



## CHAPTER 1 - INTRODUCTION TO MACRO ECONOMICS

### II. Very Short Answer Questions:

#### 21. Define Macro Economics.

- ❖ The word 'Macro' is derived from the Greek word 'Makros' meaning 'large'.
- ❖ Hence, Macro Economics is the study of the economy as a whole.

#### 22. Define the term 'Inflation'.

- Inflation refers to steady increase in general price level.
- Estimating the general price level by constructing various price index numbers such as Wholesale Price Index, Consumer Price Index, etc, are needed.

#### 23. What is meant by an 'Economy'?

J. R. Hicks defined as, "An economy is a cooperation of producers and workers to make goods and services that satisfy the wants of the consumers."

#### 24. Classify the economies based on status of development.

- ➔ Developed economies
- ➔ Under developed economies
- ➔ Undeveloped economies
- ➔ developing economies

#### 25. What do you mean by Capitalism?

- ❖ The system where the means of production are privately owned and market determines the economic activities.
- ❖ Adam Smith is the 'Father of Capitalism'.

#### 26. Define 'Economic Model'.

- ❖ A model is a simplified representation of real situation.
- ❖ Economists use models to describe economic activities, their relationships and their behaviour.

#### 27. 'Circular Flow of Income' - Define.

The circular flow of income is a model of an economy showing connections between different sectors of an economy. It shows flows of income, goods and services and factors of production.

### III. Short Answer Questions:

#### 28. State the importance of Macro Economics.

- i) There is a need to understand the functioning of the economy at the aggregate level to evolve suitable strategies and to solve the basic problems prevailing in an economy.
- ii) Understanding the future problems, needs and challenges of an economy as a whole is important to evolve precautionary measures.
- iii) Macro economics provides ample opportunities to use scientific investigation to understand the reality.

#### 29. Describe the different types of economic systems.

Economic System refers to the manner in which individuals and institutions are connected together to carry out economic activities in a particular area.

*There are three major types of economic systems.*

1. Capitalistic Economy (Capitalism),
2. Socialistic Economy (Socialism)
3. Mixed Economy (Mixedism)

#### 30. Outline the major merits of capitalism.

1. **Automatic Working:** Without any government intervention, the economy works automatically.
2. **Efficient Use of Resources:** All resources are put into optimum use.

**3. Incentives for Hard work:** Hard work is encouraged and entrepreneurs get more profit for more efficiency.

**4. Economic Progress:** Production and productivity levels are very high in capitalistic economies.

### 31. Indicate the demerits of socialism.

#### 1. Red-Tapism and Bureaucracy:

As decision are taken by government agencies, approval of many officials and movement of files from one table to other takes time and leads to red tapism.

#### 2. Absence of Incentive:

The major limitation of socialism is that this system does not provide any incentive for efficiency. Therefore, productivity also suffers.

#### 3. Limited Freedom of Choice:

Consumers do not enjoy freedom of choice over the consumption of goods and services.

### 32. Enumerate the features of mixed economy.

#### 1. Ownership of Property and Means of Production

The means of production and properties are owned by both private and public. Public and Private have the right to purchase, use or transfer their resources.

#### 2. Coexistence of Public and Private Sectors

In mixed economies, both private and public sectors coexist. Private industries undertake activities primarily for profit. Public sector firms are owned by the government with a view to maximize social welfare.

#### 3. Economic Planning

The central planning authority prepares the economic plans. National plans are drawn up by the Government and both private and public sectors abide.

### 33. Distinguish between Capitalism and Globalism.

Basis of Difference	Capitalism	Globalism
<b>Term coined by</b>	Adam Smith is the 'Father of Capitalism'(1776). Capitalistic economy is also termed as a free economy	The term coined by Manfred D Steger (2002) to denote the new market ideology of globalisation
<b>Meaning</b>	The system where the means of production are privately owned and market determines the economic activities.	An economic system where the economic activities of a nation are inter connected and inter dependent on each other nation.
<b>Feature</b>	The role of the government is minimum and market determines the economic activities.	Connects nations together through International trade and aiming at global development.

### 34. Briefly explain the two sector circular flow model.

#### (i) Household Sector:

- ▲ The household sector is the sole buyer of goods and services, and the sole supplier of factors of production, i.e., land, labour, capital and organisation.
- ▲ The household sector receives income from firm sector by providing the factors of production owned by it.

#### (ii) Firms:

- ◆ The firm sector generates its revenue by selling goods and services to the household sector. It hires the factors of production, i.e., land, labour, capital and organisation, owned by the household sector.

**IV. Long Answer Questions:****35. Discuss the scope of Macro Economics.****i. National Income:**

Measurement of national income and its composition by sectors are the basic aspects of macro economic analysis.

**ii. Inflation:**

Inflation refers to steady increase in general price level. Estimating the general price level by constructing various price index numbers such as Wholesale Price Index, Consumer Price Index, etc,

**iii. Business Cycle:**

Almost all economies face the problem of business fluctuations and business cycle. The cyclical movements in the economy need to be carefully studied based on aggregate economic variables.

**iv. Poverty and Unemployment:**

The major problems of most resource - rich nations are poverty and unemployment. This is one of the economic paradoxes.

**v. Economic Growth:**

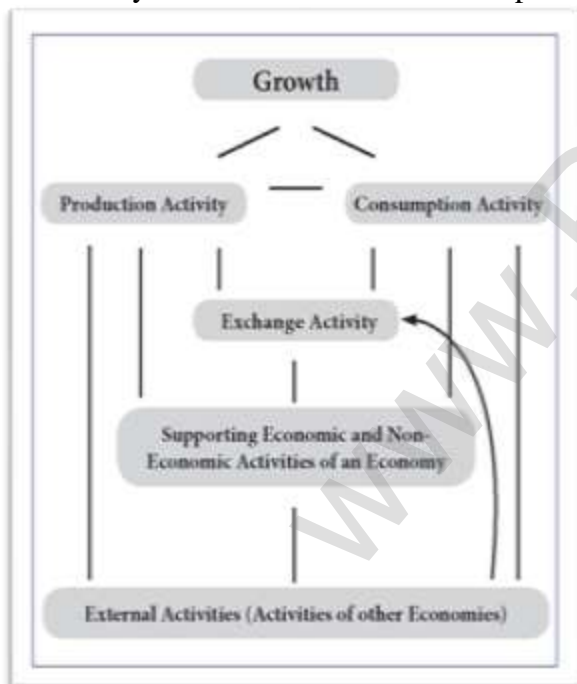
The growth and development of an economy and the factors determining them could be understood only through macro analysis.

**vi. Economic Policies:**

Economic policies are necessary to solve the basic problems, to overcome the obstacles and to achieve growth.

**36. Illustrate the functioning of an economy based on its activities.**

Economic System refers to the manner in which individuals and institutions are connected together to carry out economic activities in a particular area.



★ In an economy, the fundamental economic activities are production and consumption. These two activities are supported by several other activities.

★ The ultimate aim of these activities is to achieve growth.

★ The 'exchange activity' supports the production and consumption activities. These activities are influenced by several economic and non-economic activities.

★ The major economic activities include transportation, banking, advertising, planning, government policy and others.

★ The major non-economic activities are environment, health, education, entertainment, governance, regulations etc.

★ In addition to these supporting activities, external activities from other economies such as import, export,

**37. Compare the features of capitalism and socialism.**

S.No	Features	Capitalism	Socialism
1.	<b>Ownership of Means of Production</b>	Private Ownership	Public Ownership
2.	<b>Economic Motive</b>	Profit	Social Welfare
3.	<b>Solution of Central</b>	Free Market System	Central Planning System

	<b>Problems</b>		
4.	<b>Government Role</b>	Internal Regulation only	Complete Involvement
5.	<b>Income Distribution</b>	Unequal	Equal
6.	<b>Nature of Enterprise</b>	Private Enterprise	Government Enterprise
7.	<b>Economic Freedom</b>	Complete Freedom	Lack of Freedom
8.	<b>Major Problem</b>	Inequality	Inefficiency

### 38. Compare the feature among Capitalism, Socialism and Mixedism.

S.No	Features	Capitalism	Socialism	Mixedism
1.	<b>Ownership</b>	Private Ownership	Public Ownership	Private Ownership and Public Ownership
2.	<b>Economic Motive</b>	Profit	Social Welfare	Social Welfare and Profit Motive
3.	<b>Solution of Central Problems</b>	Free Market System	Central Planning System	Central Planning System and Free Market System
4.	<b>Government Role</b>	Internal Regulation only	Complete Involvement	Limited Role
5.	<b>Income Distribution</b>	Unequal	Equal	Less unequal
6.	<b>Nature of Enterprise</b>	Private Enterprise	Government Enterprise	Both Private and State Enterprises

## Unit 2 : National Income

### II. Very Short Answer Questions:

#### 21. Define National Income.

According to Alfred Marshall, "The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds.

#### 22. Write the formula for calculating GNP.

GNP at Market Prices = GDP at Market Prices + Net Factor income from Abroad.

#### 23. What is the difference between NNP and NDP?

Basis of Difference	NNP	NDP
<b>Meaning</b>	Net National Product refers to the value of the net output of the economy during the year.	NDP is the value of net output of the economy during the year.
<b>Formula</b>	NNP = GNP – depreciation allowance.	Net Domestic Product = GDP - Depreciation.

#### 24. Trace the relationship between GNP and NNP.

Basis of Relationship	GNP	NNP
<b>At Market price</b>	GNP is the total measure of the flow of final goods and services at market value r in a country during a year,	Net National Product refers to the value of the net output of the economy during the year.
<b>Formula</b>	GNP at Market Prices = GDP at Market Prices + Net Factor income.	NNP = GNP – depreciation allowance.



**25. What do you mean by the term 'Personal Income'?**

- ❖ Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in a year.
- ❖ Personal Income = National Income – (Social Security Contribution and undistributed corporate profits) + Transfer payments

**26. Define GDP deflator.**

- GDP deflator is an index of price changes of goods and services included in GDP.
- It is a price index which is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100.

$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

**27. Why is self-consumption difficult in measuring national income?**

- ★ Farmers keep a large portion of food and other goods produced on the farm for self consumption.
- ★ The problem is whether that part of the produce which is not sold in the market can be included in national income or not.

**III. Short Answer Questions:****28. Write a short note on per capita income.**

- ❖ The average income of a person of a country in a particular year is called Per Capita Income. Per capita income is obtained by dividing national income by population.
- ❖ Per Capita income = National Income / Population.

**29. Differentiate between personal and disposable income.**

s.no	Basis of Difference	Personal Income	Disposable Income
1.	<b>Meaning</b>	Personal income is the total income received by the individuals before payment of direct taxes in a year.	Disposable Income is the individuals income after the payment of income tax.
2.	<b>Implication</b>	Personal income is never equal to the national income.	This is the amount available for households for consumption.
3.	<b>Formula</b>	Personal Income = National Income – (Social Security Contribution) + Transfer payments	Disposable Income = Personal income – Direct Tax. Disposal income = consumption + saving.

**30. Explain briefly NNP at factor cost.**

- ❖ NNP refers to the market value of output.
- ❖ Whereas NNP at factor cost is the total of income payment made to factors of production.
- ❖ NNP at factor cost = NNP at Market prices – Indirect taxes + Subsidies.

**31. Give short note on Expenditure method.**

- Under this method, the total expenditure incurred by the society in a particular year is added together.
- To calculate the expenditure of a society, it includes personal consumption expenditure, net domestic investment, government expenditure on consumption as well as capital goods and net exports.

*Symbolically,  $GNP = C + I + G + (X - M)$*

C - Private consumption expenditure

I - Private Investment Expenditure

G - Government expenditure

X-M = Net exports

### 32. What is the solution to the problem of double counting in the estimation of national income?

- ➔ To avoid double counting, either the value of the final output should be taken into the estimate of GNP or the sum of values added should be taken.
- ➔ Double counting is to be avoided under value added method.
- ➔ Any commodity which is either raw material or intermediate good for the final production should not be included.

### 33. Write briefly about national income and welfare

- ❖ National Income is considered as an indicator of the economic wellbeing of a country.
- ❖ The economic progress of countries is measured in terms of their GDP per capita and their annual growth rate.
- ❖ A country with a higher per capita income is supposed to enjoy greater economic welfare with a higher standard of living.

### 34. List out the uses of national income.

- i). To know the relative importance of the various sectors of the economy and their contribution towards national income
- ii). To formulate the national policies such as monetary policy, fiscal policy and other policies
- iii). To formulate planning and evaluate plan progress

#### IV. Long Answer Questions:

### 35. Explain the importance of national income.

*National income is of great importance for the economy of a country. Nowadays the national income is regarded as accounts of the economy, which are known as social accounts.*

#### It enables us,

- To know the relative importance of the various sectors of the economy and their contribution towards national income; from the calculation of national income.
- To formulate the national policies such as monetary policy, fiscal policy and other policies; the proper measures can be adopted to bring the economy to the right path with the help of collecting national income data.
- To formulate planning and evaluate plan progress; it is essential that the data pertaining to a country's gross income, output, saving and consumption from different sources should be available for economic planning.
- To build economic models both in short - run and long - run.
- To know a country's per capita income which reflects the economic welfare of the country.
- To know the distribution of income for various factors of production in the country.

### 36. Discuss the various methods of estimating the national income of a country.

#### Introduction

★ National Income can be computed at any of three levels, viz., production, income and expenditure.

1. Production or value added method
2. Income method or factor earning method
3. Expenditure method

$$\text{Output} = \text{Income} = \text{Expenditure}$$

#### 1. Product Method

Product method measures the output of the country. It is also called inventory method. Under this method, the gross value of output from different sectors like agriculture, industry, trade and commerce, etc., is obtained for the entire economy during a year.

**Steps Involved**

The value of the final product is derived by the summation of all the values added in the productive process. To avoid double counting, either the value of the final output.

**Precautions**

1. Double counting is to be avoided under value added method.
2. The value of output used for self consumption should be counted while measuring national income.

**2. Income Method (Factor Earning Method)**

This method approaches national income from the distribution side. Under this method, national income is calculated by adding up all the incomes generated in the course of producing national product.

**Steps involved**

1. The enterprises are classified into various industrial groups.
  - i) **Labour income** - Wages and salaries, fringe benefits, employer's contribution to social security.
  - ii) **Capital income** – Profit, interest, dividend and royalty
  - iii) **Mixed income** – Farming, sole proprietorship and other professions.

**Precautions**

**Items not to be included-** Transfer payments are not to be included in estimation of national income

**Items to be included-** Imputed value of rent for self occupied houses or offices is to be included.

**37. What are the difficulties involved in the measurement of national income?****1. Transfer payments**

Government makes payments in the form of pensions, unemployment allowance, subsidies, etc. These are government expenditure. But they are not included in the national income.

**2. Difficulties in assessing depreciation allowance**

The deduction of depreciation allowances, accidental damages, repair and replacement charges from the national income is not an easy task.

**3. Unpaid services**

A housewife renders a number of useful services like preparation of meals, serving, tailoring, mending, washing, cleaning, bringing up children, etc.

**4. Income from illegal activities**

Income earned through illegal activities like gambling, smuggling, illicit extraction of liquor, etc., is not included in national income.

**5. Production for self-consumption and changing price**

Farmers keep a large portion of food and other goods produced on the farm for self consumption.

**6. Capital Gains**

The problem also arises with regard to capital gains. Capital gains arise when a capital asset such as a house, other property, stocks or shares, etc.

**38. Discuss the importance of social accounting in economic analysis.****National Income and Social Accounting**

- National income is also being measured by the social accounting method.
- Under this method, the transactions among various sectors such as firms, households, government, etc.,
- Social Accounting and Sector Under this method, the economy is divided into several sectors.

**The Importance of social accounting are as follows:****(1) In Classifying Transactions:**

Economic activity in a country involves innumerable transactions relating to buying and selling, paying and receiving income, exporting and importing, paying taxes, etc.



**(2) In Understanding Economic Structure:**

Social accounting helps us to understand the structure of the body economic.

**(3) In Understanding Different Sectors and Flows:**

Social accounts throw light on the relative importance of the different sectors and flows in the economy. (Eg): production sector, consumption sector, investment sector and the rest of the world sector

**(4) In Clarifying Relations between Concepts:**

Social accounts help in clarifying the relationships between such related concepts as net national product at factor cost and gross national product at market prices.

**(5) In Guiding the Investigator:**

Social accounts are a guide for the economic investigator by indicating the type of data which might be collected for analysing the behaviour of the economy.

## Chapter 3 Theories of Employment and Income

### II. Very Short Answer Questions:

**21. Define full employment.**

Keynes defines full employment as the absence of involuntary unemployment.

**22. What is the main feature of rural unemployment?**

The main feature of rural unemployment is the existence of unemployment in the form of disguised unemployment and seasonal unemployment.

**23. Give short note on frictional unemployment.**

- Frictional unemployment arises due to imbalance between supply of labour and demand for labour.
- This is because of immobility of labour, lack of necessary skills, break down of machinery, shortage of raw materials etc.

**24. Give reasons for labour retrenchment at present situation.**

The Industrial Dispute Act, 1947 states that 'retrenchment means termination of service of a workman by an employer for any reason whatsoever.

**25. List out the assumptions of Say's law.**

1. No single buyer or seller of commodity or an input can affect price.
2. Full employment.
3. People are motivated by self interest and self – interest determines economic decisions.
4. Money acts only as a medium of exchange.

**26. What is effective demand ?**

Effective demand denotes money actually spent by the people on products of industry. The money which entrepreneurs receive is paid in the form of rent, wages, interest and profit.

$$ED = Y = C + I = \text{Output} = \text{Employment}$$

**27. What are the components of aggregate supply ?**

$$\text{Aggregate Supply} = C + S + T + R_f = \text{Aggregate income generated in the economy}$$

1. consumption expenditure (C)
2. private savings (S)
3. Net tax payments (T)
4. Personal (desired) transfer payments to the foreigners (Rf)

**III. Short Answer Questions:****28. Explain the following in short****(i) Seasonal unemployment**

This type of unemployment occurs during certain seasons of the year. In agriculture and agro based industries like sugar, production activities are carried out only in some seasons.

**(ii) Frictional unemployment**

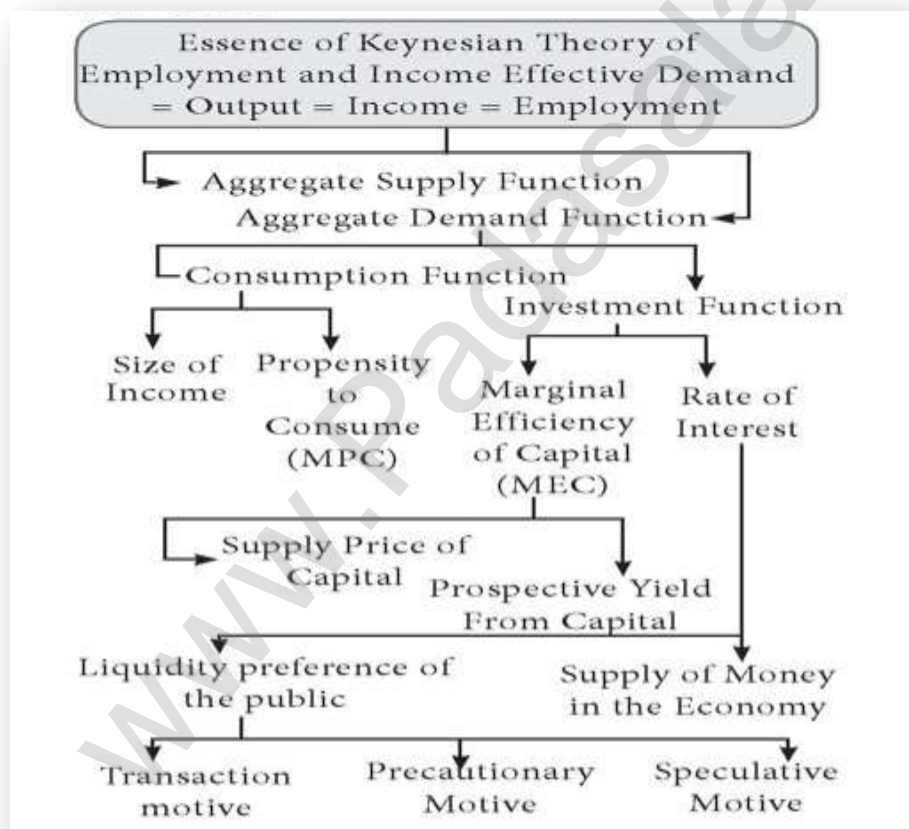
Frictional unemployment arises due to imbalance between supply of labour and demand for labour. This is because of immobility of labour, break down of machinery, shortage of raw materials etc.

**(iii) Educated unemployment**

Sometimes educated people are underemployed or unemployed when qualification does not match the job. Faulty education system, lack of employable skills.

**30. Write short note on the implications of Say's law.**

1. There is no possibility for over production or unemployment.
2. As automatic price mechanism operates in the economy, there is no need for government intervention.
3. Interest flexibility brings about equality between saving and investment.
4. Money performs only the medium of exchange function in the economy.

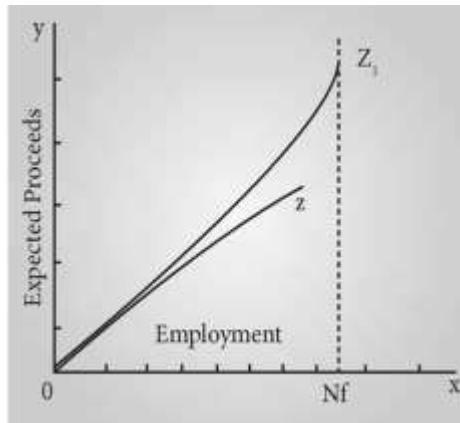
**31. Explain Keynes' theory in the form of flow chart.****32. What do you mean by aggregate demand? Mention its components.**

- ❖ The aggregate demand is the amount of money which entrepreneurs expect to get by selling the output produced by the number of labourers employed.
- ❖ It is the expected income or revenue from the sale of output at different levels of employment.
- ❖ Aggregate demand are: 1. Consumption demand 2. Investment demand 3. Government expenditure and 4. Net Export ( export – import )

$$AD = C + I + G + (X - M)$$

### 33. Explain about aggregate supply with the help of diagram.

- Aggregate supply refers to the value of total output of goods and services produced in an economy in a year.
- **Aggregate Supply = C + S + T + Rf = Aggregate income generated in the economy**



- ➔ Z curve is linear where money wages remains fixed;
- ➔ Z1 curve is non - linear since wage rate increases with employment.
- ➔ When full employment level of Nf is reached it is impossible to increase output by employing more men.
- ➔ The slope of the aggregate supply curve depends on the relation between the employment and productivity.
- ➔ The aggregate supply depends on the relationship between price and wages.

### 34. Write any five differences between classism and Keynesianism.

S.No	Keynesianism	Classicism
1.	Short-run equilibrium	Long-run equilibrium
2.	Saving is a vice	Saving is a social virtue.
3.	Macro approach to national problem	Micro foundation to macro problems
4.	State intervention is advocated	Champions of Laissez-fair policy

#### IV. Long Answer Questions:

### 35. Describe the types of unemployment.

#### Introduction

Unemployment is problem faced when there are people, who are willing to work and able to work but cannot find suitable jobs.

#### Types of unemployment

##### 1. Cyclical Unemployment

- ▲ unemployment exists during the downturn phase of trade cycle in the economy.
- ▲ In a business cycle during the period of recession and depression, income and output fall.

##### 2. Seasonal Unemployment

- unemployment occurs during certain seasons of the year.
- In agriculture and agro based industries like sugar, production activities are only in some season.

##### 3. Frictional Unemployment (Temporary Unemployment)

- ◇ Frictional unemployment arises due to imbalance between supply of labour and demand for labour.
- ◇ This is because of immobility of labour, lack of necessary skills, break down of machinery, shortage of raw materials etc.

##### 4. Educated Unemployment

Sometimes educated people are underemployed or unemployed when qualification does not match the job.

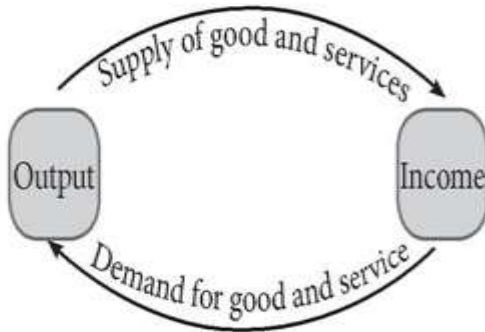
##### 5. Technical Unemployment

Modern technology being capital intensive requires less labourers and contributes to technological unemployment.

### 36. Critically explain Say's law of market.

#### Say's Market Law

- According to Say, "When goods are produced by firms in the economy, they pay reward to the factors of production.
- The households after receiving rewards of the factors of production spend the amount on the purchase of goods and services produced by them.



#### Assumptions of Say's law.

1. No single buyer or seller of commodity or an input can affect price.
2. Full employment.
3. People are motivated by self interest.
4. There will be a perfect competition in labour and product market.
5. There is wage-price flexibility.
6. Money acts only as a medium of exchange.
7. Long - run analysis.
8. There is no possibility for over production or unemployment.

#### Implications of Say's law.

1. There is no possibility for over production or unemployment.
2. As automatic price mechanism operates in the economy, there is no need for government intervention.
3. Money performs only the medium of exchange function in the economy.

#### Criticisms of Say's Law

1. According to Keynes, supply does not create its demand.
2. Automatic adjustment process will not remove unemployment.
3. Money is not neutral. Individuals hold money for unforeseen contingencies while businessmen keep cash reserve for future activities.

### 37. Narrate the equilibrium between ADF and ASF with diagram.

#### Equilibrium between ADF and ASF

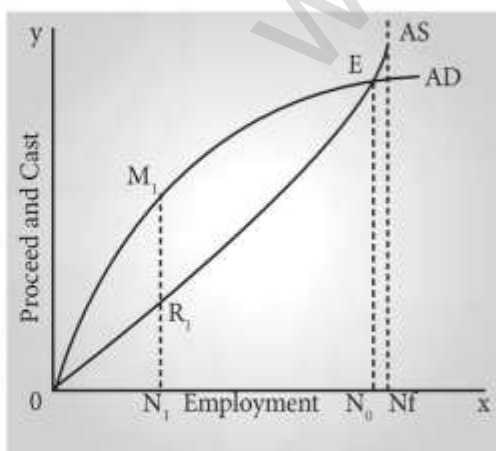
(i) Under the Keynes theory of employment, a simple two sector economy consisting of the households sector and the business sector is taken to understand the equilibrium between ADF and ASF.

(ii) All the decisions concerning consumption expenditure are taken by the individual households, while the business firms take decisions concerning investment.

(iii) It is also assumed that consumption function is linear and planned investment is autonomous.

There are two approaches

1. Aggregate demand - Aggregate supply approach
2. Saving - Investment approach



#### Diagram explanation :

(i) In the figure, the aggregate demand and aggregate supply reach equilibrium at point - E.

(ii) The employment level is  $N_0$  at that point.

(iii) At  $ON_1$  employment, the aggregate supply is  $N_1 R_1$

(iv) They are able to produce  $M_1 N_1$

(v) The expected level of profit is  $M_1 R_1$

(vi) To attain this level of profit, entrepreneurs will employ more labourers.

**38. Explain the differences between classical theory and Keynes theory.**

S.NO	DIFFERENCES	CLASSICAL THEORY	KEYNES THEORY
1.	<i>Equilibrium</i>	Long-run equilibrium	Short-run equilibrium
2.	<i>Savings and Investment</i>	Saving and investment equilibrium through interest rate	Saving and investment equilibrium through income levels
3.	<i>Money</i>	The function of money is to act as a medium of exchange	The function of money is a medium of exchange.
4.	<b>Approach</b>	Micro foundation to macro Problems	Macro approach to national Problems
5.	<i>Intervention</i>	No government intervention	Government intervention is necessary for stabilization of economy
6.	<i>Employment</i>	Full employment	Unemployment and under employment are possible
7.	<i>Output</i>	Supply determined	Aggregate demand determined
8.	<i>Economic System</i>	Laissez faire policy.	Discard Laissez faire.

## Unit 4: Consumption and Investment

### II. Very Short Answer Questions:

#### 21. What is consumption function?

- ❖ The consumption function or propensity to consume refers to income consumption relationship.
- ❖ It is a “functional relationship between two aggregates viz., total consumption and gross national income.” [C= f (Y)]

#### 22. What do you mean by propensity to consume?

- Propensity to consume refers to income consumption relationship.
- When income increases consumption also increases.

#### 23. Define average propensity to consume (APC).

The average propensity to consume is the ratio of consumption expenditure to any particular level of income.” Algebraically it may be expressed as under:  $APC = \frac{C}{Y}$  (Consumption)  
(Income)

#### 24. Define marginal propensity to consume (MPC).

The marginal propensity to consume may be defined as the ratio of the change in the consumption to the change in income. it may be expressed as under:  $MPC = \frac{\Delta C}{\Delta Y}$

Where,  $\Delta C$  = Change in Consumption.  $\Delta Y$  = Change in Income

#### 25. What do you mean by propensity to save?

- ⤴ The propensity to save refers to income savings relationship.
- ⤴ Saving function is a “functional relationship between two aggregates viz., total savings and gross national income.” (S = f (Y) S = Savings Y = Income f = Function)

#### 26. Define average propensity to save (APS).

- ❖ The average propensity to save is the ratio of saving to income.
- ❖ APS is the quotient obtained by dividing the total saving by the total income.
- ❖ It can be expressed  $APS = \frac{S}{Y}$

Where, S = Saving. Y = Income



**27. Define Marginal Propensity to Save (MPS).**

- ★ Marginal Propensity to Save is the ratio of change in saving to a change in income.
- ★ MPS is obtained by dividing change in savings by change in income.

$$MPS = \frac{\Delta S}{\Delta Y}$$

$\Delta S$  – Change in Saving.  $\Delta Y$  – Change in Income

**28. Define Multiplier.**

- ◆ The multiplier is defined as the ratio of the change in national income to change in investment.
- ◆ If  $\Delta I$  stands for increase in investment and  $\Delta Y$  stands for resultant increase in income, the multiplier  $K = \Delta Y / \Delta I$ .

**29. Define Accelerator.**

Accelerator is the numerical value of the relation between an increase in consumption and the resulting increase in investment. Accelerator ( $\beta$ ) =  $\frac{\Delta I}{\Delta C}$

**III. Short Answer Questions:****30. State the propositions of Keynes's Psychological Law of Consumption**

**(1) When income increases, consumption expenditure also increases but by a smaller amount.**

The reason is that as income increases, our wants are satisfied side by side, so that the need to spend more on consumer goods diminishes.

**(2) The increased income will be divided in some proportion between consumption expenditure and saving.**

This follows from the first proposition because when the whole of increased income is not spent on consumption, the remaining is saved.

**(3) Increase in income always leads to an increase in both consumption and saving.**

This means that increased income is unlikely to lead to fall in either consumption or saving.

**31. Differentiate autonomous and induced investment.**

Basics	Autonomous Investment	Induced Investment
Meaning	Independent	Planned
Elasticity	Income inelastic	Income elastic
Motive	Welfare motive	Profit Motive
Diagram		

**32. Explain any three subjective and objective factors influencing the consumption function.****A) Subjective Factors**

- 1. The motive of precaution:** To build up a reserve against unforeseen contingencies.
- 2. The motive of foresight:** The desire to provide for anticipated future needs. Eg. Old age
- 3. The motive of calculation:** The desire to enjoy interest and appreciation.

**B) Objective Factors**

- 1) Income Distribution:** There is large disparity between rich and poor.
- 2) Price level:** When the price falls, real income goes up;
- 3) Wage level** Wage level plays an important role in determining the consumption function.

**33. Mention the differences between accelerator and multiplier effect**

S.No	BASIS	ACCELERATOR	MULTIPLIER
1.	Meaning	The accelerator coefficient is the ratio between induced investment and an initial change in consumption	The multiplier is defined as the ratio of the change in national income to change in investment.
2.	Effect	Change in consumption expenditure forms the effect	Change in Investment forms the effect
3.	Formula	$\beta = \Delta I / \Delta C$	$K = \Delta Y / \Delta I$

**34. State the concept of super multiplier.****Meaning of Super Multiplier**

- In order to measure the total effect of initial investment on income, Hicks has combined the  $k$  and  $\beta$  mathematically and given it the name of the Super Multiplier.
- The super multiplier is worked out by combining both induced consumption and induced investment.
- The combined name of the super multiplier and the accelerator is also called the leverage effect. which may lead the economy to very high or low level of income propagation.  $Y = C + IA + IP$

**35. Specify the limitations of the multiplier.**

The multiplier assumes that those who earn income are likely to spend a proportion of their additional income on consumption. But in practice, people tend to spend their additional income on other items. Such expenses are known as leakages. These leakages are the limitations of the multiplier.

- ➔ Payment towards past debts.
- ➔ Purchase of existing wealth
- ➔ Import of goods and services

**IV. Long Answer Questions:****36. Explain Keynes psychological law of consumption function with diagram.****Meaning of Psychological law of consumption**

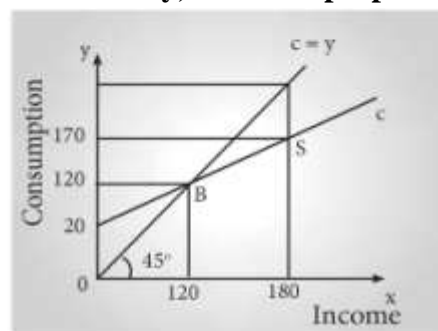
The law implies that there is a tendency on the part of the people to spend on consumption less than the full increment of income.

**Assumptions:**

1. The other variables such as income distribution, tastes, habits, social customs, price movements, population growth, etc. do not.
2. **Existence of Normal Conditions:** The law holds good under normal conditions. People may spend the whole of increased income on consumption.
3. **Existence of a Laissez-faire Capitalist Economy:** The law operates in a rich capitalist economy where there is no government intervention.

**The three propositions of the law**

Income Y	Consumption C	Savings S = Y - C
120	120	0
180	170	10
240	220	20

**Diagrammatically, the three propositions**

**Explanations**

**Proposition (1):** When income increases from 120 to 180 consumption also increases from 120 to 170 but the increase in consumption is less than the increase in income, 10 is saved.

**Proposition (2):** When income increases to 180 and 240, it is divided in some proportion between consumption by 170 and 220 and saving by 10 and 20 respectively.

**Proposition (3):** Increases in income to 180 and 240 lead to increased consumption 170 and 220 and increased saving 20 and 10 than before.

**37. Briefly explain the subjective and objective factors of consumption function?****A) Subjective Factors**

1. The motive of precaution: To build up a reserve against unforeseen contingencies. Eg. Accidents, sick.
2. The motive of foresight: The desire to provide for anticipated future needs. Eg. Old age
3. The motive of calculation: The desire to enjoy interest and appreciation.
4. The motive of improvement: The desire to enjoy for improving standard of living.

**B) Objective Factors****1) Income Distribution**

If there is large disparity between rich and poor, the consumption is low because the rich people have low propensity to consume and high propensity to save.

**2) Price level**

Price level plays an important role in determining the consumption function. When the price falls, real income goes up.

**3) Wage level**

Wage level plays an important role in determining the consumption function and there is positive relationship between wage and consumption.

**4) Fiscal Policy**

When government reduces the tax the disposable income rises and the propensity to consume of community increases.

**38. Illustrate the working of Multiplier****Definition of Multiplier**

- The multiplier is defined as the ratio of the change in national income to change in investment.
- If  $\Delta I$  stands for increase in investment and  $\Delta Y$  stands for resultant increase in income, the multiplier  $K = \Delta Y / \Delta I$ .

**The value of multiplier depends on MPC**

Multiplier  $K = 1 / 1 - MPC$

- The multiplier is the reciprocal of one minus marginal propensity to consume. Since marginal propensity to save is  $1 - MPC$ . ( $MPC + MPS = 1$ ).
- Multiplier is  $1 / MPS$ .
- **Working of Multiplier – Illustration**
- ✧ Suppose the Government undertakes investment expenditure equal to Rs.100 crore on some public works, by way of wages, price of materials etc.
- ✧ Thus income of labourers and suppliers of materials increases by Rs.100 crore. Suppose the MPC is 0.8 that is 80%. A sum of Rs.80 crores is spent on consumption (Rs.20 Crores is saved).
- ✧ As a result, suppliers of goods get an income of Rs.80 crores. They in turn spend Rs.64 crores (80% of Rs.80 cr).
- ✧ In this manner consumption expenditure and increase in income act in a chain like manner.

**The final result is  $\Delta Y = 100 + 100 \times 4/5 + 100 \times [4/5]^2 + 100 \times [4/5]^3 + \dots$**

### 39. Explain the operation of the Accelerator.

#### Meaning of Accelerator

$$\text{Accelerator } (\beta) = \frac{\Delta I}{\Delta C}$$

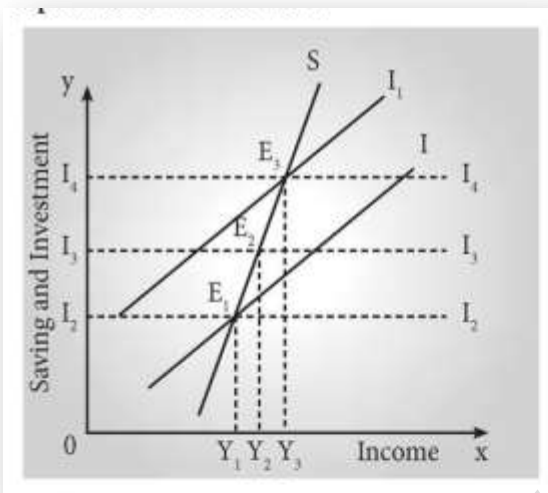
$\Delta I$  = Change in investment outlays (say 100)

$\Delta C$  = Change in consumption demand (Say 50)

#### Operation of the Acceleration Principle

- ★ Let us suppose that in order to produce 1000 consumer goods, 100 machines are required. Also suppose that working life of a machine is 10 years.
- ★ This means that every year 10 machines have to be replaced in order to maintain the constant flow of 1000 consumer goods. This might be called replacement demand.
- ★ Suppose that demand for consumer goods rises by 10 percent (ie from 1000 to 1100). This results in increase in demand for 10 more machines.
- ★ So that total demand for machines is 20. (10 for replacement and 10 for meeting increased demand). It may be noted here a 10 percent increase in demand for consumer goods causes a 100 percent increase in demand for machines (from 10 to 20).

#### Diagrammatic illustration:



#### Operation of Accelerator.

→ SS is the saving curve. II is the investment curve. At point E1, the economy is in equilibrium with OY1 income. Saving and investment are equal at OI2.

→ Now, investment is increased from OI2 to OI4. This increases income from OY1 to OY3, the equilibrium point being E3. If the increase in investment by I2 I4 is purely exogenous, then the increase in income by Y1 Y3 would have been due to the multiplier effect.

→ But in this diagram it is assumed that exogenous investment is only by I2 I3 and induced investment is by I3 I4.

→ Therefore, increase in income by Y1 Y2 is due to the multiplier effect and the increase in income by Y2 Y3 is due to the accelerator effect.

### 40. What are the differences between MEC and MEI.

S.NO	Marginal Efficiency of Capital (MEC)	Marginal Efficiency of Investment (MEI)
1.	It is based on a given supply price for capital.	It is based on the induced change in the price due to change in the demand for capital.
2.	It represents the rate of return on all successive units of capital without regard to existing capital.	It shows the rate of return on just those units of capital over and above the existing capital stock.
3.	The capital stock is taken on the X axis of diagram.	The amount of investment is taken on the X-axis of diagram.
4.	It is a "Stock" concept.	It is a "flow" concept.
5.	It determines the optimum capital stock in an economy at each level of interest rate.	It determines the net investment of the economy at each interest rate given the capital stock.

## Chapter 5 Monetary Economics

### II. Very Short Answer Questions:

#### 21. Define Money.

“Money can be anything that is generally acceptable as a means of exchange and at the same time acts as a measure and a store of value”. – Crowther.

#### 22. What is barter?

- ❖ Exchange of goods for goods is known as “Barter Exchange”
- ❖ In a barter system, the commodities and services were directly exchanged for other commodities and services.

#### 23. What is commodity money?

In order to function as money, the commodity had to be widely acceptable, which means that everyone had to be willing to accept it as a payment for goods or services.

#### 24. What is gold standard?

- ★ Gold Standard is a system in which the value of the monetary unit or the standard currency is directly linked with gold.
- ★ The monetary unit is defined in terms of a certain weight of gold.

#### 25. What is plastic money? Give example.

Plastic money is a term that is used predominantly in reference to the hard plastic cards used every day in place of actual bank notes. such as *Cash cards, Credit cards, Debit cards.*

#### 26. Define inflation.

- “Too much of Money chasing too few goods” - Coulbourn
- “A state of abnormal increase in the quantity of purchasing power”- Gregorye

#### 27. What is Stagflation?

- ▲ Stagflation is a combination of stagnant economic growth, high unemployment and high inflation.
- ▲ It is the co-existence of a high rate of unemployment and inflation.

### III. Short Answer Questions:

#### 28. Write a note on metallic money.

- ❖ Under metallic standard, some kind of metal either gold or silver is used to determine the standard value of the money and currency.
- ❖ Standard coins made out of the metal are the principal coins used under the metallic standard.
- ❖ These standard coins are full bodied or full weighted legal tender. Their face value is equal to their intrinsic metal value.

#### 29. What is money supply?

- Money supply means the total amount of money in an economy.
- It refers to the amount of money which is in circulation in an economy at any given time.
- Money supply plays a crucial role in the determination of price level and interest rates.
- Money supply viewed at a given point of time is a stock and over a period of time it is a flow.

#### 30. What are the determinants of money supply?

1. Currency Deposit Ratio (CDR); It is the ratio of money held by the public in currency to that they hold in bank deposits.
2. Reserve deposit Ratio (RDR); Reserve Money consists of two things  
(a) vault cash in banks and (b) deposits of commercial banks with RBI.
3. Cash Reserve Ratio (CRR); It is the fraction of the deposits the banks must keep with RBI.



**31. Write the types of inflation.**

<b>On the basis of speed</b> (i) Creeping inflation (ii) Walking inflation (iii) Running inflation and (iv) Galloping inflation or Hyper-inflation.	<b>On the basis of demand and cost:</b> (i) Demand-Pull Inflation (ii) Cost-Push Inflation	<b>On The Basis Of Inducement:</b> (i) Currency inflation (ii) Credit inflation (iii) Deficit induced inflation (iv) Profit induced inflation (v) Scarcity induced inflation (vi) Tax induced inflation
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**32. Explain Demand-pull and Cost push inflation.****(i) Demand-Pull Inflation:**

Demand and supply play a crucial role in deciding the inflation levels in the society at all points of time. For instance, if the demand is high for a product and supply is low, the price of the products increases.

**(ii) Cost-Push Inflation:**

When the cost of raw materials and other inputs rises inflation results. Increase in wages paid to labour also leads to inflation.

**33. State Cambridge equations of value of money.****i) Marshall's Equation**

The Marshall equation is expressed as:  $M = KPY$

Where

- ♦ M is the quantity of money
- ♦ Y is the aggregate real income of the community
- ♦ P is Purchasing Power of money
- ♦ K represents the fraction of the real income which the public desires to hold in the form of money.

Thus, the price level  $P = M/KY$  or the value of money (The reciprocal of price level) is  $1/P = KY/M$

**ii) Keynes' Equation**

Keynes equation is expressed as:  $n = pk$  (or)  $p = n / k$

Where

- n is the total supply of money
- p is the general price level of consumption goods
- k is the total quantity of consumption units the people decide to keep in the form of cash,

Keynes indicates that K is a real balance, because it is measured in terms of consumer goods.

**34. Explain disinflation.**

- ❖ Disinflation is the slowing down the rate of inflation by controlling the amount of credit (bank loan, hire purchase) available to consumers without causing more unemployment.
- ❖ Disinflation may be defined as the process of reversing inflation without creating unemployment or reducing output in the economy.

**IV. Long Answer Questions:****35. Illustrate Fisher's Quantity theory of money.**

The general form of equation given by Fisher:  $MV = PT$

- ❖ Fisher points out that in a country during any given period of time, the total quantity of money (MV) will be equal to the total value of all goods and services bought and sold (PT).
- ❖ Supply of Money = Demand for Money This equation is referred to as "Cash Transaction Equation".

$M = \text{Money Supply/quantity of Money}$        $V = \text{Velocity of Money}$

$P = \text{Price level}$

$T = \text{Volume of Transaction.}$

### Extended Form of equation

Fisher extended his original equation of exchange to include bank deposits  $M_1$  and its velocity  $V_1$ . The revised equation was:

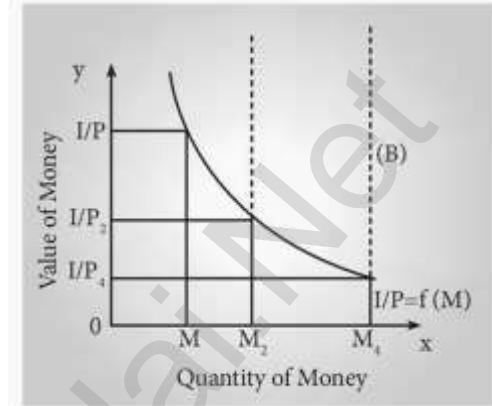
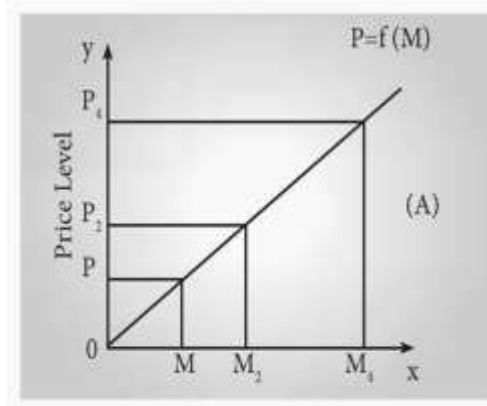
$$PT = MV + M_1V_1$$

$$P = \frac{MV + M_1V_1}{T}$$

(a) the quantity of money in circulation 'M'

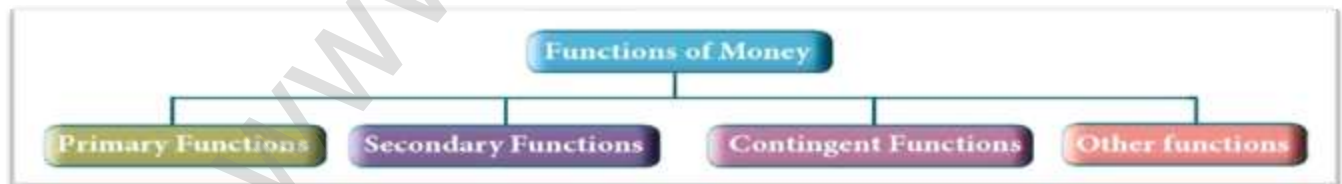
(b) the velocity of circulation of money 'V'

(c) the volume of bank credit money  $M_1$  (d) the velocity of circulation of credit money  $V_1$  and the volume of trade (T)



- ★ **Figure (1)** shows the effect of changes in the quantity of money on the price level. When the quantity of money is  $OM$ , the price level is  $OP$ .
- ★ When the quantity of money is doubled to  $OM_2$ , the price level is also doubled to  $OP_2$ .
- ★ Further, when the quantity of money is increased four-fold to  $OM_4$ , the price level also increases by four times to  $OP_4$ .
- ◇ **Figure (2)** shows the inverse relation between the quantity of money and the value of money, where the value of money is taken on the vertical axis.
- ◇ With the quantity of money increasing by four-fold to  $OM_4$ , the value of money is reduced by  $OI / P_4$ .
- ◇ This inverse relationship between the quantity of money and the value of money is shown by downward sloping curve  $1 / OP = f(M)$ .

### 36. Explain the functions of money.



#### 1. Primary Functions

- i) **Money as a medium of exchange:** Money has the quality of general acceptability, and all exchanges take place in terms of money.
- ii) **Money as a measure of value:** The second important function of money is that it measures the value of goods and services.

#### 2. Secondary Functions:

- i) **Money as a Store of value:** Savings done in terms of commodities were not permanent. This difficulty has now disappeared and savings are now done in terms of money.
- ii) **Money as a Standard of Deferred Payments:** In the absence of money, the borrowed amount could be returned only in terms of goods and services.

**3. Contingent Functions:**

i) **Basis of the Credit System:** Money is the basis of the Credit System. Business transactions are either in cash or on credit.

ii) **Money facilitates distribution of National Income:** The task of distribution of national income was exceedingly complex under the barter system.

**4. Other Functions:**

i) **Money helps to maintain Repayment Capacity:** To maintain its repayment capacity, every firm has to keep assets in the form of liquid cash.

ii) **Money represents Generalized Purchasing Power:** Purchasing power kept in terms of money can be put to any use.

**37. What are the causes and effects of inflation on the economy?**

i) **Increase in Money Supply:** Inflation is caused by an increase in the supply of money which leads to increase in aggregate demand.

ii) **Increase in Public Expenditure:** Government activities have been expanding due to developmental activities and social welfare programmes.

iii) **Cheap Monetary Policy:** Cheap monetary policy or the policy of credit expansion also leads to increase in the money supply

iv) **Deficit Financing:** In order to meet its mounting expenses, the government resorts to deficit financing by borrowing from the public and even by printing more notes.

**Effects of Inflation**

The effects of inflation can be classified into two heads:

(1) Effects on Production (2) Effects on Distribution.

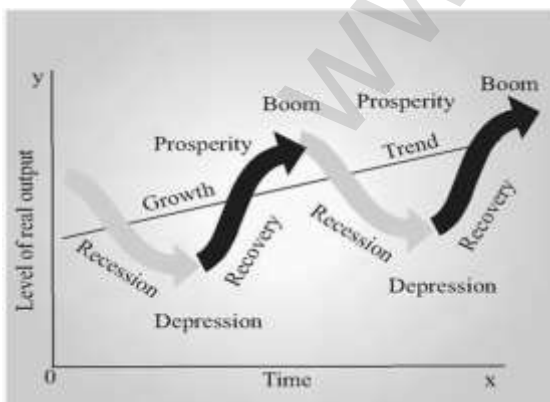
**1. Effects on Production:**

- ★ The profit due to rising prices encourages and induces business class to increase their investments in production, leading to generation of employment and income.
- ★ However, hyper-inflation results in a serious depreciation of the value of money and it discourages savings

**2. Effects on Distribution**

i) **Debtors and Creditors:** During inflation, debtors are the gainers while the creditors are losers.

ii) **Fixed-income Groups:** The fixed income groups are the worst hit during inflation because their incomes being fixed do not bear any relationship with the rising cost of living.

**38. What are the causes and effects of inflation on the economy?**

i) **Boom or Prosperity Phase:** The full employment and the movement of the economy beyond full employment is characterized as boom period.

ii) **Recession:** The turning point from boom condition is called recession. This happens at higher rate, than what was earlier.

iii) **Depression:** During depression the level of economic activity becomes extremely low. Firms incur losses and closure of business becomes a common feature and the ultimate result is unemployment.

iv. **Recovery:** After a period of depression, recovery sets in. This is the turning point from depression to revival towards upswing. It begins with the revival of demand for capital goods.

## Chapter6 Banking

### II. Very Short Answer Questions:

#### 21. Define Commercial banks.

Commercial bank refers to a bank, or a division of a large bank, which more specifically deals with deposit and loan services provided to corporations, individual members of the public/small business.

#### 22. What is credit creation?

- ❖ Credit Creation means the multiplication of loans and advances.
- ❖ Commercial banks receive deposits from the public and use these deposits to give loans.

#### 23. Define Central bank.

- ❖ A central bank, reserve bank, or monetary authority is an institution that manages a state's currency, money supply, and interest rates.

#### 24. Distinguish between CRR and SLR.

S.NO	BASIS FOR COMPARISON	CRR	SLR
1.	Meaning	CRR is the percentage of money which the bank has to keep with the Central Bank of India in the form of cash.	The bank has to keep a certain percentage of their Net Time and Demand Liabilities in the form of liquid assets as specified by RBI.
2.	Form	Cash	Cash and other assets like gold and government securities viz.

#### 25. Write the meaning of Open market operations.

- ❖ **In narrow sense**, the Central Bank starts the purchase and sale of Government securities in the money market.
- ❖ **In Broad Sense**, the Central Bank purchases and sells not only Government securities but also other proper eligible securities like bills and securities of private concerns.

#### 26. What is rationing of credit?

- ❖ This is the oldest method of credit control.
- ❖ It aims to control and regulate the purposes for which credit is granted by commercial banks.

#### 27. Mention the functions of agriculture credit department.

- To maintain an expert staff to study all questions on agricultural credit.
- To provide expert advice to Central and State Government, State Co-operative Banks and other banking activities.

### III. Short Answer Questions:

#### 28. Write the mechanism of credit creation by commercial banks.

- ❖ Credit Creation means the multiplication of loans and advances.
- ❖ Banks have the power to expand or contract demand deposits and they exercise this power through granting more or less loans and advances and acquiring other assets.
- ❖ This power of commercial bank to create deposits through expanding their loans and advances is known as credit creation.

#### 29. Give a brief note on NBFI.

A non-banking financial institution (NBFI) or non-bank financial company (NBFC) is a financial institution that does not have a full banking license or is not supervised by the central bank.

- ★ The NBFIs do not carry on pure banking business, but they will carry on other financial transactions.
- ★ NBFIs can be broadly classified into two categories. Viz., (1) Stock Exchange (2) Other Financial institutions.

**30. Bring out the methods of credit control.****Methods of Credit Control**

<b>General (Quantitative)</b>	<b>Selective (Quantitative)</b>
1. Bank Rate 2. Open Market Operations 3. Variable Cash Reserve Ratio	1. Rationing of Credit 2. Direct Action 3. Moral suasion 4. Publicity 5. Regulation of Consumer's Credit 6. Marginal Requirements

**31. What are the functions of NABARD?**

- ✘ NABARD acts as a refinancing institution for all kinds of production and investment credit to agriculture, small-scale industries, cottage and village industries, handicrafts
- ✘ It provides short-term, medium-term and long-term credits to state cooperative Banks (SCBs), RRBs, LDBs
- ✘ It maintains a Research and Development Fund to promote research in agriculture and rural development.

**32. Specify the functions of IFCI.**

- ▲ Long-term loans; both in rupees and foreign currencies.
- ▲ Underwriting of equity, preference and debenture issues.
- ▲ Guaranteeing the deferred payments in respect of machinery imported from abroad or purchased in India;
- ▲ Guaranteeing of loans raised in foreign currency from foreign financial institutions.

**33. Distinguish between money market and capital market.**

<b>BASIS FOR COMPARISON</b>	<b>MONEY MARKET</b>	<b>CAPITAL MARKET</b>
<b>Meaning</b>	The mechanism through which short term funds are loaned and borrowed.	System which is concerned with raising capital by dealing in shares, bonds and other long term investments.
<b>Financial instruments</b>	Treasury Bills, Commercial Papers, Certificate of Deposit, Trade Credit etc.	Shares, Debentures, Bonds, Retained Earnings, Asset Securitization, Euro Issues etc.
<b>Institutions</b>	Central bank, Commercial bank, nonfinancial institutions, bill brokers, Acceptance houses, and so on.	Commercial banks, Stock exchange, non-banking institutions like insurance companies etc.

**34. Mention the objectives of demonetizations.****Meaning of Demonitisation**

Demonitisation is the act of stripping a currency unit of its status as legal tender. It occurs whenever there is a change of national currency.

**Objectives of Demonetisation**

1. Removing Black Money from the country.
2. Stopping of Corruption.
3. Stopping Terror Funds.
4. Curbing Fake Notes



**IV. Long Answer Questions:****35. Explain the role of Commercial Banks in economic development.****1. Capital Formation**

Banks play an important role in capital formation. They mobilize the small savings of the people scattered over a wide area through their network of branches all over the country.

**2. Creation of Credit**

Banks create credit for the purpose of providing more funds for development projects. Credit creation leads to increased production, employment, sales and prices.

**3. Channelizing the Funds towards Productive Investment**

Banks invest the savings mobilized by them for productive purposes. Capital formation is not the only function of commercial banks.

**4. Encouraging Right Type of Industries**

Many banks help in the development of the right type of industries by extending loan to right type of persons. For the economic development of the country.

**5. Finance to Government**

Government is acting as the promoter of industries in underdeveloped countries for which finance is needed for it. Banks provide long-term credit to Government.

**6. Employment Generation**

After the nationalization of big banks, banking industry has grown to a great extent. Bank's branches are opened frequently, which leads to the creation of new employment opportunities.

**36. Elucidate the functions of Commercial Banks.****Functions of Commercial Banks****(A) PRIMARY FUNCTIONS:****1. Accepting Deposits**

It implies that commercial banks are mainly dependent on public deposits. There are two types of deposits, which are discussed as follows

- ❖ *Demand Deposits*
- ❖ *Time Deposits*

**2. Advancing Loans**

It refers to granting loans to individuals and businesses. Commercial banks grant loans in the form of overdraft, cash credit, and discounting bills of exchange.

**(B) SECONDARY FUNCTIONS**

The secondary functions can be classified under three heads, namely, agency functions, general utility functions, and other functions.

**1. Agency Functions**

It implies that commercial banks act as agents of customers by performing various functions.

- ◆ **Collecting Cheques**
- ◆ **Collecting Income**
- ◆ **Paying Expenses**

## 2. General Utility Functions

It implies that commercial banks provide some utility services to customers.

- ✱ **Providing Locker Facilities**
- ✱ **Issuing Traveler's Cheques**

## 3. Transferring Funds

It refers to transferring of funds from one bank to another. Funds are transferred by means of draft, telephonic transfer, and electronic transfer.

### (C) OTHER FUNCTIONS:

#### ➤ **Money Supply**

It refers to one of the important functions of commercial banks that help in increasing money supply.

#### ➤ **Credit Creation**

Credit Creation means the multiplication of loans and advances. Commercial banks receive deposits from the public and use these deposits to give loans.

## 37. Describe the functions of Reserve Bank of India.

**1. Monetary Authority:** It controls the supply of money in the economy to stabilize exchange rate, maintain healthy balance of payment, attain financial stability, control inflation.

**2. The issuer of currency:** The objective is to maintain the currency and credit system of the country. It is the sole authority to issue currency. It also takes action to control the circulation of fake currency.

**3. The issuer of Banking License:** As per Sec 22 of Banking Regulation Act, every bank has to obtain a banking license from RBI to conduct banking business in India.

**4. Banker to the Government:** It acts as banker both to the central and the state governments. It provides short-term credit.

**5. Banker's Bank:** RBI is the bank of all banks in India as it provides loan to banks, accept the deposit of banks, and rediscount the bills of banks.

**6. Regulator of Economy:** It controls the money supply in the system, monitors different key indicators like GDP, Inflation, etc.

## 38. What are the objectives of Monetary Policy? Explain.

### **The objectives of monetary policy**

#### **1. Neutrality of Money**

The monetary authority should aim at neutrality of money in the economy. Monetary changes could be the root cause of all economic fluctuations.

#### **2. Exchange Rate Stability**

Exchange rate stability was the traditional objective of monetary authority. This was the main objective under Gold Standard among different countries.

#### **3. Price Stability**

Economists like Crustave Cassel and Keynes suggested price stabilization as a main objective of monetary policy.

#### **4. Full Employment**

During world depression, the problem of unemployment had increased rapidly. It was regarded as socially dangerous, economically wasteful and morally deplorable.

#### **5. Economic Growth**

Economic growth is the process whereby the real per capita income of a country increases over a long period of time. It implies an increase in the total physical or real output.

#### **6. Equilibrium in the Balance of Payments**

Equilibrium in the balance of payments is another objective of monetary policy which emerged significant in the post war years

## Chapter7 International Economics

### **II. Very Short Answer Questions:**

#### **21. What is International Economics?**

International Economics is that branch of economics which is concerned with the exchange of goods and services between two or more countries.

#### **22. Define international trade.**

- ❖ International trade refers to the trade or exchange of goods and services between two or more countries.
- ❖ It is also called as 'external trade' or 'foreign trade'.

#### **23. State any two merits of trade.**

- Trade is one of the powerful forces of economic integration.
- It brings foreign exchange to our country.

#### **24. What is the main difference between Adam Smith and Ricardo with regard to the emergence of foreign trade?**

- ❖ According to Adam Smith, the basis of international trade was absolute cost advantage.
- ❖ According to Ricardo a country can gain from trade when it produces at relatively lower costs.

#### **25. Define Terms of Trade.**

- ▲ Terms of Trade is the rate at which the goods of one country are exchanged for goods of another country.
- ▲ It is expressed as the relation between export prices and import prices.

#### **26. What do you mean by balance of payments?**

Balance of payment is a systematic record of a country's economic and financial transactions with the rest of the world over a period of time.

#### **27. What is meant by Exchange Rate?**

- ✘ Exchange rate may be defined as the price paid in the home currency (say Rs.75) for a unit of foreign currency (say 1 US \$).
- ✘ The transactions in the exchange market are carried out at exchange rates. It is the external value of domestic currency.

### **III. Short Answer Questions:**

#### **28. Describe the subject matter of International Economics.**

##### **1. Pure Theory of Trade**

This component explains the causes for foreign trade, composition, direction and volume of trade, determination of the terms of trade and exchange rate, issues related to balance of trade and balance of payments.

##### **2. Policy Issues**

policy issues such as free trade vs. protection, methods of regulating trade, capital and technology flows, use of taxation, subsidies and dumping, exchange control and convertibility, foreign aid, external borrowings and foreign direct investment.

##### **3. International Financial and Trade Regulatory Institutions**

The financial institutions like International Monetary Fund IMF, IBRD, WTO etc which influence international economic transactions and relations shall also be the part of international economics.

## 29. Compare the Classical Theory of international trade with Modern Theory of International trade.

S. No	Classical Theory of International Trade	Modern Theory of International Trade
1.	The classical theory explains the phenomenon of international trade on the basis of labour theory of value.	The modern theory explains the phenomenon of international trade on the basis of general theory of value.
2.	It presents a one factor (labour) model	It presents a multi-factor (labour and capital) model.
3.	It attributes the differences in the comparative costs to difference in the productive efficiency of workers in the two countries.	It attributes the differences in comparative costs to the differences in factor endowments in the two countries.

## 30. Explain the Net Barter Terms of Trade and Gross Barter Terms of Trade.

### 1. Net Barter Terms of Trade

The ratio between the prices of exports and of imports is called the “net barter terms of trade”. It is expressed as:  $T_n = (P_x / P_m) \times 100$

Where,

$T_n$  = Net Barter Terms of Trade

$P_x$  = Index number of export prices

$P_m$  = Index number of import prices

### 2. Gross Barter Terms of Trade

It is an index of relationship between total physical quantity of imports and the total physical quantity of exports.  $T_g = (Q_m / Q_x) \times 100$

Where,  $Q_m$  = Index of import quantities

$Q_x$  = Index of export quantities

## 31. Distinguish between Balance of Trade and Balance of Payments.

BASIS FOR COMPARISON	BALANCE OF TRADE	BALANCE OF PAYMENT
<b>Meaning</b>	Balance of Trade (BOT) refers to the total value of a country's exports of commodities and total value of imports of commodities.	BoP is a systematic record of a country's economic and financial Transactions with the rest of the world over a period of time.
<b>Records</b>	Transactions related to goods only.	Transactions related to both goods and services are recorded.
<b>Capital Transfers</b>	Are not included in the Balance of Trade.	Are included in Balance of Payment.

## 32. What are import quotas?

### i. Meaning

- ❖ The import quota means physical limitation of the quantities of different products to be imported from foreign countries within a specified period of time, usually one year.
- ❖ The import quota may be fixed either in terms of quantity or the value of the product.

### ii. Example

- ❖ The government may specify that 60,000 colour T.V. sets may be imported from Japan.

**33. Write a brief note on flexible exchange rate.**

- ❖ Under the flexible exchange rate (also known as floating exchange rate) system, exchange rates are freely determined in an open market by market forces of demand and supply.
- ❖ The economic position of the country determines the market demand and supply for its currency.
- ❖ The higher the demand for a particular currency, the higher is its exchange rate and the lower the demand, the lesser is the value of currency compared to other currencies.

**34. State the objectives of Foreign Direct Investment.**

- Sales Expansion
- Acquisition of resources
- Diversification
- Minimization of competitive risk.

**IV. Long Answer Questions:****35. Discuss the differences between Internal Trade and International Trade.**

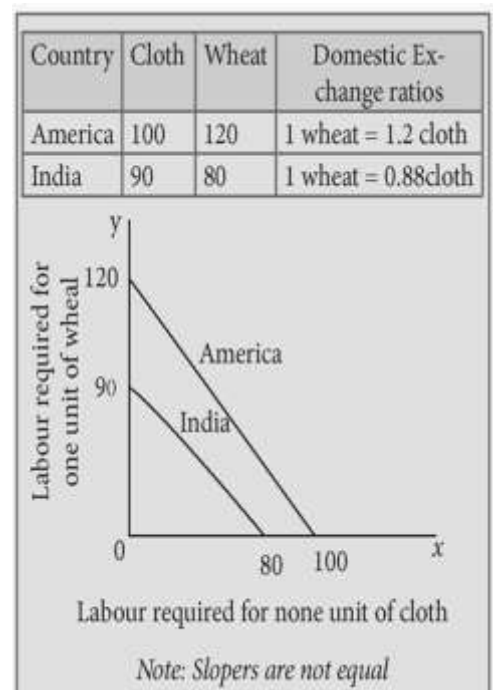
S. No.	Internal Trade	International Trade
1.	Trade takes place between different individuals and firm within the same nation.	Trade takes place between different individuals and firms in different countries.
2.	Labour and capital move freely from one region to another.	Labour and capital do not move easily from one nation to another.
3.	There will be free flow of goods and services since there are no restrictions.	Goods and services do not easily move from one country to another since there are a number of restrictions like tariff and quota.
4.	There is only one common currency.	There are different currencies.
5.	The physical and geographical conditions of a country are more or less similar.	There are differences in physical and geographical conditions of the two countries.
6.	Trade and financial regulations are more or less the same	Trade and financial regulations such as interest rate, trade laws differ between countries.

**36. Explain briefly the Comparative Cost Theory.**

- ❖ According to Ricardo, a country can gain from trade when it produces at relatively lower costs.
- ❖ Even when a country enjoys absolute advantage in both goods, the country would specialize in the production and export of those goods which are relatively more advantageous.
- ❖ Similarly, even when a country has absolute disadvantage in production of both goods.

**Assumptions**

1. There are only two nations and two commodities
2. Labour is the only element of cost of production.
3. All labourers are of equal efficiency.
4. No change in technology.
5. No transport cost.
6. Perfect competition.
7. Full employment.
8. No government intervention.





### Diagrammatic Explanation

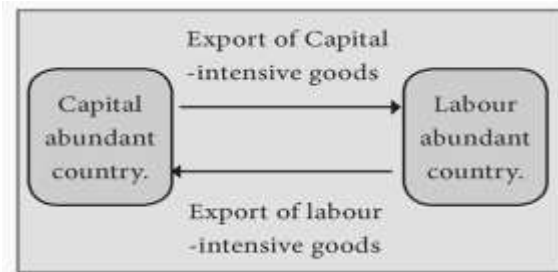
- ✧ India should concentrate on the production of wheat in which she enjoys a comparative cost advantage. ( $80/120 < 90/100$ ).
- ✧ America will specialize in the production of cloth and export it to India in exchange for wheat.
- ✧ With trade, India can get 1 unit of cloth and 1 unit of wheat by using its 160 labour units.
- ✧ With trade, America can get 1 unit of cloth and one unit of wheat by using its 200 units of labour.

### 37. Discuss the Modern Theory of International Trade.

#### *The Factor endowment model*

- ❖ Developed by Heckscher and Ohlin
- ❖ Countries with a relative factor abundance can specialise and trade
- ❖ Abundance of skilled labour → specialisation → export → exchange for goods are services produced by countries with abundance of unskilled labour

#### **H-O: Illustration Chart**



#### **The Theory**

- ➔ difference in the endowments of factors of production between countries,
- ➔ differences in the factor proportions required in production.

#### **Assumptions**

1. There are two countries, two commodities and two factors.
2. Countries differ in factor endowments.
3. Commodities are categorized in terms of factor intensity.
4. Countries use same production technology.
5. There is perfect competition in both product and factor markets in both the countries.

#### **Explanation**

According to Heckscher - Ohlin, “a capital-abundant country will export the capital –intensive goods, while the labour abundant country will export the labour intensive goods”.

### 38. Explain the types of Terms of Trade given by Viner.

#### **1. Net Barter Terms of Trade or Commodity terms of trade.**

The ratio between the prices of exports and of imports is called the “net barter terms of trade’. It is named by Viner as the ‘commodity terms of trade’. It is expressed as:  $T_n = (P_x / P_m) \times 100$

#### **Where,**

$T_n$  = Net Barter Terms of Trade

$P_x$  = Index number of export prices

$P_m$  = Index number of import prices

This is used to measure the gain from international trade.

#### **2. The Single Factoral Terms of Trade**

Viner has devised another concept called “the single factoral terms of trade. It represents the ratio of export-price index to the import-price index adjusted for changes in the productivity of a country’s factors in the production of exports. Symbolically, it can be stated as  $T_n = (P_x / P_m) \times 100$

#### **Where,**

$T_f$  stands for single factoral terms of trade index.  $F_x$  stands for productivity in exports (which is measured as the index of cost in terms of quantity of factors of production used per unit of export).

### 3. Double Factoral Terms of Trade

Viner constructed another index called “Double factorial terms of Trade”.

It is expressed As  $Tff = (P_x / P_m) (F_x / F_m)$

which takes into account the productivity in country’s exports, as well as the productivity of foreign factors.

### 39. Bring out the components of balance of payments account.

#### Components of BOPs

The credit and debit items are shown vertically in the BOP account of a country. Horizontally, they are divided into three categories.

#### a) The Current Account:

It includes all international trade transactions of goods and services, international service transactions (i.e. tourism, transportation and royalty fees) and international unilateral transfers (i.e. gifts and foreign aid).

#### b) The Capital Account:

Financial transactions consisting of direct investment and purchases of interest-bearing financial instruments, non-interest bearing demand deposits and gold fall under the capital account.

#### c) The Official Reserve Assets Account:

Official reserve transactions consist of movements of international reserves by governments and official agencies to accommodate imbalances arising from the current and capital accounts.

### 40. Discuss the various types of disequilibrium in the balance of payments.

Occurs when: Disequilibrium Demand  $\neq$  Supply Debit  $>$  Credit  $\rightarrow$  Deficit

#### Types BOP Disequilibrium:

#### a) Cyclical Disequilibrium:

Cyclical disequilibrium occurs because of two reasons. First, two countries may be passing through different phases of business cycle. Secondly, the elasticities of demand may differ between countries.

#### b) Secular Disequilibrium:

The secular or long-run disequilibrium in BOP occurs because of long-run. In the initial stages of development, domestic investment exceeds domestic savings and imports exceed exports, as it happens in India since 1951.

c) **Structural Disequilibrium:** Structural changes in the economy may also cause such structural changes include development of alternative sources of supply, development of better substitutes, exhaustion of productive resources or changes in transport routes and costs.

### 41. How the Rate of Exchange is determined? Illustrate.



Figure 7.3

The equilibrium rate of exchange is determined in the foreign exchange market in accordance with the general theory of value, i.e., by the interaction of the forces of demand and supply. Thus, the rate of exchange is determined at the point where demand for forex is equal to the supply of forex.

- $\rightarrow$  In the above diagram, Y axis represents exchange rate, that is, value of rupee in terms of dollars.
- $\rightarrow$  X axis represents demand and supply of forex.
- $\rightarrow$  E is the point of equilibrium where DD intersects SS.
- $\rightarrow$  The exchange rate is P2.

## 42. Explain the relationship between Foreign Direct Investment and economic development

- ❖ FDI may help to increase the investment level and thereby the income and employment in the host country.
- ❖ FDI may also bring revenue to the government of host country when it taxes profits of foreign firms or gets royalties from concession agreements.
- ❖ A part of profit from direct foreign investment may be ploughed back into the expansion, modernization or development of related industries.
- ❖ It may kindle a managerial revolution in the recipient country through professional management and sophisticated management techniques.
- ❖ Foreign capital may enable the country to increase its exports and reduce import requirements.
- ❖ Foreign investment may also help increase competition and break domestic monopolies.

## Chapter 8 International Economic Organisations

### II. Very Short Answer Questions:

#### 21. Write the meaning of Special Drawing rights.

- ❖ Special Drawing Rights are a form of international reserves created by the IMF in 1969 to solve the problem of international liquidity. It is otherwise called as 'Paper Gold'.

#### 22. Mention any two objectives of ASEAN.

- To accelerate the economic growth, social progress and cultural development in the region.
- To serve as a centre of information and as an ASEAN link with other international organizations.

#### 23. Point out any two ways in which IBRD lends to member countries.

- i) Loans out of its own fund,
- ii) Loans out of borrowed capital

#### 24. Define Common Market.

A group formed by countries within a geographical area to promote duty free trade and free movement of labour and capital among its members. *E.g. European Common Market (ECM)*

#### 25. What is Free trade area?

A free trade area is the region encompassing a trade bloc whose member countries have signed a freetrade agreement (FTA).

#### 26. When and where was SAARC Secretariat established?

The SAARC Secretariat was established in Kathmandu (Nepal) on 16th January 1987.

#### 27. Specify any two affiliates of World Bank Group. (write any two)

- ✘ International Development Association (IDA)
- ✘ International Finance Corporation (IFC)

### III. Short Answer Questions:

#### 28. Mention the various forms of economic integration.

- i). **Economic integration** takes the form of Free Trade Area, Customs Union, Common Market and Economic Union.
- ii). A **free trade area** is the region encompassing a trade bloc whose member countries have signed a free-trade agreement (FTA). *e.g. SAFTA, EFTA.*
- iii). A **customs union** is defined as a type of trade block which is composed of a free trade area with no tariff among members and with a common external tariff. *e.g. BENELUX.*

**29. What are trade blocks?**

- ★ Trade blocks are a set of countries which engage in international trade together and are usually related through a free trade agreement or other associations.
- ★ Trade blocks cover different kinds of arrangements between or among countries for mutual benefit.
- ★ Some countries create business opportunities for themselves by integrating their economies in order to avoid unnecessary competition among them.

**30. Mention any three lending programmes of IMF. (write any three headings)****(i) Basic Credit Facility:**

The IMF provides financial assistance to its member nations to overcome their temporary difficulties relating to balance of payments.

**(ii) Extended Fund Facility**

Under this arrangement, the IMF provides additional borrowing facility up to 140% of the member's quota, over and above the basic credit facility.

**(iii) Compensatory Financing Facility**

IMF established compensatory financing facility to provide additional financial assistance to the member countries, particularly primary producing countries facing shortfall in export earnings.

**31. What is Multilateral Agreement?**

- Multilateral Agreements are trade agreements between three or more nations.
- The agreements reduce tariffs and make it easier for businesses to import and export.
- It is a multinational legal or trade agreements between countries. It is an agreement between more than two countries but not many.

**32. Write the agenda of BRICS Summit, 2018.**

The Tenth BRICS summit hosted by South Africa at Johannesberg in July 2018.

**The agenda of BRICS:**

- ◆ Strengthening multilateralism, reforming global governance and addressing common challenges
- ◆ Strengthening and consolidating BRICS cooperation in international peace and security
- ◆ People-to-people cooperation.

**33. State briefly the functions of SAARC.**

- ☞ Maintenance of the co operation in the region
- ☞ Prevention of common problems associated with the member nations.
- ☞ Ensuring strong relationship among the member nations.
- ☞ Removal of the poverty through various packages of programmes.

**34. List out the achievements of ASEAN.**

- ▲ It facilitates free movement of goods, service and investment within Asean by creating a single regional market like European Union.
- ▲ It provides free access to the marketers of one member country to the markets of all other member country.
- ▲ It improves business competitiveness between business from different countries.

**IV. Long Answer Questions:****35. Explain the objectives of IMF.**

- ◆ To promote international monetary cooperation among the member nations.
- ◆ To facilitate faster and balanced growth of international trade.
- ◆ To ensure exchange rate stability by curbing competitive exchange depreciations.

- ◆ To eliminate or reduce exchange controls imposed by member nations.
- ◆ To establish multilateral trade and payment system in respect of current transactions instead of bilateral trade agreements.
- ◆ To promote the flow of capital from developed to developing nations.
- ◆ To solve the problem of international liquidity.

### **36. Bring out the functions of World Bank.**

#### **1. Investment for productive purposes**

The World Bank performs the function of assisting in the reconstruction and development of territories of member nations through facility of investment for productive purposes.

#### **2. Balanced growth of international trade**

Promoting the long range balanced growth of trade at international level and the maintaining equilibrium in BOPs of member nations by encouraging international investment.

#### **3. Provision of loans and guarantees**

Arranging the loans or providing guarantees on loans by various other channels so as to execute important projects.

#### **4. Promotion of foreign private investment**

The promotion of private foreign investment by means of guarantees on loans and other investment made by private investors.

#### **5. Technical services**

The World Bank facilitates different kinds of technical services to the member countries through Staff College and experts.

### **37. Discuss the role of WTO in India's socio economic development.**

- ➔ India is the founding member of the WTO.
- ➔ India favours multilateral trade approach.
- ➔ India benefited from WTO on following grounds.

- 1). By reducing tariff rates on raw materials, components and capital goods, it was able to import more for meeting her developmental requirements. India's imports go on increasing.
- 2). India gets market access in several countries without any bilateral trade agreements.
- 3). Advanced technology has been obtained at cheaper cost.
- 4). India is in a better position to get quick redressal from the trade disputes.
- 5). The Indian exporters benefited from wider market information

### **38. Write a note on a) SAARC b) BRICS**

#### **SAARC**

- ❖ The South Asian Association for Regional Co-operation (SAARC) is an organization of South Asian nations, which was established on 8 December 1985.
- ❖ The SAARC Group (SAARC) comprises of Bangladesh, Bhutan, India, The Maldives, Nepal, Pakistan and Sri Lanka. In April 2007, Afghanistan became its eighth member.
- ❖ The basic aim of the organisation is to accelerate the process of economic and social development of member states through joint action in the agreed areas of cooperation.
- ❖ The SAARC Secretariat was established in Kathmandu (Nepal) on 16th January 1987.

#### **BRICS**

- ✧ BRICS is the acronym for an association of five major emerging national economies: Brazil, Russia, India, China and South Africa.



- ✘ It's headquarters is at Shanghai, China. The New Development Bank (NDB) formerly referred to as the BRICS Development Bank was established by BRICS States.
- ✘ The BRICS countries make up 21 percent of global GDP. They have increased their share of global GDP threefold in the past 15 years.
- ✘ The BRICS are home to 43 percent of the world's population.

## Chapter 9 Fiscal Economics

### ***II. Very Short Answer Questions:***

#### **21. Define public finance.**

According to Adam Smith "*Public finance is an investigation into the nature and principles of the state revenue and expenditure*".

#### **22. What is public revenue?**

Public revenue deals with the methods of raising public revenue such as tax and non-tax.

#### **23. Differentiate tax and fee.**

Basis	Tax	Fees
<b>Meaning</b>	Tax is a compulsory payment by the citizens to the government to meet the public expenditure.	Fee is charged by public authorities for rendering a service to the citizens.
<b>Compulsion</b>	It is legally imposed by the government on the tax payer	There is no compulsion involved in case of fees

#### **24. Write a short note on zero based budget.**

- ★ It involves fresh evaluation of expenditure in the Government budget, assuming it as a new item.
- ★ The review has been made to provide justification or otherwise for the project as a whole in the light of the socio-economic objectives.

#### **25. Give two examples for direct tax.**

- ➔ Corporation Tax
- ➔ Income Tax

#### **26. What are the components of GST?**

- **CGST:** Collected by the Central Government on an intra-state sale.
- **SGST:** Collected by the State Government on an intra-state sale.
- **IGST:** Collected by the Central Government for inter-state sale.

#### **27. What do you mean by public debt?**

Public debt deals with the methods of raising loans from internal and external sources.

### ***III. Short Answer Questions:***

#### **28. Describe canons of Taxation.**

##### **(1) Canon of Ability:**

The Government should impose tax in such a way that the people have to pay taxes according to their ability.

##### **(2) Canon of Certainty:**

The Government must ensure that there is no uncertainty regarding the rate of tax or the time of payment.

##### **(3) Canon of Convenience:**

The method of tax collection and the timing of the tax payment should suit the convenience of the people.

**29. Mention any three similarities between public finance and private finance.**

- (1) **Rationality:** Both public finance and private finance are based on rationality.
- (2) **Limit to borrowing :** Both have to apply restraint with regard to borrowing.
- (3) **Resource utilisation:** Both the private and public sectors have limited resources at their disposal.

**30. What are the functions of a modern state?***Function of Modern state :*

- (1) Creating economic and social overhead.
- (2) Ensuring stability in both internal and external.
- (3) Conserving resources for sustainable development.
- (4) Defence.
- (5) Judiciary.

**31. State any three characteristics of taxation.**

- A tax is a compulsory payment made to the government.
- Every tax involves some sacrifice on part of the tax payer.
- A tax is not levied as a fine or penalty for breaking law.

**32. Point out any three differences between direct tax and indirect tax.**

Basis For Comparison	Direct Tax	Indirect Tax
<b>Meaning</b>	Direct tax is referred to as the tax, levied on person's income and wealth.	Indirect Tax is referred to as the tax, levied on a person who consumes the goods and services.
<b>Nature</b>	Progressive	Regressive
<b>Impact</b>	Falls on the same person.	Falls on different persons.

**33. What is primary deficit?**

- ✧ Primary deficit is equal to fiscal deficit minus interest payments.
- ✧ It shows the real burden of the government and it does not include the interest burden on loans taken in the past.
- ✧ Thus, primary deficit reflects borrowing requirement of the government exclusive of interest payments.

$$\text{Primary Deficit (PD)} = \text{Fiscal deficit (PD)} - \text{Interest Payment (IP)}$$

**34. Mention any three methods of redemption of public debt.****(1) Sinking Fund**

Under this method, the Government establishes a separate fund known as "Sinking Fund". The Government credits every year a fixed amount of money to this fund.

**(2) Conversion**

Conversion of loans is another method of redemption of public debt. It means that an old loan is converted in to a new loan.

**(3) Budgetary Surplus**

When the Government presents surplus budget, it can be utilised for repaying the debt.

**IV. Long Answer Questions:****35. Explain the scope of public finance.**

The subject 'Public Finance' includes five major sub-divisions, viz., Public Revenue, Public Expenditure, Public Debt, Financial Administration and Fiscal Policy.

**1. Public Revenue**

Public revenue deals with the methods of raising public revenue such as tax and non-tax, the principles of taxation, rates of taxation, impact, incidence and shifting of taxes and their effects.

**2. Public Expenditure**

This part studies the fundamental principles that govern the Government expenditure, effects of public expenditure and control of public expenditure.

**3. Public Debt**

Public debt deals with the methods of raising loans from internal and external sources. The burden, effects and redemption of public debt fall under this head.

**4. Financial Administration**

This part deals with the study of the different aspects of public budget. The budget is the Annual master financial plan of the Government.

**5. Fiscal Policy**

Taxes, subsidies, public debt and public expenditure are the instruments of fiscal policy.

**36. Bring out the merits of indirect taxes over direct taxes.****1) Wider Coverage**

All the consumers, whether they are rich or poor, have to pay indirect taxes. For this reason, it is said that indirect taxes can cover more people than direct taxes.

**2) Equitable**

The indirect tax satisfies the canon of equity when higher tax is imposed on luxuries used by rich people.

**3) Economical**

Cost of collection is less as producers and retailers collect tax and pay to the Government. The traders act as honorary tax collectors.

**4) Checks harmful consumption**

The Government imposes indirect taxes on those commodities which are harmful to health e.g. tobacco, liquor etc. They are known as sin taxes.

**5) Convenient**

Indirect taxes are levied on commodities and services. Whenever consumers make purchase, they pay tax along with the price.

**37. Explain the methods of debt redemption.****1) Sinking Fund**

Under this method, the Government establishes a separate fund known as "Sinking Fund". The Government credits every year a fixed amount of money to this fund.

**2) Conversion**

Conversion of loans is another method of redemption of public debt. It means that an old loan is converted into a new loan.

**3) Budgetary Surplus**

When the Government presents surplus budget, it can be utilised for repaying the debt.

**4) Terminal Annuity**

In this method, Government pays off the public debt on the basis of terminal annuity in equal annual installments.

**5) Reduction in Rate of Interest**

Another method of debt redemption is the compulsory reduction in the rate of interest, during the time of financial crisis.

### 38. State and explain instruments of fiscal policy.

#### *Fiscal Instruments*

Fiscal Policy is implemented through fiscal instruments also called 'fiscal tools' or fiscal levers: Government expenditure, taxation and borrowing are the fiscal tools.

#### *i) Taxation:*

Taxes transfer income from the people to the Government. Taxes are either direct or indirect. An increase in tax reduces disposable income. So taxation should be raised to control inflation.

#### *ii) Public Expenditure:*

Public expenditure raises wages and salaries of the employees and thereby the aggregate demand for goods and services. Hence public expenditure is raised to fight recession and reduced to control inflation.

#### *iii) Public debt:*

When Government borrows by floating a loan, there is transfer of funds from the public to the Government. At the time of interest payment and repayment of public debt, funds are transferred from Government to public.

### 39. Explain the principles of federal finance.

#### *1. Principle of Independence*

Under the system of federal finance, a Government should be autonomous and free about the internal financial matters concerned. It means each Government should have separate sources of revenue, authority to levy taxes, to borrow money and to meet the expenditure.

#### *2. Principle of Equity*

From the point of view of equity, the resources should be distributed among the different states so that each state receives a fair share of revenue.

#### *3. Principle of Uniformity*

In a federal system, each state should contribute equal tax payments for federal finance. But this principle cannot be followed in practice because the taxable capacity of each unit is not of the same.

#### *4. Principle of Adequacy of Resources*

The principle of adequacy means that the resources of each Government i.e. Central and State should be adequate to carry out its functions effectively.

#### *5. Principle of Fiscal Access*

In a federal system, there should be possibility for the Central and State Governments to develop new source of revenue within their prescribed fields to meet the growing financial needs.

### 40. Describe the various types of deficit in budget.

#### *Budgetary Deficits*

Budget deficit is a situation where budget receipts are less than budget expenditures. budget deficit is of four major types.

#### **(A) Revenue Deficit**

It refers to the excess of the government revenue expenditure over revenue receipts. It does not consider capital receipts and capital expenditure.

$$\text{Revenue Deficit (RD)} = \text{Total Revenue Expenditure (RE)} - \text{Total Revenue Receipts (RR)}$$

#### **(B) Budget Deficit**

Budget deficit is the difference between total receipts and total expenditure (both revenue and capital)

$$\text{Budget Deficit} = \text{Total Expenditure} - \text{Total Revenue}$$

#### **(C) Fiscal Deficit**

Fiscal deficit (FD) = Budget deficit + Government's market borrowings and liabilities

**D Primary Deficit**

Primary deficit is equal to fiscal deficit minus interest payments. It shows the real burden of the government and it does not include the interest burden on loans taken in the past.

**Primary Deficit (PD) = Fiscal deficit (PD) - Interest Payment (IP)**

**41. What are the reasons for the recent growth in public expenditure?****1. Population Growth**

During the past 67 years of planning, the population of India has increased from 36.1 crore in 1951, to 121 crore in 2011. The growth in population requires massive investment in health and education, law and order, etc.

**2. Defence Expenditure**

There has been enormous increase in defence expenditure in India during planning period. The defence expenditure has been increasing tremendously due to modernisation of defence equipment.

**3. Government Subsidies**

The Government of India has been providing subsidies on a number of items such as food, fertilizers, interest on priority sector lending, exports, education, etc.

**4. Debt Servicing**

The government has been borrowing heavily both from the internal and external sources, As a result, the government has to make huge amounts of repayment towards debt servicing.

**5. Development Projects**

The government has been undertaking various development projects such as irrigation, iron and steel, heavy machinery, power, telecommunications, etc. The development projects involve huge investment.

## Chapter 10 Environmental Economics

**II. Very Short Answer Questions:****21. State the meaning of environment.**

Environment means “all the conditions, circumstances, and influences surrounding and affecting the development of an organism or group of organisms”.

**22. What do you mean by ecosystem?**

An ecosystem includes all living things (plants, animals and organisms) in a given area, interacting with each other, and also with their non-living environments (weather, earth, sun, soil, climate, atmosphere).

**23. Mention the countries where per capita carbon dioxide emission is the highest in the world.**

	Countries	Per capita CO <sub>2</sub> emission
1.	Saudi Arabia	16.85
2.	Australia	15.83
3.	United states	15.53
4.	Canada	15.32
5.	South Korea	11.58

**24. What are environmental goods? Give examples.**

Environmental goods are typically non-market goods, including clear air, clean water, landscape, green transport infrastructure, public parks, urban parks, rivers, mountains, forests, and beaches.

**25. What are the remedial measures to control noise pollution?**

1. Use of noise barriers



2. Newer roadway for surface transport
3. Traffic control
4. Regulating times for heavy vehicles

### 26. Define Global warming.

Global warming is the current increase in temperature of the Earth's surface (both land and water) as well as its atmosphere.

### 27. Specify the meaning of seed ball.

- A seed ball (or seed bomb) is a seed that has been wrapped in soil materials, usually a mixture of clay and compost, and then dried.
- Seed balls are an easy and sustainable way to cultivate plants that provide a larger window of time when the sowing can occur.

### III. Short Answer Questions:

#### 28. Brief the linkage between economy and environment.

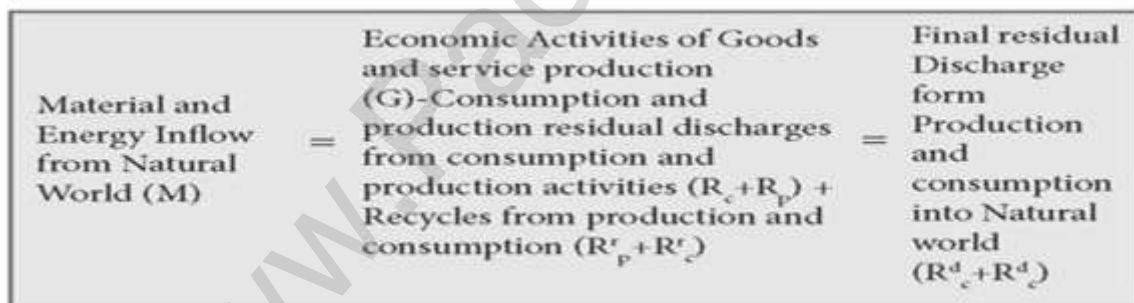
- ❖ Human's life depends on social, political, ethical, philosophical and other aspects of economic system.
- ❖ The life of human beings is shaped by his living environment
- ❖ The relationship between the economy and the environment is generally Explained in the form of a "Material Balance Model" developed by Alen Kneese and Ayres.

#### 29. Specify the meaning of material balance principle.

##### Meaning

- ❖ The material balance principle considers the total economic process as a physically balanced flow between inputs and outputs.

$$M = G - RC - RP + RrP + Rrc = Rdc + Rdc$$



#### 30. Explain different types of air pollution.

##### Indoor Air Pollution:

It refers to toxic contaminants that we encounter in our daily lives in our homes, schools and workplaces. For example, cooking and heating with solid fuels on open fires.

##### Outdoor Air Pollution:

It refers to ambient air. The common sources of outdoor air pollution are caused by combustion processes from motor vehicles, solid fuel burning and industry.

#### 31. Distinguish between Balance of Trade and Balance of Payments.

Water pollution is caused due to several reasons. Here are the few major causes of water pollution:

##### 1. Discharge of sewage and waste water:

Sewage, garbage and liquid waste of households, agricultural runoff and effluents from factories are discharged into lakes and rivers.

##### 2. Dumping of solid wastes:

The dumping of solid wastes and litters in water bodies cause huge problems.

### 3. Discharge of industrial wastes:

Industrial waste contains pollutants like asbestos, lead, mercury, grease oil and petrochemicals, which are extremely harmful to both people and environment.

### 32. State the meaning of e-waste.

- ★ Electronic waste which is commonly referred as “e-waste” is the new byproduct of the Info Tech society.
- ★ It is a physical waste in the form of old discarded, end of life electronics.
- ★ Similarly, e-waste can be defined as the result when consumer, business and household devices are disposed or sent for re-cycling example, television, computers, audio-equipments, VCR, DVD, telephone, etc.,

### 33. What is land pollution? Mention the causes of land pollution.

#### Definition

The land pollution is defined as, “the degradation of land because of the disposal of waste on the land”.

#### Causes of Land Pollution

##### **i. Deforestation and soil erosion:**

Deforestation carried out to create dry lands is one of the major concerns.

##### **ii. Agricultural activities:**

With growing human and pet animal population, demand for food has increased considerably.

##### **iii. Mining activities:**

During extraction and mining activities, several land spaces are created beneath the surface.

### 34. Write a note on a) Climate change and b) Acid rain

#### *Climate Change*

- ▲ The climate change refers to seasonal changes over a long period with respect to the growing accumulation of greenhouse gases in the atmosphere.
- ▲ Recent studies have shown that human activities since the beginning of the industrial revolution.

#### *Acid Rain*

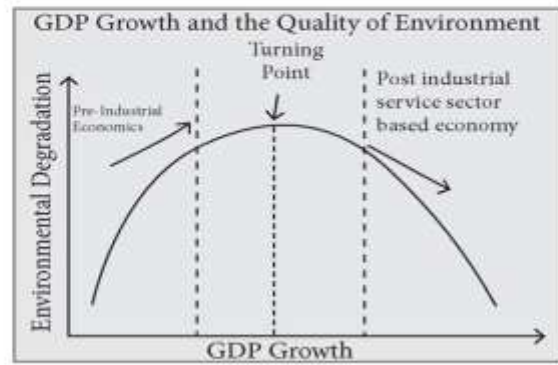
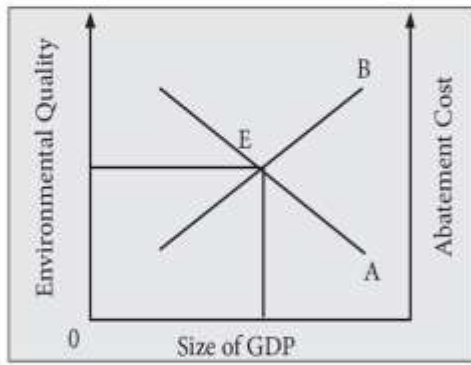
- ◇ From factories, cars or heating boilers contact with the water in the atmosphere.
- ◇ These emissions contain nitrogen oxides, sulphur -dioxide and sulphur- trioxide which when mixed with water becomes sulfurous acid, nitric acid and sulfuric acid.

### **IV. Long Answer Questions:**

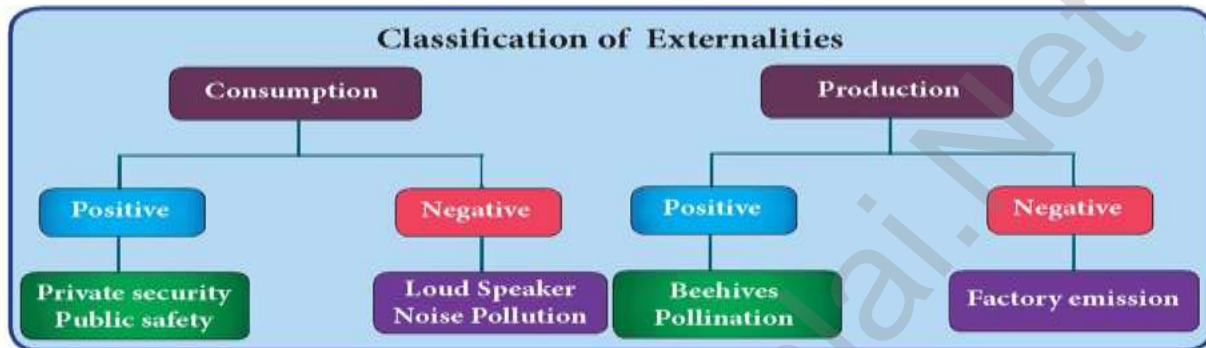
#### **35. Briefly explain the relationship between GDP growth and the quality of environment.**

##### *Environmental quality*

- ★ Environmental quality is a set of properties and characteristics of the environment either generalized or local, as they impinge on human beings.
- ★ It is a measure of the condition of an environment relative to the requirements of one or more species.
- ★ Environment is a pure public good that can be consumed simultaneously by everyone and from which no one can be excluded.
- ★ A pure public good is one for which consumption is non-rival and from which it is impossible to exclude a consumer.
- ★ The contribution of the nature to GDP as well as depletion of natural resources are not accounted in the present system of National Income Enumeration.
- ★ Economic growth is often pointed out to be the cause of environmental issues based on the notion that increased production equals increased pollution.



### 36. Explain the concepts of externality and its classification.



#### → Positive Consumption Externality

When some residents of a locality hire a private security agency to patrol their area, the other residents of the area also benefit from better security without bearing cost.

#### → Negative Consumption Externality

A person smoking cigarette gets maygives satisfaction to that person, but this act causes hardship (dissatisfaction) to the non-smokers who are driven to passive smoking.

#### → Positive Production Externality

The ideal location for beehives is orchards (first growing fields). While bees make honey, they also help in the pollination of apple blossoms. The benefits accrue to both producers (honey as well as apple).

#### → Negative Production Externality

Negative production externalities include pollution generated by a factory that imposes costs on others. The emissions and effluents of a factory cause air and water pollution.

### 37. Explain the importance of sustainable development and its goals.

#### *Importance of Sustainable Development*

- Sustainable development is concerned with the welfare of present and future generations.
- It aims at not only satisfying the luxury wants of rich but also basic necessities of the poor like food, sanitation, health care, education etc.

#### *The Global Goals For Sustainable Development*

1. End Poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote wellbeing for all at all ages
4. Ensure inclusive and quality education for all and promote lifelong learning
5. Achieve gender equality and empower women and girls
6. Ensure access to water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote inclusive and sustainable economic growth, employment and decent work for all

## Chapter 11 Economics of Development and Planning

### II. Very Short Answer Questions:

#### 21. Define economic development

- ❖ The traditional approach defines development strictly in economic terms.
- ❖ The increase in GNP is accompanied by decline in share of agriculture in output and employment while those of manufacturing and service sectors increase.

#### 22. Mention the indicators of development.

- ❖ Gross National Product (GNP)
- ❖ GNP per capita
- ❖ Welfare
- ❖ Social Indicators - health, education, food, water, sanitation and housing facilities

#### 23. Distinguish between economic growth and development

Basis of Difference	Economic Growth	Economic Development
Deals	Deals with the problems of Developed countries	Deals with the problems of UDCs
Changes	Change is gradual and steady	Change is discontinuous and spontaneous
Scope	Narrow	Wider concept Development = <i>Growth</i> + <i>Change</i>

#### 24. What is GNP?

GNP is the total market value of all final goods and services produced within a nation in a particular year, plus income earned by its citizens minus income of non-residents located in that country.

#### 25. Define economic planning.

According to Robbins, “Economic Planning is “collective control or suppression of private activities of production and exchange”.

#### 26. What are the social indicators of economic development?

The basic needs for development such as health, education, sanitation, water, food etc.

#### 27. Write a short note on NITI Aayog.

- ❖ NITI Aayog (National Institution for Transforming India) was formed on January 1, 2015 through a Union Cabinet resolution.
- ❖ NITI Aayog is a policy think-tank of the Government of India.
- ❖ It replaced the Planning Commission from 13th August, 2014.

### III. Short Answer Questions:

#### 28. Elucidate major causes of vicious circle of poverty with diagram

- There are circular relationships known as the ‘Vicious Circles of Poverty’ that tend to perpetuate the low level of development in less developed countries (LDCs).
- Nurkse explains the idea in these words : “It implies a circular constellation of forces tending to act and react on upon one another in such a way as to keep a poor country in a state of poverty.



**29. What are the non-economic factors determining development?**

- |                                      |                            |
|--------------------------------------|----------------------------|
| 1). Human Resource                   | 2). Technical Know-how     |
| 3). Political Freedom                | 4). Social Organization    |
| 5). Corruption free administration   | 6). Desire for Development |
| 7). Moral, ethical and social values | 8). Casino Capitalism      |
| 9). Patrimonial Capitalism           |                            |

**30. How would you break the vicious circle of poverty?**

- ✧ To break the vicious circle on the demand side, Nurkse suggested the strategy of balanced growth.
- ✧ If investment is made in several industries simultaneously the workers employed in various industries will become consumers of each other's products and will create demand for one another.
- ✧ The balanced growth i.e. simultaneous investment in large number of industries creates mutual demand.

**31. Trace the evolution of economic planning in India.**

1. **Sir M. Vishveshwarya (1934):** a prominent engineer and politician made his first attempt in laying foundation for economic planning in India in 1934 through his book, "Planned Economy of India".
2. **Jawaharlal Nehru (1938):** set-up "National Planning Commission" by a committee but due to the changes in the political era and second World War, it did not materialize.
3. **M.N. Roy (1945)** drafted 'People's Plan'. It was aiming at mechanization of agricultural production and distribution by the state only.
4. **J.P. Narayan (1950)** advocated, "Sarvodaya Plan" which was inspired by Gandhian Plan and with the idea of Vinoba Bhave.

**32. Describe the case for planning.**

1. To accelerate and strengthen market mechanism
2. To remove unemployment
3. To achieve balanced development
  - ◆ Development of Agriculture and Industrial Sectors
  - ◆ Development of Infrastructure
  - ◆ Development of Money and Capital Markets

**33. Distinguish between functional and structural planning.**

Basis of Difference	Functional Planning	Structural Planning
<b>Meaning</b>	Functional planning refers to that Planning which seeks to remove Economic difficulties	The structural planning refers to a good deal of changes in the socioeconomic framework of the country.
<b>Approach</b>	Attempt within the existing socio economic framework	Attempt to change the economic Structure fundamentally
<b>Nature</b>	Functional planning is evolutionary	Structural planning is therefore revolutionary

**34. What are the functions of NITI Aayog?**

- |  |   |
|--|---|
| 1). Cooperative and Competitive Federalism | 2). Shared National Agenda                |
| 3). Decentralized Planning                 | 4). Vision and Scenario Planning          |
| 5). Network of Expertise                   | 6). Harmonization                         |
| 7). Conflict Resolution                    | 8). Coordinating Interface with the World |
| 9). Internal Consultancy                   | 10). Capacity Building                    |



**IV. Long Answer Questions:****35. Discuss the economic determinants of economic development.****1. Natural Resource:**

The principal factor affecting the development of an economy is the availability of natural resources. The existence of natural resources in abundance is essential for development.

**2. Capital Formation:**

Capital formation is the main key to economic growth. It facilitates adoption of advanced techniques of production. It leads to better utilization of natural resources,.

**3. Size of the Market:**

Large size of the market would stimulate production, increase employment and raise the National per capita income.

**4. Structural Change:**

Structural change refers to change in the occupational structure of the economy. Any economy of the country is generally divided into three basic sectors: Primary sector, Secondary sector, Tertiary sector.

**5. Foreign Trade:**

The country which enjoys favorable balance of trade and terms of trade is always developed. It has huge forex reserves and stable exchange rate.

**36. Describe different types of Planning.**

<b>1. Democratic Vs Totalitarian:</b>		
<b>Democratic Plan</b>		<b>Totalitarian Plan</b>
Democratic planning implies planning within democracy.		Under totalitarian planning, there is central control and direction of all economic activities in accordance with a single plan.
<b>2. Centralized Vs Decentralized</b>		
<b>Centralized Plan</b>		<b>Decentralized Palm</b>
Under centralized planning, the entire planning process in a country is under a central planning authority.		Under decentralized planning local organizations and institutions, execute and supervise the plan without interference by the central authorities.
<b>3. Planning by Direction Vs Inducement:</b>		
<b>Planning by Direction</b>		<b>Planning by Inducement</b>
There is a central authority which plans, directs and orders the execution of the plan in accordance with pre-determined targets and priorities.		The people are induced to act in a certain way through various monetary and fiscal measures.
<b>4. Indicative Vs Imperative Planning:</b>		
<b>Indicative Plan</b>		<b>Imperative Plan</b>
Indicative planning is peculiar to the mixed economies. It has been in practice in France		The state is all powerful in preparation and implementation of the plan.
<b>5. Short, Medium and Long term Planning:</b>		
<b>Short Term Plan</b>	<b>Medium Term Plan</b>	<b>Long Term Plan</b>
Short - term upto 1 year	Medium - term 3 - 7 years	Long - term over 10 year
<b>6. Financial Vs Physical Planning:</b>		
<b>Financial Plan</b>		<b>Physical Plan</b>
Financial planning refers to the technique of planning in which resources are allocated in terms of money		Physical planning pertains to the allocation of resources in terms of men, materials and machinery.

### 37. Bring out the arguments against planning.

The arguments against planning are mostly concerned with centralized and totalitarian planning.

#### 1. Loss of freedom

- The absence of freedom in decision making may act as an obstacle for economic growth. Regulations and restrictions are the backbone of a planned economy.
- Under planning, the crucial decisions are made by the Central Planning Authority. The consumers, producers and the workers enjoy no freedom of choice.

#### 2. Elimination of Initiative

Under centralized planning, there will be no incentive for initiatives and innovations. Planning follows routine procedure and may cause stagnation in growth. The absence of initiatives may affect progress in following ways.

- ▲ The absence of private ownership and profit motive discourages entrepreneurs.
- ▲ As all enjoy equal reward under planned economy irrespective of their effort
- ▲ The bureaucracy and red tapism which are the features of planned economy, cripple the initiative as they cause procedural delay and time loss.

#### 3. High cost of Management

- ◇ No doubt the fruits of planning such as industrialization, social justice and regional balance are good.
- ◇ Plan formulation and implementation involve engagement of an army of staff for data collection and administration.

#### 4. Difficulty in advance calculations

- ★ Advance calculations in a precise manner are impossible to make decisions regarding the consumption and production.
- ★ It is also very difficult to put the calculations into practice under planning.

## Chapter 12 Introduction to Statistical Methods and Econometrics

### II. Very Short Answer Questions:

#### 21. What is Statistics?

According to Croxton and Cowden, “Statistics may be defined as the collection, organization, presentation, analysis and interpretation of numerical data”

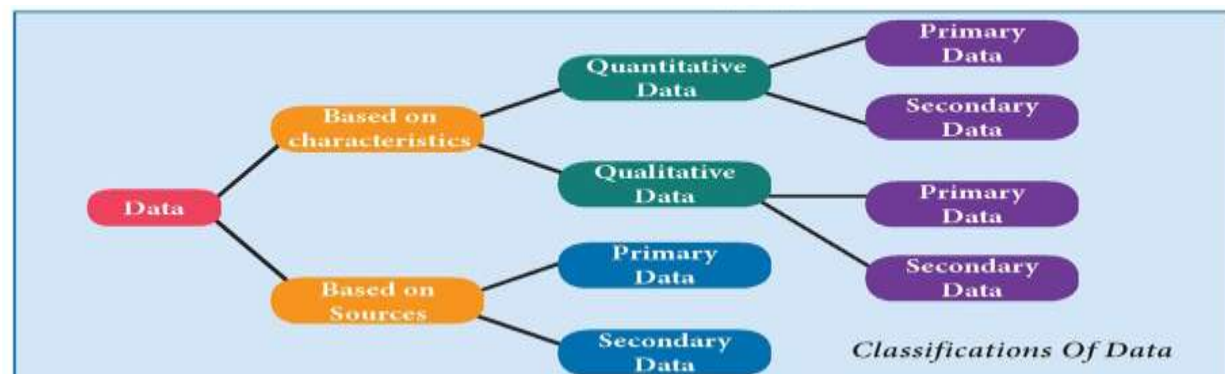
#### 22. What are the kinds of Statistics?

- ◆ Descriptive Statistics
- ◆ Inferential Statistics

#### 23. What do you mean by Inferential Statistics?

The branch of statistics concerned with using sample data to make an inference about a population of data is called Inferential Statistics.

#### 24. What are the kinds of data?



**25. Define Correlation.**

- ✧ Correlation is a statistical device that helps to analyse the covariation of two or more variables.
- ✧ Sir Francis Galton, is responsible for the calculation of correlation coefficient.

**26. Define Regression.**

Regression means going back and it is a mathematical measure showing the average relationship between two variables

**26. What is Econometrics?**

“Econometrics may be defined as the social science in which the tools of economic theory, mathematics and statistical inference are applied to the analysis of economic phenomena”.

**III. Short Answer Questions:****28. What are the functions of Statistics?**

- ❖ Statistics presents facts in a definite form.
- ❖ It simplifies mass of figures.
- ❖ It facilitates comparison.
- ❖ It helps in formulating and testing.
- ❖ It helps in prediction.
- ❖ It helps in the formulation of suitable policies.

**29. Find the Standard Deviation of the following data: 14, 22, 9, 15, 20, 17, 12, 11**

S. No	X	(x - $\bar{x}$ )	(x - $\bar{x}$ ) <sup>2</sup>
1	14	-1	1
2	22	7	49
3	9	-6	36
4	15	0	0
5	20	5	25
6	17	2	4
7	12	-3	9
8	11	-4	16
N = 8			
(No. of Frequency occurred)	$\Sigma X = 120$	0	$\Sigma(x - \bar{x})^2 = 140$

$$\begin{aligned}
 N &= 8 \\
 \bar{x} &= \frac{120}{8} = 15 \\
 \sigma &= \sqrt{\frac{\Sigma(x - \bar{X})^2}{N}} \\
 &= \sqrt{\frac{140}{8}} \\
 &= \sqrt{17.5} \\
 \sigma &= 4.18
 \end{aligned}$$

**30. State and explain the different kinds of Correlation.****Type I: Based on the direction of change of variables**

- ➔ Positive Correlation
- ➔ Negative Correlation

**Type II: Based upon the number of variables studied.**

- ▲ Simple Correlation
- ▲ Multiple Correlations
- ▲ Partial Correlation

**Type III: Based upon the constancy of the ratio of change between the variables Linear Correlation****Non Linear****31. Mention the uses of Regression Analysis.**

- It indicates the cause and effect relationship between the variables and establishes functional relationship.
- Besides verification it is used for the prediction of one value, in relation to the other given value.

- Regression coefficient is an absolute figure. If we know the value of the independent variable, we can find the value of the dependent variable.
- It has wider application, as it studies linear and nonlinear relationship between the variables

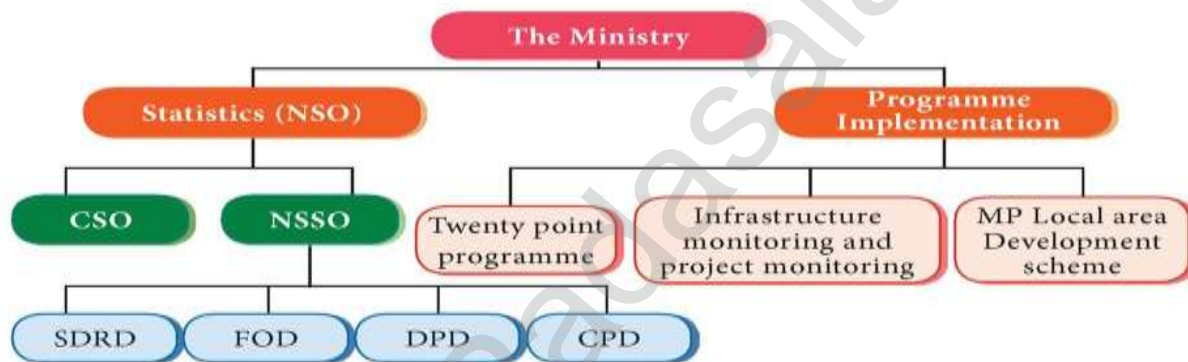
### 32. Specify the objectives of econometrics.

- ✧ It helps to explain the behaviour of a forthcoming period that is forecasting economic phenomena.
- ✧ It helps to prove the old and established relationships among the variables or between the variables
- ✧ It helps to establish new theories and new relationships.
- ✧ It helps to test the hypotheses and estimation of the parameter.

### 33. Differentiate the economic model with econometric model.

S. No.	Economic Model	Econometric Model
1.	An Economic Model is a local representation of knowledge.	An Econometric Model is an integration at dependent variable with explanatory variables.
2.	It is adapted to yield a definite and precise formulation of the economic processes at work.	It represent a set of hypotheses that permits statistical inference from the particular date under review.
3.	This is based upon abstract economic theory.	It appropriate to the particular situation based on common sense.

### 34. Discuss the important statistical organizations (offices) in India.



#### Central Statistical Office (CSO)

- The Central Statistical Office is one of the two wings of the National Statistical Organisation (NSO)

#### National Sample Survey Organisation (NSSO)

- The National Sample Survey Organisation, now known as National Sample Survey Office, is an organization under the Ministry of Statistic of the Government of India.
  - ◆ Twenty Point Programme
  - ◆ Infrastructure Monitoring and Project Monitoring
  - ◆ Member of Parliament Local Area Development Scheme.

### IV. Long Answer Questions:

#### 35. Elucidate the nature and scope of Statistics.

##### Definition of Statistics

According to Croxton & Cowden "Statistics may be defined as the collection, organisation, presentation, analysis and interpretation of numerical data"

##### Nature of Statistics

- Statistics are an aggregate of facts.
- Statistics are numerically enumerated, estimated and expressed.
- Statistics should be collected in a systematic manner for a predetermined purpose.
- Should be capable of being used as a technique for drawing comparison

- Statistics are numerated or estimated according to reasonable standard of accuracy.
- Statistics are affected to a marked extent by a multiplicity of causes.

### Scope of Statistics

- ✧ Statistics and Economics
- ✧ Statistics and Commerce
- ✧ Statistics and Education
- ✧ Statistics and Planning
- ✧ Statistics and Medicine
- ✧ Statistics and Modern applications

### 36. Calculate the Karl Pearson Correlation Co-efficient for the following data

Demand of Product X :	23	27	28	29	30	31	33	35	36	39
Sale of Product Y:	18	22	23	24	25	26	28	29	30	32

**Solution:** Let A = 30 and B = 26 then  $dx = X - A$   $dy = Y - B$

X	Y	$d_x$	$d_y$	$d_x^2$	$d_y^2$	$d_x d_y$
23	18	-7	-8	49	64	56
27	22	-3	-4	9	16	12
28	23	-2	-3	4	9	6
29	24	-1	-2	1	4	2
30	25	0	-1	0	1	0
31	26	1	0	1	0	0
33	28	3	2	9	4	6
35	29	5	3	25	9	15
36	30	6	4	36	16	24
39	32	9	6	81	36	54
		11	-3	275	159	175

$$\begin{aligned}
 r(x,y) &= \frac{N\sum d_x d_y - \sum d_x \sum d_y}{\sqrt{N\sum d_x^2 - (\sum d_x)^2} \sqrt{n\sum d_y^2 - (\sum d_y)^2}} \\
 &= \frac{10(175) - (11)(-3)}{\sqrt{10(275) - (11)^2} \sqrt{10(159) - (-3)^2}} \\
 &= \frac{1750 + 33}{\sqrt{2150 - 121} \sqrt{1590 - 9}} \\
 &= \frac{1783}{\sqrt{(45.044)} \sqrt{(39.761)}} \\
 &= \frac{1783}{1790.94}
 \end{aligned}$$

$$\text{Ans: } r(x,y) = 0.9955$$



37. Find the regression equation Y on X and X on Y for the following data:

X:	45	48	50	55	65	70	75	72	80	85
Y:	25	30	35	30	40	50	45	55	60	65

X	Y	U=X-65	U=Y-45	U <sup>2</sup>	UV	V <sup>2</sup>
45	25	-20	-20	400	400	400
48	30	-17	-15	289	255	225
50	35	-15	-10	225	150	100
55	30	-10	-15	100	150	225
65	40	0	-5	0	0	25
70	50	5	5	25	25	25
75	45	10	0	100	0	0
72	55	7	5	49	35	25
80	60	15	15	225	225	225
85	65	20	20	400	400	400
$\Sigma X = 645$	$\Sigma Y = 435$	$\Sigma U = 5$	$\Sigma V = 20$	$\Sigma U^2 = 1813$	$\Sigma UV = 1415$	$\Sigma V^2 = 1675$

We have,

$$\bar{x} = \frac{\Sigma X}{N} = \frac{645}{10} = 64.5 \quad \text{and} \quad \bar{y} = \frac{\Sigma Y}{N} = \frac{435}{10} = 43.5$$

$$b_{yx} = \frac{N \Sigma UV - (\Sigma U \Sigma V)}{N \Sigma U^2 - (\Sigma U)^2}$$

$$= \frac{(10) \times 1415 - (5) \times (-20)}{(10) \times 1813 - (5)^2}$$

$$= \frac{14150 + 100}{18130 - 25} = \frac{14250}{18105} = 0.787$$

Regression equation of Y on X is

$$y - \bar{y} = b_{yx} (x - \bar{x})$$

$$y - 43.5 = 0.787 (X - 64.5)$$

$$\text{or } Y = 0.787X + 7.26$$

Similarly  $b_{xy}$  can be calculated as

$$b_{yx} = \frac{N \Sigma UV - (\Sigma U \Sigma V)}{N \Sigma U^2 - (\Sigma U)^2}$$

$$= \frac{(10) \times 1415 - (5) \times (-20)}{(10) \times 1675 - (-20)^2}$$

$$= \frac{14150 + 100}{16750 - 400} = \frac{14250}{16350} = 0.87$$

Regression equation of X on Y will be

$$x - \bar{x} = b_{xy} (y - \bar{y})$$

$$y - 64.5 = 0.87 (Y - 43.5)$$

$$\text{or } X = 0.87Y + 26.65$$

**38. Describe the application of Econometrics in Economics****1. Forecasting macroeconomic indicators:**

Some macroeconomists are concerned with the expected effects of monetary and fiscal policy on the aggregate performance of the economy. Time-series models can be used to make predictions about these economic indicators.

**2. Estimating the impact of immigration on native workers:**

Immigration increases the supply of workers, so standard economic theory predicts that equilibrium wages will decrease for all workers. However, since immigration can also have positive demand effects.

**3. Identifying the factors that affect a firm's entry and exit into a market:**

The microeconomic field of industrial organization, among many issues of interest, is concerned with firm concentration and market power.

**4. Determining the influence of minimum wage laws on employment levels:**

The minimum wage is an example of a price floor, so higher minimum wages are supposed to create a surplus of labor (higher levels of unemployment).

**5. Finding the relationship between management techniques and worker productivity:**

The use of high-performance work practices (such as worker autonomy, flexible work schedules, and other policies designed to keep workers happy) has become more popular among managers.

**6. Measuring the association between insurance coverage and individual health outcomes:**

One of the arguments for increasing the availability (and affordability) of medical insurance coverage is that it should improve health outcomes and reduce overall medical expenditures.

*Best of Luck*