

Q.1 Define Macro economics and explain the scope and importance of Macro economics.

- 1) **According to Culbertson's**—"Macro economic theory of income employment price and money."
- 2) **Accordingly to K.E. Boulding** –"Macro economics deals not with individuals quantities as such but with aggregate income but with national income, not with individuals price but with price levels, not with individuals output but with national output."
- 3) **According to Edward Shapiro** –Macro economics attempts to answer the truly 'big' question of economic life – full employment or unemployment, capacity or under capacity production.

### **Nature of Macro Economics-Meaning and Definition.**

Economics is a social science which is deals with mankind and human wants. It is deals with scarcity of natural resources and unlimited human wants. The term economics is broadly classified in to two words viz. " micro economics "and "macro economics". The word micro is derived from the Greek word micros and the word macro is derived from the Greek word macros. The term micro means a small unit or individual, the term macro means aggregate or total.

### **Scope and Importance of Macro Economics**

Prof Lipsey would prefer to call macro economics as a search for short-cut. He lists out major economic problems coming under macro economics. Thus macro economics is a study of

1. Problem relating to the allocation of resources between the production of consumer goods and capital goods.
2. Problem relating to fluctuations in price level
3. Problems relating to fluctuations in price level of wages
4. Problem relating to rate of growth
5. Problems in relation to international trade & employment
6. Problem relating to monetary & fiscal policies.

### **Importance of Macro Economics**

Macro economics has assumed immense importance as an integral part of modern economics due to the following features.

1. Modern economic system is complex and complicated. Therefore, to get a proper and accurate knowledge of working of economic system, one should study macro economics to understand the behaviour pattern of aggregates such as level of savings, investment, national output and national income.
2. Macro economic approach is of a great help in the formulation of economic policies. All governments are interested in promoting economic growth stability and they take effective steps to control fluctuations. Government deals not with individual savings but with groups of individuals, thereby establishing the importance of macro economics.
3. Modern economics stress on economic growth and stability. Economic fluctuations are the characteristic feature of capitalistic society. The theory of economics fluctuations can be understood & severity of the fluctuations can be controlled only with help of macro economics.
4. Macro economics is essential for understanding macro economics. No macro economics law could be framed without studying aggregates. For Example, the theory of firm could not have been formulated with reference to the behaviour of a single firm. The theory was possible only after examining and analyzing the behaviour pattern of several firms.

5. Macro economic approach is of utmost importance to analyse and understand the effects of inflation and deflation. Keynes considers that inflation are harmful to the society and macro economics help to take effective steps to control them.
6. Modern governments are interested in promoting and maintaining full employment. The determinants of full employment namely, saving, income, consumption are all important concepts of macro economics.
7. Macro economics has brought forward the importance of the study of National income was relegated to the background. It is the study of national income which gives an idea about the standard of living of different countries of the world.
8. The study of macro economics have revealed not only the glaring inequalities of wealth within an economy but has shown the differences in the standard of living. Thus various countries adopt important steps to promote economic welfare.

Q.2 Define National Income and explain about various concepts of National Income

### **Meaning and definitions of National Income**

The national income has been defined by different persons in different ways. There is nothing absolutely right or wrong about any of these definitions. In general, national income means the total value of goods and services produced annually in a country. In other words, the total amount of income accruing from economic activities in a year's time is known as national income. It includes payments made to all resources in the form of wages, interests, rent and profits.

The definitions of national income can be grouped into two classes. 1) the traditional definitions advanced by Marshall, Pigou and Fisher and 2) modern definitions:

#### **1. Marshall's Definitions**

Marshall defined national income as below:

According to Marshall, "the labour and capital of country acting on its natural resources produce annually a certain net aggregate of commodities, natural and immaterial including services of all kinds... this is the true net annual income or revenue of the country or national divided". Thus, the national income of a country can

be defined as the total market value of all final goods and services produced in the economy in a year.

Though the definition is theoretically sound, simple and comprehensive it has serious practical limitations. It is not easy to make statistically correct estimates of the total production of goods and services because the difficulties of the double counting and portion of the produce which is retained for personal consumption.

## **2. A.C. Pigou's Definition**

A.C. Pigou has, in his definition of national income included, income which can be measured in terms of money. In the words Pigou, "the national dividend is that part of the objective income of the community including of course, income derived from abroad which can be measured in money". According to Prof. Pigou, only those goods and services are to be counted, avoiding double counting of course, which are actually exchange for money. Pigou's definition is practicable and convenient and avoids the difficulties of measuring national dividend inherent in Marshall's definition. But it has its own shortcomings. It makes an artificial distinction between the goods that are exchanged for money and those which are not so exchanged. The bought and unbought goods do not differ in any fundamental manner. Underdeveloped countries marked by a high degree of self sufficiency in households a substantial portion of the production would be excluded since, part of it is on barter basis and not against money. Pigou's definition would exclude even such goods. Thus this definition is not of much use for under developed countries.

## **3. Fisher's Definition**

Fisher adopted „consumption“ as the criterion of national income, whereas Marshall and Pigou regarded „production“. According to Fisher, "The national dividend or income consist solely of services as received by ultimate consumer"s whether from their material or from their human environments. Thus, a piano, or an overcoat made for more this year is not a part of this year"s income, but an addition to the capital. Only the services rendered to me during this year by these things are income". Fisher"s definition is considered to be better than that of Marshall or Pigou because Fisher"s definition provides an adequate concept of economic welfare which is dependent on consumption and consumption represents our standard of living. It is however, more difficult to have an idea of net consumption than that of the net production. Further it is very difficult to measure the life of durable goods which last

beyond one year.

None of the definitions mentioned above suited Keynes because he was interested in knowing the factors which determine the level of income and employment at a particular time. He wanted to know the considerations which the entrepreneurs bear in mind while deciding to employ a particular number of persons. He therefore formulated his own definition to suit his purpose.

## **Concepts of National Income**

We study below the important concepts of national income, viz., the GNP, NNP, National income Personal income, Disposable income.

### **Gross National Product**

GNP is the market value of all the final goods and services produced by the economy in as given year.

Certain components of GNP are counted. These include the rental value of owner-occupied houses, and the value of goods produced and consumed by firms. GNP includes foreign trade and exchange rates. Certain kinds of services are not counted, for example housewives services, voluntary community service, Teacher parents their teaching tuition to their children that kind of services are not counted.

### **Gross Domestic Product (GDP)**

GDP is the sum of total value of final goods produced and services provided in a country in one year. This includes the value of produces that are produced in a country for local consumption or for export, but does not include imports from other countries.

GDP is calculated by adding private and public spending, investments, and exports, minus imports and minus value generated by foreign owned companies.

Oxford Dictionary (1996): Defines. GDP as “the total value of goods produced and services provided in a country in one year”.

### **Net National Product (NNP)**

GDP minus the cost of capital goods “Used up” during the accounting period. For purposes of measurement depreciation charges and any other allowances for the consumption of durable capital goods are used to estimate the amount of capital “used up” in the production of a given volume of output.

Defined as “the total value of all final goods and services produced in an economy during the particular year”. The aggregate earnings of labour and property during the accounting period. It is an estimate of total cost of all factors of production during a given year.

### **Personal Income**

A measure of the current income received by all “persons” from all sources. For accounting purposes, nonprofit institutions, private trust funds, and private health (or) welfare funds are classified as “persons” personal income is measured before taxes.

### **Disposable personal income**

The income held by persons after the deduction of all personal taxes and other payments to general government. It is the amount of income available during a given year either for spending on consumption (or) for savings.

Disposable income = Personal income – Personal Taxes = Personal Consumption + Personal Saving

### **Real Income (RI)**

Real income is national income expressed in terms of general level of prices of a particular year taken as base. In order to find out the real income of the country, a particular year is taken as base year when the general price level is neither too high nor too low and the price level for that year is assumed to be 100. Now the general level of the prices of the given year for which the national income (real) is to be determined is asserted in accordance with the prices of the base year. For the purpose the following formula is employed.

Real NNP = NNP for the current year × Base year index / current year index

### **Per Capita Income**

The average income of the individuals of a country in the particular year is called per capita income for the year.

Per Capita Income =  $\frac{\text{National income}}{\text{Population}}$

### **Q.3. What is National Income? How could it be measured?**

#### **Meaning and definitions of National Income**

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### **Methods of calculating National Income Value added or production or output approach**

- 1) The output approach focuses on finding the total output of a nation by directly finding the total value of all goods and services a nation produces.
- 2) Problem of Double counting: Because of the complication of the multiple stages in the production of a good or service, only the final value of a good or service is included in the total output. This avoids an issue often called 'double counting', wherein the total value of a good is included several times in national output, by counting it repeatedly in several stages of production. In the example of meat production, the value of the good from the farm may be Rs10, then Rs 30 from the butchers, and then Rs 60 from the supermarket. The value that should be included in final national output should be Rs 60, not the sum of all those numbers, Rs 90. The values added at each stage of production over the previous stage are respectively Rs 10, Rs 20, and Rs 30. Their sum gives an alternative way of calculating the value of final output.

### **Income method**

The income approach equates the total output of a nation to the total factor income received by residents or citizens of the nation. The main types of factor income are:

- Employee compensation/ salaries & wages (cost of fringe benefits, including unemployment, health, and retirement benefits);
- Interest received net of interest paid;
- Rental income (mainly for the use of real estate) net of expenses of landlords; Royalties paid for the use of intellectual property and
- extractable natural resources. Corporate Profits

### **Expenditure or Consumption method**

The expenditure approach is basically an output accounting method. It focuses on finding the total output of a nation by finding the total amount of money spent. This is acceptable, because like income, the total value of all goods is equal to the total amount of money spent on goods

$$\text{GDP} = C + I + G + (X - M)$$

Where:

**C** = household consumption expenditures / personal consumption expenditures

**I** = gross private domestic investment

**G** = government consumption and gross investment expenditures

**X** = gross exports of goods and services

**M** = gross imports of goods and services

Note: (**X - M**) is often written as **XN**, which stands for "net exports"

Q.4. State the problems that we encounter in estimation of national income and explain the importance of national income estimates.

The measurement of national income in any country is beset with many problems. Problems are more acute in LDCs like India than advanced countries.

These problems are grouped into two: (i) conceptual or theoretical problem, and (ii) practical or statistical problem. However, as there is no escape route to avoid all the conceptual problems, we set aside these problems and consider only practical problems.

**Some of the difficulties in measuring national income are as follows:**

#### ***1. Lack of Reliable Data:***

The reliability of data relating to national income estimation is often questioned (in India). National income estimate is made on the basis of primary data relating to incomes and values of goods produced. It is observed that many producers —particularly petty producers and traders— do not maintain any accounts of their incomes and even goods produced. Obviously, the primary data collected from this source is supposed to be vague. The reason behind this is illiteracy. Further, many people are reluctant to cooperate with the data collectors. Above all, data collectors often ‘fabricate’ data even without approaching the door of producing sectors or economic units. If this information is considered to be the basis of judgement, then the judgement will suffer from inaccuracy.

## ***2. Existence of Non-Monetised Sector:***

The soundness of national income estimates is affected badly if there exists a large non-monetised sector. This creates valuation problem. In an LDC, there exists an unorganised barter economy where money is not used for transaction purposes.

In each transaction, the problem of valuation of goods transacted crops up. Further, poor farmers of these countries retain large chunks of their output for self-consumption. Naturally, a large amount of output does not come to the market and is not subject to the valuation process. By imputing values to these goods, the problem of valuation can be partially removed. But considering the vastness of a country like India, such imputation is an uphill task. Even if imputation is possible, its reliability is also doubted.

Various non-market and domestic activities like child care by mothers and sisters are not taken into account while estimating national income of a country, for the said reasons. In fact, these activities add to production when we engage the services of a lady ayah who takes care of a child against some monetary payments. But these are not considered in view of the difficulties of estimating such income.

Further, in national income estimation, losses or social ills do not get reflected. CO<sub>2</sub> emission from automobile car pollutes the environment resulting in fewer 'outputs' for future generations. Such is not adjusted usually, although attempts are often made to measure 'green GNP'.

## ***3. Difficulties in the Classification of Working Population:***

In India, working population is not clearly defined. For instance, agriculturists in India are not engaged in agriculture round the year. Obviously, in offseason they engage themselves in alternative occupations. In such a case, it is very difficult to identify their incomes to a particular occupation.

## ***4. Exclusion of Real Transactions:***

In measuring national income from the output side only those items which are purchased and sold through the market are included.

However, all direct sales of various goods and services are excluded.

In other words, GDP includes the money value of those items which are sold through the market at current prices.

In developing countries like India a major portion of output is not sold through the market. Yet these are produced by using economic resources and satisfaction is derived from consuming various non-marketed goods and services. Examples are barter transactions and various free services rendered at personal levels.

Many useful services are produced by members of households for the benefit of themselves or their families. Husbands and wives perform useful services for themselves and their families when they prepare meals, make household repairs, and handle their own financial affairs.

The value of these services is not included in GDP because they do not represent services purchased through market transactions. The value of the work people do at home for themselves and their families has been estimated to be about one-third of India's GDP. If this estimate is correct, GDP significantly undervalues the total output of the nation by excluding non-market household production.

Perhaps you can see this more clearly if you imagine each husband paying his wife for her services and each wife paying her husband for his services. These services would now become market services and would be included in GDP. Similarly, if more people remain single and hire housekeepers to do work that spouses would normally do without monetary compensation, GDP will increase!

Some non-market transactions, however, are included in GDP. For example, homeowners who live in their own homes enjoy the housing services their homes provide. In the National Income and Product Accounts, these owner-occupiers are viewed as being in the business of renting their homes to themselves. An estimate of the value of housing services enjoyed in this way is included in GDP.

In addition, GDP accounts impute the value of farm products consumed on farms and food, clothing, and lodging furnished to employees. The imputed market values of these goods and services are also included in GDP. Of course, the goods and services made available by governments, such as national defence, are not sold in markets.

However, their value is reflected in GDP because government purchases of labour and products are a component of GDP.

Similarly, many workers in rural areas, engaged mainly in the agricultural sector, get their wages in kind — in terms of food and accommodation. But any wages and salaries paid in kind is not included in national income. The reason is that it is not possible to find out the market value of such factor payments accurately.

For the same reason, income from illegal activities which are not reported to tax authorities are excluded. Examples of such incomes are incomes from smuggling, un-authorized gambling, black marketing and other illegal and immoral activities. So expenditure on the purchase of a smuggled camera is not final expenditure and is thus not a part of national income.

Transactions in second-hand goods are also excluded for avoiding double (multiple) counting but expenditure on repair of an old good such as TV set or car is part of final expenditure and is, therefore, included in national income. For all these reasons the official estimate of GDP does not give us the correct GDP figure.

### ***5.The Value of Leisure:***

All of us place some value on our time. We sell some of our time to employers for labour income; however, we retain much of it for our own use of leisure. Some of this leisure is used to render household services that escape inclusion in GDP. The satisfaction we get from recreational activities and other uses of our leisure time are also not included in GDP.

### ***6.Cost of Environmental Damage:***

The people of a country may be able to enjoy more and better goods and services each year, but they must also put up with more congestion, dirty air, polluted water and other environmental costs that decrease the quality of their lives. Costs are associated with pollution and other aspects of industrial activity that damage the environment.

The costs of environmental damage are not subtracted from the market value of final products when GDP is calculated. Some economists, therefore, believe that GDP overestimates the value of output by failing to take into account environmental costs of production.

### ***7.The Underground Economy:***

India has a vast underground economy. This economy consists of transactions that are never reported to tax and other government authorities. It includes transactions involving illegal goods and services, such as trading in harmful drugs, gambling, smuggling and prostitution. These illegal goods and services are final products that are not included in GDP.

The transactions of the underground economy also include activities by people who do not comply with tax laws, immigration laws, or government regulations and who do not report their income to tax authorities. The underground (unofficial) economy is also called parallel economy.

### ***8.Transfer Payments and Capital Gains:***

All domestic transfer payments (personal, private and government) are excluded from national income of a country. For example, if an individual receives a cash gift from his father who is also a resident of India, it will not be a part of India's national income. The same argument is valid if a student receives Tata Foundation Scholarship for higher studies. This is an example of business transfer payments

Another example of transfer is the subsidy received by producers of milk from the government. Still another is retirement pension. A surprise omission from national income accounts is interest on government bonds. It is an example of government transfer. It is excluded from national income

because the government pays interest on bonds not from profits of public sector enterprises but by imposing tax on people.

So there is transfer of income from taxpayers to bondholders. But there is no net increase in society's output of goods and services in the process. And it may be a happy coincidence if the same individual is both a taxpayer and a bondholder at the same time. So net interest paid by government (interest paid to individuals less interest received from state governments from loans and advances) is not a part of national income.

However, the treatment of interest on private (corporate) bonds and debentures is different. It is not transfer income and is thus included in national income. The reason is that a company pays interest on its bonds and/or debentures from its current sales revenue for receiving a useful productive input, viz., financial service.

However, any transfer payment from abroad will be a part of a country's national income. Thus, if an individual receives \$ 20,000 from his father who is a non-resident Indian, it will be part of India's national income.

Capital gains are also a form of transfer payments and are, therefore, excluded from national income. Let us consider, for instance, the case of an individual who sells shares in the stock exchange and makes a capital gain of Rs. 50,000. This money just gets transferred from the buyer to the sellers of shares. But there is no change in society's output of goods and services nor is any income generated in the process.

### ***9. Valuation of Inventories:***

We have already noted how inventories are to be treated in national income accounts. However, while estimating national income of a country, one problem has to be faced. This problem arises due to price level changes, i.e., inflation and deflation which lead to stock appreciation or depreciation. And the national income accountants have to face certain problems associated with the valuation of inventories.

Two methods are normally used for inventory valuation, viz., (i) the market price method and (ii) the factor cost method. According to the market price method, stock appreciation (increase in inventory) is valued at current market prices of goods held in inventories. It may be noted that market price of every item stocked includes imputed (notional) profit which may or may not be realised in the same year.

On the other hand, if the factor cost method of valuing inventories is used, imputed profit is excluded from cost calculation. This is the usual practice.

In fact, during inflation, the market value of inventories and reported profits will be higher than they actually are. So they have to be deflated by the price index (or the GDP deflator) to neutralise the effects of inflation. Otherwise, a company will be required to pay extra tax on inflated profits.

And it will not be able to retain a substantial amount of earnings, e.g., it will find it difficult to replace an old machine when it wears out completely. It may be noted that during inflation such reported profits are partly illusory (because they are the result of favourable market conditions and not increased volume of sales).

So if such profits are not deflated appropriately, nominal profits will be higher than-real profits. And, as a result, a company will have to pay more taxes than it is supposed to pay.

Therefore, its undistributed profit will also be less than what it should be. Therefore, it will not be possible to set aside adequate funds for depreciation. Old machines cannot be replaced when they wear out completely.

The economy's existing stock of capital cannot be maintained. And it will not be possible to produce even the economy's current level of output, not to speak of increasing the GDP through an act of net investment.

### ***10. Self-Consumption:***

A special problem arises in agriculture which is the most dominant sector in less developed countries (LDCs) like India. Subsistence farmers who produce food for themselves and their family members consume a major portion of their own output every year. Since this portion is not sold through the market, it is excluded from GDP.

The reason is that it is difficult to measure the market value of this output. A lot of arbitrariness is involved in the process of measuring it.

### ***11. Lack of Official Records:***

Another problem arises due to lack of reliable data. The reason is that many people in LDCs like India sell their output through the market no doubt but they do not maintain any official accounts of their transactions.

For example, most roadside small traders, (retailers) as also many business enterprises in the unorganised sectors (mainly sole proprietorship organisations or single-owner firms) and self-employed persons do not keep proper records of their incomes and expenses.

This is why it is difficult to include proprietor's income (which is essentially a mixed income) in the national income accounts of a country. However, in theory, such income is a part of national income. The reason is that it is earned through market transactions.

### ***12. Imputed Income:***

Imputed income such as income from owner-occupied houses and flats is a part of a person's taxable income. Therefore, it is a part of national income. Such income is fixed on the basis on notional rent. Even if an individual keeps his house vacant he has to pay tax on notional rent.

In this case, the value of the service rendered by the house has to be imputed. The same thing is true of unintended inventories. For example, if a firm is not able to sell its entire output during the current year, the unsold stock will have to be valued at the current market price and included in national income.

### ***13. Valuation of Government Service:***

Finally, government services provided to people free of cost are also to be included. However, it is very difficult to find the true values of such services, since these are not sold through the market. As Prof. Amit Bhaduri comments, the valuation of services of many public goods like a museum or a park becomes highly problematic.

This, in turn, raises the question of how to evaluate the economic contribution, i.e., value added of the government which is the provider of public goods like national defence, law and order, etc. for which no market prices exist. In the absence of market prices for many types of public services, the problem of their valuation must be somewhat arbitrarily settled by accounting conventions

It may also be mentioned here that to avoid such arbitrariness, national income accounting procedure in centrally planned or socialist economies deliberately excludes value added by the entire 'service sector' including the government. This results in an estimate of material production in the economy excluding services, for which the product method of accounting is better suited.

#### **(a) A comprehensive summary of the economic activity:**

National income estimates give us detailed data relating to a country's production, savings, investment, capital formation and various other economic activities in a particular year. All these data give us a comprehensive picture of the economic activities of the people during that year.

#### **(b) Assessment of the relative importance and progress of the different sectors:**

The national income data relating to the sources of national income give us an idea of the relative importance of the different sectors (namely, agriculture, industry, trade and commerce, services, etc.) in the economy of the country.

Thus, the national income estimates ("by industry of origin") of India (of 1995-96) show that 33% of the national income come from the primary sector, 26% from the secondary sector and the remaining 41% from the tertiary sector. The sectoral composition relative



consumptions of sectors in these three different years indicate the progress and weakness of each of these sectors.

**(c) Indispensable to government for framing policies and programmes:**

The government of a country is to frame its economic policies and programmes on the basis of the estimates of the different components of national income. The importance of these estimates has increased considerably in developing countries in framing their future development plans.

**(d) The pivot of economic planning:**

National income estimates constitute the pivot of economic planning as the entire machinery of planning is based on “**an appraisal of existing resources and an accurate diagnosis of deficiencies**” furnished by the national income estimates. These estimates enable the government to determine the allocation of the country’s resources on the different heads of development.

**(e) Input-output analysis:**

National Income data are also very useful for studying, as done by Prof. W. W. Leontief, the structure of the economy through the input-output analysis.

**(f) Measurement of inflationary and deflationary gaps:**

Modern economists take the help of the national income data for measuring the inflationary or deflationary gaps found at any time in a country.

**(g) Social accounting and the framing of the budget:**

National income figures serve as the background of ‘Social Accounting’ and the government’s annual budgets are also framed in the context of the country’s national income estimates.

**(h) Measuring the rate of growth and the per capita income:**

The annual rate of increase in national income is considered to be the rate of economic growth of a country. Moreover, the per capita income of the people of a country is also calculated dividing the national income by the total population of a country in a particular year.

**(i) Comparison of living conditions:**

The national income data are also very useful for comparing the overall economic conditions, especially living conditions of the people of the different countries and at different times.

**Q.5 Critically examine the Classical Theory of employment.**

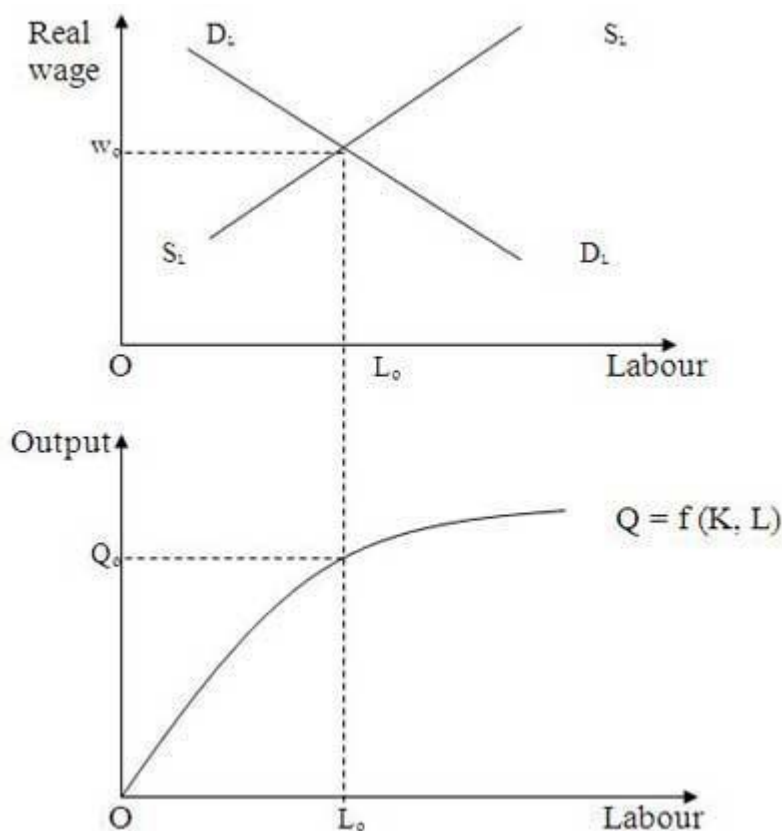
**The classical theory of employment is based on the following assumptions.**

1. There is existence of full employment without inflation.
2. There is a closed laissez-faire capitalistic economy.
3. There is perfect competition in labor market and product market.
4. Labor is homogenous.
5. Total out put of the economy is divided between consumption and investment expenditure.
6. The quantity of money is given.
7. Wages and prices are flexible.
8. Money wages and real wages are directly related and proportional.

**The main Postulates of classical theory are:**

- 1) The basic contention of classical economists was that if wages and prices were flexible, a competitive market economy would always operate at full employment. That is, economic forces would always be generated so as to ensure that the demand for labour was always equal to its supply.
- 2) In the classical model the equilibrium levels of income and employment were supposed to be determined largely in the labour market. At lower wage rate more workers will be employed. That is why the demand curve for labour is downward sloping. The supply curve of labour is upward sloping because the higher the wage rate, the greater the supply of labour.

In the following figure the equilibrium wage rate ( $w_0$ ) is determined by the demand for and the supply of labour. The level of employment is  $OL_0$ .



The lower panel of the diagram shows the relation between total output and the quantity of the

variable factor (labour). It shows the short-run production function which is expressed as  $Q = f(K, L)$ , where  $Q$  is output,  $K$  is the fixed quantity of capital and  $L$  is the variable factor labour. Total output  $Q_0$  is produced with the employment of  $L_0$  units of labour. According to classical economists this equilibrium level of employment is the 'full employment' level. So the existence of unemployed workers was a logical impossibility. Any unemployment which existed at the equilibrium wage rate ( $W_0$ ) was due to frictions or restrictive practices in the economy in nature.

3) The classical economists believed that aggregate demand would always be sufficient to absorb the full capacity output  $Q_0$ . In other words, they denied the possibility of under spending or overproduction. This belief has its root in Say's Law.

**(a) Say's Law:** According to Say's Law supply creates its own demand, i.e., the very act of producing goods and services generates an amount of income equal to the value of the goods produced. Say's Law can be easily understood under barter system where people produced (supply) goods to demand other equivalent goods. So, demand must be the same as supply. Say's Law is equally applicable in a modern economy. The circular flow of income model suggests this sort of relationship. For instance, the income created from producing goods would be just sufficient to demand the goods produced.

**(b) Saving-Investment Equality:** There is a serious omission in Say's Law. If the recipients of income in this simple model save a portion of their income, consumption expenditure will fall short of total output and supply would no longer create its own demand. Consequently there would be unsold goods, falling prices, reduction of production, unemployment and falling incomes.

However, the classical economists ruled out this possibility because they believed that whatever is saved by households will be invested by firms. That is, investment would occur to fill any consumption gap caused by savings leakage. Thus, Say's Law will hold and the level of national income and employment will remain unaffected.

**Saving-Investment Equality in the Money Market:** The classical economists also argued that capitalism contained a very special market – the money market – which would ensure saving investment equality and thus would guarantee full employment. According to them the rate of interest was determined by the demand for and supply of capital. The demand for capital is investment and its supply is saving. The equilibrium rate of interest is determined by the saving-investment equality. Any imbalance between saving and investment would be corrected by the rate of interest. If saving exceeds investment, the rate of interest will fall. This will stimulate investment and the process will continue until the equality is restored. The converse is also true.

**(c) Price Flexibility:** The classical economists further believed that even if the rate of interest fails to equate saving and investment, any resulting decline in total spending would be neutralized by proportionate decline in the price level. That is, Rs 100 will buy two shirts at Rs 50, but Rs 50 will also buy two shirts if the price falls to Rs 25. Therefore, if households saves more than firms would invest, the resulting fall in spending would not lead to decline in real output, real income and the level of employment provided product prices also fall in the same proportion.

**(d) Wage Flexibility:** The classical economists also believed that a decline in product demand would lead to a fall in the demand for labour resulting in unemployment. However, the wage

rate would also fall and competition among unemployed workers would force them to accept lower wages rather than remain unemployed. The process will continue until the wage rate falls enough to clear the labour market. So a new lower equilibrium wage rate will be established. Thus, involuntary unemployment was logical impossibility in the classical model.

**Keyne’s Criticism of Classical Theory:** J.M. Keynes criticized the classical theory on the following grounds:

1. According to Keynes saving is a function of national income and is not affected by changes in the rate of interest. Thus, saving-investment equality through adjustment in interest rate is ruled out. So Say’s Law will no longer hold.
2. The labour market is far from perfect because of the existence of trade unions and government intervention in imposing minimum wages laws. Thus, wages are unlikely to be flexible. Wages are more inflexible downward than upward. So a fall in demand (when S exceeds I) will lead to a fall in production as well as a fall in employment.
3. Keynes also argued that even if wages and prices were flexible a free enterprise economy would not always be able to achieve automatic full employment.

Q.6. Explain about the Keynesian theory of output and employment.

The theory of effective demand was explained by JM Keynes in his book “The General theory of employment and interest and money” in the year 1936. Keynes criticized the classical theory of output and employment, he considered full employment is a rare phenomenon and presented his theory of employment named as “Effective demand”.

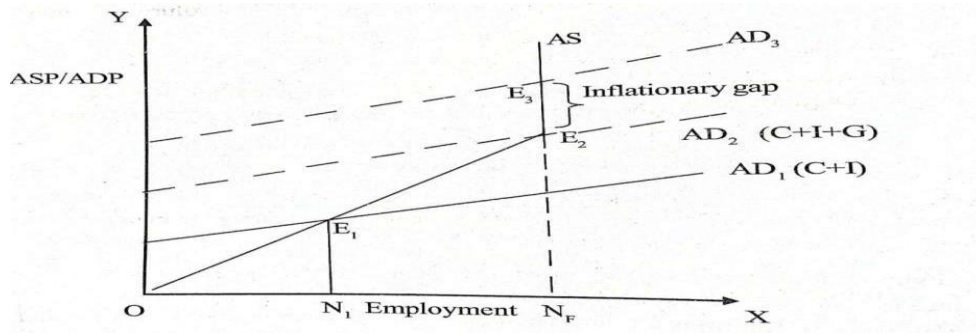
According to Keynes effective demand determines the employment and effective demand is determined by aggregate demand and aggregate supply. Aggregate demand refers to the total demand for all commodities in the economy at a particular level of employment. Aggregate supply refers to the total supply of all commodities produced by all the sellers at a particular level of employment.

Effective demand is a point where aggregate demand is equal to aggregate supply.

**Aggregate demand price:** The price consumers are ready to pay to buy goods and services.

**Aggregate supply price:** The minimum income sellers must get to maintain factors of production.

Employment	Aggregate Supply price In crores	Aggregate Demand price In crores
10	500	600
11	550	625
12	600	650
13	650	675
<b>14</b>	<b>700</b>	<b>700</b>
15	750	725
16	800	750



$$\text{Effective demand} = \text{Aggregate demand price} = \text{Aggregate supply price}$$

$$\text{Effective demand} = \text{Cost of production} = \text{Expected revenue}$$

In the table, we can see that aggregate demand and aggregate supply increases with the level of employment. In the beginning aggregate demand price is more than aggregate supply price. Therefore employment level increases. Effective demand is determined where aggregate demand is equal to aggregate supply. After the equilibrium point aggregate demand price is less than aggregate supply price. Therefore in an economy unemployment situation exist.

In the graph X- axis shows employment and Y-axis shows aggregate demand and aggregate supply. We can see that aggregate demand curve and aggregate supply curve intersect each other at point "E<sub>1</sub>". It shows equilibrium point here ON<sub>1</sub> is the level of employment, which is also known as effective demand.

7. What is consumption function ? what are the factors influencing consumption function?

### Consumption Function

The consumption function is a mathematical formula laid out by famed economist John Maynard Keynes. The formula was designed to show the relationship between real disposable income and consumer spending, the latter variable being what Keynes considered the most important determinant of short-term demand in an economy.

#### **Definition:**

Consumption function refers to the functional relationship between aggregate consumption and aggregate income  $C = f(y)$ . The schedule shows the various amount of consumption at various levels of income. This shows that when income increases, consumption also increases, but in a lesser proportion (i.e.) the proportion of income spent on consumption goes on falling as income increases.

#### **Factors Affecting consumption function**

##### **(A) Objective factors influencing the consumption function:**

- First of all the households consumption expenditure depends on their income level. The consumption expenditure can be partly autonomous and partly dependent on disposable income. Disposable income is income minus personal or direct taxation. Thus  $C = f(Y_d)$  where  $C = \text{Consumption}$ ,  $Y_d = \text{disposable}$ . Keynes psychological law states that as income increases, consumption also increases - but less than proportionately. Every increased income is generally divided into consumption and savings.
- Secondly consumption depends upon the distribution of national income. If the national income is properly distributed, then people's income that is the per capita income will be high and they will consume more.
- **Price level:** The consumption pattern of the individuals not only depend upon the money income, but also the price level. Thus, during inflation, their consumption power is less and

vice versa.

- **Wages:** The consumption pattern largely depends upon the wages also, whether their remuneration is received in the form of cash or in kind.
- **Unexpected profits and losses:** If the individuals are self employed people or business man, then their consumption pattern mostly depends on their profit and loss. Unexpectedly, if they gain more, then their consumption pattern is high.
- **Liquidity preference:** If people prefer to hold more and more liquid cash, then their present consumption will be low.
- **Rate of Interest:** If the interest is high, then people will forgo the present consumption and postpone it for a future date. Higher the rate of interest payable, lesser will be purchasing power. This will certainly reduce the consumption.
- **Future expectations:** If the demand for cash to make speculative gains is more, then the present consumption will be low.
- **Permanent income:** The people who have permanent income either from earned or unearned income, their consumption will be more.
- **Advertisement:** If the advertisement and publicity can induce the people more effectively, then the consumption of the people for such commodities will be more.
- **Credit facilities:** If goods can be purchased by taking loans, individuals spend more on consumption.

#### **(B) Subjective factors influencing consumption function:**

There are some psychological motives which encourage savings and discourage consumption. They are as follows:

- (a) Motive of precaution: The desire to save for meeting unforeseen emergencies in future.
- (b) Motive of foresight: The desire to build reserves for meeting old age needs.
- (c) Motive of calculation: The desire to save for earning interest.
- (d) Motive of improvement: The desire to save for future progress.
- (e) Motive of independence: The desire to save for attaining self reliance.
- (f) Motive of pride: The desire to save for possessing wealth.
- (g) Motive of enterprise: The desire to save for establishing business assets.

#### **Motive which encourage savings among corporate sector:**

- (a) Motive of enterprise: The desire to create additional resources for further investment.
- (b) Motive of liquidity: The desire to keep more liquid assets for meeting future emergencies.
- (c) Motive of improvement: The desire to enjoy rising income.
- (d) Motive of financial prudence: To arrange sufficient funds against depreciation

#### **AVERAGE PROPENSITY TO CONSUME (APC)**

The willingness to use a proportion of income (Y) for consumption (C) is known as average propensity to consume (APC):  $APC = C/Y$  As income increases, the average propensity to consume decreases. This is indeed observable in the fact that wealthy individuals consume a smaller proportion of their income than to poorer people who may in fact be forced to receive money from others.

If the income of a family is Rs 50,000 and that family spends Rs 45,000 per year, the average propensity to consume is  $APC = 45,000/50,000 = .9$  or 90%.

#### **MARGINAL PROPENSITY TO CONSUME (MPC)**

The marginal propensity to consume (MPC) is the proportion of additional consumption (dC) which will be taking place out of an increase in income (dY):  $MPC = dC/dY$  MPC is the slope of the consumption line. It is constant throughout reflecting a stable pattern of consumption in our society.

If the income of the family increases by Rs 1,000 and the family decides to buy an additional television worth Rs 600 with that new income, the marginal propensity to consume is  $MPC = 600/1000 = .6$  or 60%.

## SAVING

Saving is what is left from income after consumption is taken out. Saving is primarily determined by the level of real income. The higher the income, the more individuals are willing and able to save.

Saving is what will permit consumption in the future. In today's society, a lot of saving is institutional. For instance, social security contributions and pension plan deductions are a form of saving.

## AVERAGE PROPENSITY TO SAVE

The willingness of individuals to save (S) a proportion of their income is called average propensity to save (APS):  $APS = S/Y$ .

If a family earns Rs 50,000 and saves Rs 5,000 each year, the average propensity to save is  $APS = 5,000/50,000 = .1$  or 10%.

## MARGINAL PROPENSITY TO SAVE (MPS)

The marginal propensity to save (MPS) is the proportion of additional saving (dS) out of an additional income (dY):  $MPS = dS/dY$ . The marginal propensity to save is the slope of the savings line. Since income can only be consumed or saved, the sum of the marginal propensities to consume and to save is one:  $MPC + MPS = 1$ .

If a family has an increase in income of Rs 1,000 and decides to save Rs 400 of that increase, the marginal propensity to save is  $MPS = 400/1,000 = 0.4$  or 40%.

8. What is marginal efficiency of capital? what are the factors determine marginal efficiency of capital?

### ***Meaning of Marginal Efficiency of Capital (MEC):***

MEC refers to the expected profitability of a capital asset. It may be defined as the highest rate of return over cost expected from the marginal or additional unit of a capital asset. First we must go to the marginal unit of the capital asset and secondly its cost has to be deducted from its return.

Now the MEC in its turn, depends on two factors: the prospective yield of the capital asset and the supply price of the capital asset. The MEC is the ratio of these two factors. The prospective yield of a capital asset is the total net return from the asset. The supply price of an asset is the cost of producing a brand new asset of that kind and not the supply price of an existing asset. It is referred to as the replacement cost. If the supply price of a capital asset is Rs. 20,000 and its annual yield is Rs. 2000, then the marginal efficiency of this asset is  $2000/20000 \times 100 = 10$  percent. Thus the marginal efficiency of capital is the percentage of profit expected from a given investment on a capital asset.

Keynes relates the prospective yield of a capital asset to its supply price and defines MEC "as being equal to that rate of discount which would make the



present value of the series of annuities given by the returns expected from the capital asset during its life equal to its supply price". This may be put in the form of an equation.

$$Sp = \frac{R_1}{(1+i)} + \frac{R_2}{(1+i)^2} + \dots + \frac{R_n}{(1+i)^n} \quad \dots(1)$$

Where Sp is the supply price or the cost of capital asset, R<sub>1</sub>, R<sub>2</sub>... R<sub>n</sub> are the prospective yields or the series of expected annual returns from the capital asset in the years 1, 2, ..... n, and i is the rate of discount. This makes the capital asset exactly equal to the present value of the expected yield from it. This can be explained with a numerical example.

4. The expected yield from the asset at the end of 2 years (R<sub>2</sub>) is Rs. 2420.

**The MEC or the rate of discount which will equate the future yields of the asset with its supply price is 10% as shown below:**

$$\text{Since } Sp = \frac{R_1}{(1+i)} + \frac{R_2}{(1+i)^2}$$

$$\text{Rs. } 3000 = \frac{1100}{1.10} + \frac{2320}{(1.10)^2}$$

$$\text{Rs. } 3000 = \text{Rs. } 1000 + \text{Rs. } 2000$$

In this way, discounted prospective yields of capital asset can be brought into equality with the current supply price. Thus investment will take place only if the net prospective yield of an asset is greater than its supply price and given the income flow the higher the supply price of the capital asset, the lower will be the rate of discount.

### ***Factors of Marginal Efficiency of Capital (MEC):***

The various factors that bring about shifts in MEC are short run or endogenous factors and long run or exogenous factors.

**The short run factors are:**

#### **1. Expected demand:**

If the demand for the product is expected to be high in future, the MEC will be high and the investment will increase. On the other hand if the demand for the

product is expected to decline in future the MEC will be low and investment will fall.

## **2. Costs and prices:**

If the costs are expected to decline and if the prices are expected to increase, the expectation of the producer will go up. On the other hand if the costs are expected to go up and prices are to decline the MEC will receive a set back and the investment will be less.

## **3. Propensity to consume:**

If the propensity to consume is more than the volume of investment will be more and vice versa.

## **4. Changes in income:**

An increase in the level of income will stimulate investment while a decrease in the level of income will discourage investment.

## **5. Current state of expectation:**

Businessmen while making expectations take into account the current state of affairs regarding costs, prices, returns etc. If they are high the MEC is bound to be high for new projects of investment.

## **6. Level of confidence:**

During period of optimism the businessmen over estimate and boost the MEC of capital assets. During period of pessimism they under estimate and reduce the MEC of capital assets.

## **The long run factors which influence the MEC are as follows:**

### **1. Population growth:**

A rapidly growing population means a rapid increase in the demand for all types of goods and hence investment rises and conversely, a decline in population will decrease the demand investment.

### **2. Development of new areas:**

When a new area is developed heavy investments in all fields such as agriculture, industries, electricity, housing etc., are to be undertaken.

### **3. Technological factors:**

New invention or new discovery may necessitate the installation of new machineries in the industrial enterprise and encourage investment.

#### **4. Productive capacity of the Industry:**

If the existing capacity is fully utilised then any further increase in demand will be met with by making fresh investment on new capital equipment.

#### **5. Level of current investment:**

If the existing level of investment is already high there will be little scope for further investment and vice versa.

#### ***Criticism of the Marginal Efficiency of Capital:***

Keynes used the term marginal efficiency of capital in a vague manner.

Secondly, Keynes failed to recognize that interest rates are also governed by expectations like the marginal efficiency of capital. He considered marginal efficiency of capital in the field of dynamic economics and rate of interest in the field of static economics.

The rate of discount or yield i.e.,  $r$  is conventionally called the Marginal Efficiency of Investment (MEI). Keynes originally called it the 'Marginal Efficiency of Capital'. Brooman says that it is preferable to use a term which refers explicitly to investment (i.e., MEI). The MEI (or MEC) ought to be distinguished from the 'Marginal product of capital' which refers to the increase in current output resulting from the addition of one more unit of capital.

It is clear that the marginal product of capital is a physical quantity similar to the marginal product of any other factor. The MEI is a percentage rate, and not the physical quantity. Again the marginal product of capital does not involve expectations about the yield from the unit of capital during the remainder of its life. But the MEI is very much concerned with such expectations about the yield.

Strictly speaking, however, there is a difference between the MEC and the MEI. The MEC is derived as the relationship between  $i$  (rate of interest) and the optimum level of capital stock. The MEI is derived as the relationship between  $i$  (rate of interest) and the optimum change in capital stock. It can be said by way of corollary that the MEC and the MEI are interrelated. The MEI really indicates the decision to invest whereby there is change in the capital stock. This relationship between investment as the change in capital stock and the actual capital stock presents a difficulty in determining the MEI. If investment is change in capital stock, it can be assumed that the capital stock is fixed once investment is underway.

Keynes recognized this difficulty and sought to overcome it by stating that he was interested in short period changes in investment. In the short period change in investment would be insignificant relative to the entire capital stock; therefore, the impact of investment on capital stock could be ignored.

