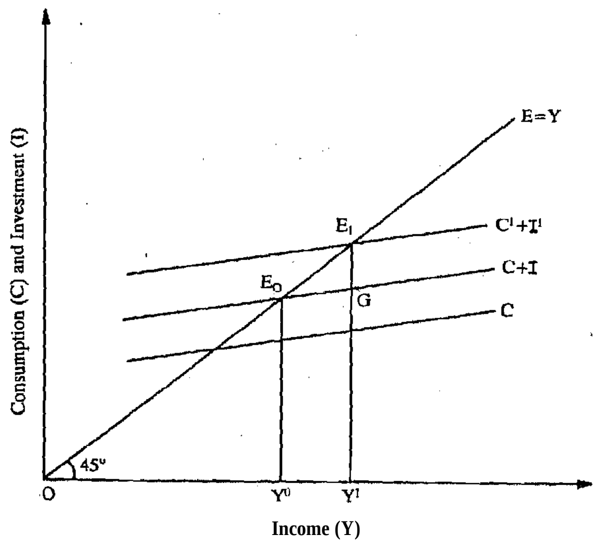


**Figure 4.1 Inflationary Gap**

In Figure 4.1 income is measured along horizontal axis, and consumption and investment along vertical axis. At the 45 line is a zero saving line. C is the consumption curve, while $C + I$ shows consumption plus investment expenditure at full employment level. Obviously $E_0$ is the point of equilibrium and, there, $Y^0$ becomes the full employment income.

Now suppose there is increased investment expenditure by consumers, business houses and government It will shift the C + I curve to $C^1 + I^1$. The $C^1 + I^1$ curve intersects 45° line at $E_1$, thus, giving an equilibrium level of money income of $OY^1$. However the increased expenditure does not lead to increased output because economy was already in a state of full employment. Thus available output is smaller than the money income. This gap, which is $E_1 G$, is known as the **inflationary gap.** Keynes believed that this inflationary gap has to be lowered by reducing the excess purchasing power with the help of appropriate tax measures, or voluntary or compulsory saving by the people.

Thus, the salient features of inflation are as follows:

1) Inflation is always accompanied by rise in prices and it is, infact, uninterrupted increase in prices.

2) Inflation is essentially an economic phenomenon as it originates within the economic system and is fed by the action and interaction of economic forces.

3) Inflation is a dynamic process which can be observed more or less over a long period

4) A cyclical movement should not be confused with inflation.

5) Inflation is a monetary phenomenon as it is generally caused by excessive money supply.

6) Pure inflation start after full-employment.

## 4.3 TYPES OF INFLATION

Inflationary situations may be classified on the basis of different considerations. We may distinguish between different types of inflation on the basis of degree or speed with which the prices rise. The distinction may also be based on the processes through which inflation is induced. It is also possible to classify inflation on the basis of time. Sometimes inflation is sporadic, at another times it is comprehensive. Lastly, inflation may be open or suppressed.

**Classification based on the Degree of Price Rise**
On the basis of rapidity with which prices increase, inflation may be divided into four types: 1) creeping inflation, 2) walking inflation, 3) running inflation and 4) jumping or galloping or hyper-inflation.

**Creeping inflation** is the most mild form of inflation and some economists do not consider it to be dangerous for the economy. Infact, some economists consider it to be important instrument of economic development. It is argued that it keeps the national economy free from the effects of stagnation. But some economists believe that mild inflation may ultimately become hyper inflation so why not nip it in the bud.

In case of **walking inflation,** the rise in prices becomes more marked as compared with the situation obtaining under creeping inflation. In fact, it is a danger signal of the occurrence of running and jumping inflation under which the rise in prices takes place at a faster rate.

In hyper or galloping inflation, prices rise every moment and there is no limit to the height to which the prices might rise. Hyper inflation is an indication of the highest degree of abnormality in the monetary system of a country. Under the conditions of such an inflation, all assets having a fixed income lose their real value. The best examples of such assets and incomes are provided by salaries, savings, mortgages, insurance policies, bonds, etc.

**Classification based on the Processes**
When classified on the basis of different processes through which it is induced, we find the following kinds of inflation:

1) Deficit-induced inflation, which is caused by the adoption of deficit financing or by government spending in excess of its revenue receipts.
2) Wage-induced inflation, which results from an increase in money wages.
3) Profit-induced inflation, which occurs on account of an increase in the profits of the manufacturers.

There is also peace-time inflation which refers to the rise in prices during periods of peace resulting from increased government outlays. Sporadic inflation is of sectional nature, occurring due to abnormal shortage of some specific goods. A typical case of sporadic inflation would be an increase in prices of food products as a result of crop failure or a rise in the prices of manufactured goods resulting from the formation of a successful monopoly which aims at the curtailment of output, or rise in the prices of those goods whose production has been interrupted and capacity curtailed by war,

Inflation may be open or suppressed. It is open when prices rise without any interruption. Suppressed inflation exists in the economy when price increases ere suppressed due to the adoption of policies of effective price control and rationing of essential goods by government

There is a vast literature on various aspects of inflation which is not possible to discuss here. We shall, therefore, discuss only the major explanations of the sources of inflation.

### 4.3.1 Demand-Pull Inflation

It emerges when the aggregate demand exceeds the level of full employment output. Consumers and investors seek to buy more than the total amount of output that can be produced. This type of inflation is also known as excess demand inflation. The demand-pull inflation may be caused by an increase in the quantity of money. An increase in the quantity of money would lower the rate of interest which would stimulate investment. This wil! also lead to an increase in consumption expenditure through the multiplier. The demand-pull inflation can also occur without an increase in money supply. This would occur when aggregate demand increases either because of rise in the marginal efficiency of capital or a rise in the propensity to consume.

Look at Figure 4.2 which illustrates the case of demand-pull inflation. In this figure curves marked $D_1$ to $D_5$ show aggregate demand and curve S represents the given supply. As aggregate demand curve moves higher and higher from $D_1$ to $D_5$, ,the price level rises higher and higher from $P_1$ to $P_5$. Shift of aggregate demand function from $D_1$ upto $D_3$ leads to increase both in the price and the aggregate output because the full employment level is not yet reached. This is known as bottleneck inflation. Once full employment is reached at point C, further upward shift of D will raise only the price level. This is known as true inflation.

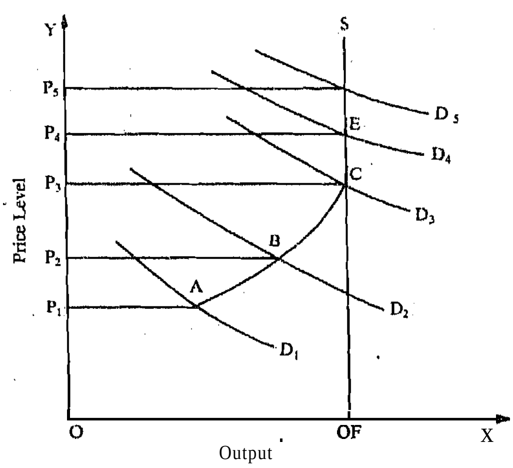

Figure 4.2 Demand Pull Inflation

### 4.3.2 Cost-Push Inflation

Before 1950s, inflation was largely analysed in terms of the excess demand explained either in the classical quantity theory version or in terms of Keynesian theory. The supply or cost analysis of inflation attracted attention during the 1950s. The cost-push inflation analysis, also known as the "new inflation" theory, asserts that inflation occurs due to increase in the cost or supply price of goods. It is caused mainly by three factors : i) an increase in wage rate, ii) an increase in profit margin, or iii) an increase in material costs.

For example, rapidly rising money wages were not accompanied by corresponding increase in productivity in certain key sectors of the economy, results in higher prices in these sectors. Martin Bronfenbrenner and F.D. Holzman observed, *cost inflation has been the layman's instinctive explanation of general price increases since the dawn of the monetary system. We know of no inflationary movement that has not been blamed by some people on profiteers, speculators, hoarders, or workers and peasants living beyond their station.*

Stated in terms of the aggregate demand and aggregate supply functions, the cost-push inflation emerges in the economy due to the pressure of various factors which shift the aggregate supply function upward. Look at Figure 4.3 which illustrates cost-push inflation.

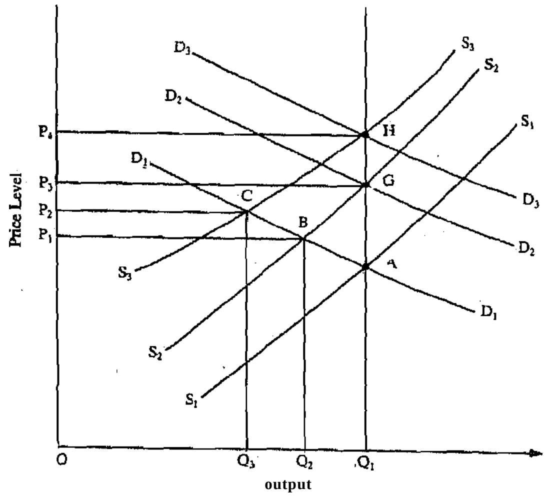


Figure 4.3 Cost-Push Inflation

Let the full employment equilibrium exist at point **A** where the demand curve $D_1$ and the supply curve $S_1$ intersect each other. The equilibrium output is $OQ_1$ and price $P_1$. If the aggregate supply function shifts to $S_2$, output declines to $OQ_2$ and the price level rises to $P_2$. When the supply function further rises to $S_3$, output declines to $OQ_3$ and price level rises to $P_3$. Thus rise in price and fall in output will continue so long as upward shift in the supply function continues.

As pointed out earlier, the main factors responsible for the upward shift in the aggregate supply functions are: 1) higher money wages secured by labour unions, 2) higher profit margins secured by business firms in monopolistic or oligopolistic industries, and 3) higher prices of key raw materials for the production process of the economy. The inflation caused by these three factors is known as the wage-push inflation, the profit-push inflation, and the material-cost push inflation.

**Check Your Progress A**

1) What is inflation?

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2) What is an inflationary gap?

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3) Differentiate between demand-pull inflation and cost-push inflation.

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4) Which of the following statements are True and which are False ?

i) In an economy if prices rise by 20% we can say that the economy suffers from very high inflation.

ii) Inflation means only a state of higher prices.

iii) When government spends in excess of its revenue, it is called deficit induced inflation.

iv) Inflation occurs only when resources are already fully employed.

v) If prices rise even before full employment, such a phenomenon is called bottleneck inflation.

vi) creeping inflation is considered to be an important instrument of economic development.

## 4.4 EFFECTS OF INFLATION

Inflation is not considered bad so long as it creates additional employment to the factors of production. But it becomes bad the moment it goes out of control as Peter is robbed to pay Paul, taking no account of the sound maxim of social equity. "Inflation may be compared to a robber. It deprives the victim of some possession with the difference that robber is visible, inflation is invisible ; the robber's victim may be one or a few at a time, the victim of inflation is the whole nation ; the robber may be dragged to a court of law, inflation is legal". Inflation disrupts the economy and paves the way for social and economic upheavals, besides being highly demoralising. The entrepreneur faced with the demand for higher wages and trying to keep up with such a demand, a retired person trying to manage his living on a fixed pension, a person with fixed income meeting his needs of household expenditure by borrowing from banks and thrift societies, and the housewife struggling hard to serve food in a period of rising prices need hardly be told that inflation is a serious economic problem. The effects of inflation on different sectors of the economy and sections of the society are as follows :

1) **Effects on production :** Keynes felt that as long as there were unemployed resources in the economy a moderate or a mild dose of inflation might be in order; because this would lead to waves of optimism inducing businessmen to invest more. But this cannot go on forever because the limit is set by full employment ceiling, after which the prices start rising and moderate inflation starts assuming the nature of hyper-inflation. This will have disastrous consequences on production. It distorts the smooth functioning of price mechanism, hinders capital formation, stimulates speculative activities and hoarding, and leads to misallocation of productive resources. In short, inflation invites business to seek profits by manipulating markets rather than by efficient production.

2) **Effects on distribution :** Inflation has the effect of redistributing income because prices of all factors do not rise in the same proportion. Entrepreneurs stand to gain more than wage earners or fixed income groups. Speculators, hoarders, black marketers and smugglers gain on account of windfall profits. Changes in the value of money also result in the redistribution of wealth, partly because during inflation there is no uniform rise in prices and partly because debts are expressed in terms of money. Inflation is a kind of hidden tax, highly harmful to the poorer sections of society. Thus, poor become poorer.

3) **Debtors and Creditors :** Debtors borrow from creditors to repay with interest at some future date. Changes in the price level effect them differently at different time periods. During inflation when the prices rise ( and the real value of money goes down), the debtors pay back less in real terms than what they had borrowed and thus, to that extent they are gainers. On the other hand, the creditors get less in terms of goods and services than what they had lent and lose to that extent

4) **The entrepreneurs :** When prices rise, producers, traders, speculators and

entrepreneurs gain on account of windfall profits because prices rise at a faster rate than the cost of production. Besides, there is time-lag between the price rise and the increase in cost. Moreover producers gain because the prices of their inventories (stocks) go up due to inflation. Also they, generally being borrowers of money for business purposes, stand to gain.

5) Investors: Different kinds of investors are affected diffe ently by inflation. An investor may invest in bonds and debentures which yield a fixed rate of interest or in real estate or equities (shares) whose returns (dividends) rise and fall with profits earned by the companies concerned When prices rise, the returns on equities go up on account of the rise in profits, while the bond and debenture holders gain nothing as their income remains fixed. By the same logic, holders will lose during depression, while the debenture and bond holders gain.

6) **Farmers**: Like producers in industry, farmers also gain during inflation. The prices of farm products go up faster than costs (like interest and taxes). Costs lag behind prices of the product received by the farmers. It has been observed in India that inflationary tendencies during war and post-war periods have helped farmers in paying **off** their old debts. Moreover, farmers are generally debtors and have to pay less in real terms, while the land revenue, taxes, etc., do not rise much. Thus, Farmers generally gain during periods of inflation.

7) Wage earners: Wage earners generally suffer during inflation, despite the fact that they obtain a wage rise to counter the rise in the cost of living. However, wages do not rise as much as the rise in prices of those commodities which the workers consume. Further, wages are allowed to rise much later than the rise in prices. Thus, there is a lag between the two, which works to the disadvantage of the worker. If the workers are organised, they may not suffer much during inflation but if they are unorganised (like the agricultural labourers) they may suffer more as they may not find it easy to get their wages increased.

8) Middle **class and salaried persons:** The hardest hit are the persons who receive fixed incomes, usually called the middle class. Persons who live on past savings, fixed interest or rent, pensions, salaries, etc., suffer during periods of rising prices as their incomes remain fixed. Kemmerer states that the middle class, however, which by hard work and thrift has built up a fund of saving to educate its children and to provide a livelihood in times of sickness and old age, finds itself in a desperate situation in a time of serious inflation.

9) Government: In a mixed economy, the public sector is affected by fluctuations in price level. As prices rise, the Government has to spend more on goods and services, including raw materials, for carrying through their projects. Estimates are revised and taxes are raised.

10) Public morale: Inflation results in arbitrary redistribution of wealth favouring businessmen and debtors, and hurting consumers, creditors, petty shop-keepers, small investors and fixed income earners. This lowers the public morale. The ethical standards and the public morale falls to miserably low levels during the period of hyper-inflation.

## 4.5 CONTROL OF INFLATION

Jnflation must be controlled lest it turns into hyper inflation. Control of inflation should involve monetary and fiscal steps aiming at reducing the level of aggregate demand so as to equate it **with** the full employment output in the economy. The level of investment or consumption or both may be curtailed by increasing the number and the rates of direct and indirect taxes and by raising the rate of interest The-measure for controlling inflation can be divided into three broad categories: i) monetary measures, 2) fiscal measures, and 3) direct controls **and** other measures.

1) **Monetary** measures: The central bank of the country can curb inflation by restricting the supply of money and credit with the help of three important measures available to it. They are bank rate policy, open market operations, and varying the reserve requirements of the member banks. Monetary measures,

however, are not very effective in underdeveloped countries which lack a well-developed and integrated money market In under-develop'ed countries, selective credit control is preferable to the general credit control. Selective credit control policy, which takes the form of issuing directives to the commercial banks prohibiting them from lending against certain commodities or reducing the total credit limits sanctioned by the banks against certain commodities or in certain regions, seeks to curb inflationary pressures in selected economic activities. Monetary policy is, however, subject to limitations and it alone cannot succeed in curbing the difficult problem of inflation. In India, Reserve Bank's dear-money policy, aiming at curtailing the excess bank credit, has not prevented prices from rising.

2) **Fiscal** measures : The limitations of monetary measures make it important to make use of fisca! measures to curb inflation. Fiscal measures refers to taxation, government spending and public borrowings. Government should try to mop up, through taxation, as much purchasing power as possible without adverse effects in incentives to enterprises and investment **A** decrease in government spending and an increase in government's' total tax revenue i.e., producing a surplus budget is an important fiscal measure which can successfully check inflationary pressures in the economy. **A** regressive tax structure combined with scaling down of unproductive spending can successfully reduce the impact of inflation in the economy. Devising a suitable tax policy directed towards restricting demand without discouraging production is another fiscal measure which can control inflation. Private savings have a strong dis-inflationary effect. The government should take measures to promote private savings. The government should avoid paying back any of its past loans during inflationary periods so as to prevent an increase in the circulation of money. Keynes suggested a programme of compulsory saving like deferred pay or forced savings to control inflation. Deferred pay implies that a part of the pay of the workers is credited to their savings account and would not be available for spending so long as the inflation lasts. Such compulsory saving schemes are expedient during wartime or during pat-war hyperinflation, but are not practicable in peace time, particularly in democratic societies.

3) **Direct** controls : Many countries have adopted direct measures to control inflation. These include price control and rationing of essential commodities. Rationing and price control, however, have not been very effective in underdeveloped countries because of lack of competent and honest machinery to administer such measures. These have often led to the disappearance of goods from the market giving scope for black marketing, bribery and corruption

Measures should be taken to expand the production of necessary goods at the expense of luxury goods because shortage of the necessary goods raises the prices much more rapidly than a shortage of luxury goods. Control of wages has often been suggested to check a wage-price spiral. During galloping inflation it may be necessary to apply a wage-profit freeze. Control of wages, and profits keeps down disposable income and, hence, the level of effective demand for goods and services. Efforts should be made to obtain as much foreign capital as possible. Investment financed by foreign capital is less inflationary. Every effort should be made to increase production. Preference should be given to investment in those projects which start yielding output at the earliest.

Inflation is easy to control in its initial stages. Beyond a stage it starts feeding on itself and the inflationary problem assumes such dimensions that it becomes very difficult to control. **A** hyperinflation for instance, can be removed only by replacing the old currency by a new currency. Inflation is a hydra-headed monster and should be fought with many weapons. Dependence on a single measure may not help much in curbing inflation.

**Check** Your Progress **B**

1) What is the effect of inflation on production ?

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2) State the main fiscal methods of controlling inflation.

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**3)** State whether the following statements are True or False.

i) In inflation fixed earners benefit at the cost of profit earners.

ii). During inflation debtors are benefited and creditors lose.

iii) During inflation poor become poorer.

iv) During inflation normally equity holders gain and bond holders lose.

v) Inflation can be controlled by restricting the supply of money and credit.

## 4.6 LET US SUM UP

Inflation is a situation of persistent rise in prices. Inflation exists, broadly speaking, when the quantity of money in the economy exceeds the supply of goods and services. According to Keynes true inflation sets in only after full employment.

Inflation can be classified on the basis of speed, time, process and the extent of the price rise. There are twd main types of inflation viz., demand-pull inflation and cost push inflation. Demand-pull inflation occurs when the aggregate demand exceeds the level of full employment output The demand pull inflation may be caused by an increase in the quantity of money. In case of cost-push inflation prices are pushed up by a rise in the cost of production. Cost of production can rise because of a rise in wages or cost of raw materials or simply rise in profit margins. In other words, inflationary pressures originate with supply rather than demand and spread rapidly throughout the economy.

Inflation is advantageous to the debtors, while the creditors lose. When prices rise, producers, traders and speculators stand to gain on account of windfall profits because prices rise at a faster rate than the cost of production. Inflation cannot be allowed to go unchecked and the various monetary and fiscal measures have to be adopted to control it. Since it is caused by an excess of effective demand, measures to control it imply a reduction in the total effective demand. Among the monetary measures we include higher bank rate, open market operaticn and other credit control measures, generally adopted by the central bank of a country. Fiscal measures include government spending, taxes, public borrowings, savings etc.

There are also certain important measures which include output adjustment, suitable wage policy, price control, rationing etc. These measures are, however, supplementary to gain monetary and fiscal measures.

## 4.7 KEY WORDS

**Cost-Push Inflation:** Inflation that occurs due to an increase in the cost of production, resulting from increased money wages, raw materials, prices etc..

**Demand-Pull Inflation :** Inflation that emerges when the aggregate demand exceeds the level of income and employment Excess demand may arise either in the public or private sector.

**Hyper or Galloping Inflation:** An inflationary situation when prices rise every moment and there is no limit to the height to which the prices might rise.

**Inflation:** Sustained rise in general level of prices brought about by high rates of expansion in aggregate money supply.

**Open Inflation:** An inflationary situation when prices rise without any interruption.

**Suppressed Inflation:** Condition in which as a result of adoption of certain policies by the government, prices are prevented from rising.

## 4.8 ANSWERS TO CHECK YOUR PROGRESS

**A** 4 i) False ii) False iii) True iv) True v) True vi) True
B 3 i) False ii) True iii) True iv) True v) True

## 4.9 TERMINAL QUESTIONS

1) Define the concept of inflation and explain inflationary process.
2) Explain the features of demand-pull inflation and cost-push inflation.
3) Examine the effects of inflation on production and distribution in a developing economy.
4) Why should inflation be controlled ? Explain the various measures to be adopted to control it.
5) Write short notes on the following:
   i) Inflationary gap
   ii) Classification of inflation on the basis of degrees of price rise.
   iii) Inflation and the workers

**Note**: These questions will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the university for assessment. These are for your practice only.

## SOME USEFUL BOOKS


Gupta, S.B. 1982, *Monetary Economics*, S. Chand & Co., New Delhi. (Chapters 1, 12)

Mishra, S.K., 1990, *Money, Income and Financial Institutions*, Pragathi Publications, Delhi. (Chapters 1, 2).

Mithani, D.M., 1990, *Money Banking International Trade and Public Finance*, Himalaya Publishing House, Delhi. (Chapters 1–10).

Sundaram, K.P.M., 1989, *Money, Income and Financial Institutions*, Sultan Chand & Sons, New Delhi. (Chapters 1–5).