

NAME OF THE SCHOOL :

NAME OF STUDENT CLASS & SEC

**BEST WISHES FROM** 

A.Alexis.PG.Tr.Don Bosco Hr.Sec.School,Varadharajanpet. Ariyalur.Dt, 621805 .Cell:9543776128 G. Vadivel,PG Tr.Govt.Hr.Sec.School,Pochampalli,Krishnagiri DT.Cell ; 9486048143

#### 12 - Std Lesson 1

#### Part-B

#### 21.Define Macro Economics.

Macro Economics is a study of the economy as a whole.

#### 22.Define the term of inflation.

Inflation refers to steady increase in general price level.

#### 23.What is mean by "Economy"?

An economy is referred to any system or area where economic activities are carried out.

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

Developed economics, under developed economics, and developing economics.

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

In the Capitalism, the role of the government is minimum and market determines the economic activities.

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

An Economic model is an explanation of how the economy or part of the economy works.

## 27. 'Circular Flow Income' Define.

The circular flow of income is a model of economy showing connections between different sectors of an economy.

#### Part-C

## 28. State the importance of Macro Economics.

- i) To solve the basic problems prevailing in an economy by understanding the economy as a whole.
- ii) To evolve precautionary measures to avoid economic crisis in future.
- iii) To solve the current economic problems by using scientific investigation.

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

#### i) Capitalism.

Here the role of the government is minimum and market determines the economic activities.

#### ii) Socialism.

Here major industries are owned and controlled by the government.

#### iii) Mixedism.

In a mixed economy both public and private sectors co-exist.

## 30. Outline the major merits of Capitalism.

- 1. Automatic Working.
- 2. Efficient Use of Resources
- 3. Incentives for Hard work.
- 4. Economic Progress.

- 5. Higher Rates of Capital Formation.
- 6. Development of New Technology

#### 31. Indicate the demerits of socialism.

- 1. Red Tapism and Bureaucracy.
- 2. Absence of Incentive.
- 3. Limited Freedom of Choice. 4. Concentration of Power:

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

- 1. Ownership of Property and Means of Production.
- 2. Coexistence of Public and Private Sectors.
- 3. Economic Planning.
- 4. Solution to Economic problems
- 5. Freedom and Control

#### 33. Compare the features of capitalism and socialism.

|   | Capitalism         | Socialism               |
|---|--------------------|-------------------------|
| 1 | Private Ownership  | Public Ownership        |
| 2 | Profit             | Social Welfare          |
| 3 | Free Market System | Central Planning System |

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

There are only two sectors namely, household sector and firms.

(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 organization.

(ii) Firms: The firm sector generates its revenue by selling goods and services to the household sector. It hires the factors of production.

#### Part-D

## 35. Discuss the scope of Macro Economics.

## The scope of Macro Economics.

1. National Income.

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

2. Inflation.

Inflation refers to steady increase in general price level.

## 3. Business cycle.

All economies face the problem of business fluctuations and business cycle.

## 4. Poverty and unemployment.

Nations having rich resource also face the problem of poverty and unemployment. Macro economics help to solve this problems.

## 5. Economic Policies.

Macro Economics is significant for evolving suitable economic policies.

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

An economy is referred to any system or area where economic activities are carried out.

#### i) **Production activity.**

Production is vital for all economic growth activities. In an economy it is the fundamental activity.

#### ii) Consumption activity.

Like production, consumption also is the basic of economic activities. And also it induces production.

#### iii) Exchange activity.

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

#### iv) 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 and regulations.

#### v) External activities.

The external activities like import, international relations, emigration, immigration, foreign investment, foreign exchange earnings also influence the entire f unctioning of the economy.

#### 37.Compare the feature among Capitalism, Secularism

| S. No | Features                         | Capitalism               | Socialism               |
|-------|----------------------------------|--------------------------|-------------------------|
| 1     | Ownership of means of production | Private ownership        | Public ownership        |
| 2     | Economic motive                  | Profit                   | Social welfare          |
| 3     | Solution of central problem      | Free market system       | Central planning system |
| 4     | Government role                  | Internal regulation only | Complete<br>involvement |
| 5     | Income Distribution              | Unequal                  | Equal                   |

#### 38. Compare the features among capitalism, socialism and mixedism

| S. No | Features                               | Capitalism               | Socialism               | Mixedism                                      |
|-------|--|--------------------------|-------------------------|---|
| 1     | Ownership of<br>means<br>of production | Private ownership        | Public ownership        | Private and<br>Public ownership               |
| 2     | Economic motive                        | Profit                   | Social welfare          | Profit and<br>Social welfare                  |
| 3     | Solution of central problem            | Free market<br>system    | Central planning system | Central planning<br>and Free market<br>system |
| 4     | Government role                        | Internal regulation only | Complete<br>involvement | Limited role                                  |
| 5     | Income Distribution                    | Unequal                  | Equal                   | Less unequal                                  |

#### Lesson 2

#### 21.Define National Income.

'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. This is the true net national income or revenue of the country or national dividend.' - Alfred Marshall.

Part-B

## 22. Write a formula for calculating DNP.

DNP at market prices = C+I+G+(X-M) + (R-P)C = Consumption, I = Investment, G = Government, X-M = Net export R-P = net factor income from abroad.

- 23. What is the difference between NNP and NDP ?NNP = GNP depreciation allowance.NDP = GDP depreciation
- 24. Trace the relationship between GNP and NNP.GNP = GDP + Net factor income from abroad.NNP = GNP Depreciation.

## 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.

## 26. Define GDP deflator.

GDP deflator =

Nominal GDP

Real GDP

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

Farmers keep a large portion of food for self consumption. The problem is not sold in the market can be included in national income or not.

Part-C

## 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.Differenciate between personal and disposable 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.

Disposable income is the individuals income after the payments of income tax.

Disposable income = Personal income – Direct tax.

## 30. Explain briefly NNP at factor price.

NNP refers to the market value of output. Whereas NNP at factor cost is the total 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.

In expenditure method, the total expenditure incurred by the society in a particular year is added together.

GNP = C+I+G+(X-M)

C = Private consumption 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. Care must be taken to avoid double counting.

## 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.
- \* But the rise in GDP or per capita income need not always promote economic welfare.

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

- \* To know the various sectors contribution towards national income.
- \* To formulate national policies.
- \* To formulate planning and evaluate plan progress
- \* To build economic models both in short-run and long-run.
- \* To make international comparison.
- \* To know a country's per capita income .
- \* To know the distribution of income for various factors of production.
- \* To arrive at many macro economic variables.

## Part-D

## 35. Explain the importance of national income.

National income is regarded as accounts of the economy, which are known as social accounts. It enables us.

- \* To know the various sectors contribution towards national income.
- \* To formulate national policies such as monetary policy, fiscal policy and other policy.
- \* To formulate planning and evaluate plan progress
- \* To build economic models both in short-run and long-run.
- \* To make international comparison, inter regional comparison and inter-term poral comparison of growth of the economy during different periods.
- \* 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.
- \* To arrive at many macro economic variables namely, Tax- GDP ratio, Current account Deficit-GDP ratio, Fiscal Deficit – GDP ratio.

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

There are three methods of estimating the National income of a country.

1. Product method, 2. Income method 3. The Expenditure method

## 1. Product method

Product method measures the output of the country. Under this method, the gross value of output from different sectors are obtained for the entire economy during a year. In this method Double counting should be avoided.

## 2. Income method.

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

## 3. The Expenditure method.

In 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.

GNP = C+I+G+(X-M)

- (C) net domestic investment
- (I) government expenditure on consumption
- (G) as well as capital goods and net exports (X-M) .
- If the above methods are done correctly, the following equation must hold.

Output = Income = Expenditure.

## 37. What are the difficulties involved in the measurement of national income ?

In India, a proper valuation of output is very difficult because of various problems.

## i) Transfer payments.

The government expenditures like pensions, unemployment allowance, subsidies, etc are not included in the national income. They are paid without adding anything to the production processes. Interest on national debt is also considered transfer payments.

## ii) Difficulties in assessing depreciation allowances.

It requires high degree of judgment to assess the depreciation allowance and other charges. The deduction of these from national income is not an easy task.

The deduction of these from hational income is

iii) Unpaid services.

A house wife renders lot of useful services. She is not paid for them and her services are not included in national income. But such services performed by paid servants are Included in national income. Similarly, there are number of goods and services which are difficult to be assessed in money terms are not included.

## iv) Income from illegal activities.

Income earned through illegal activities like gamling and smuggling are not included in national income.

## v) Production for self consumption and changing price.

Farmers keep a large portion of food for self consumption. The problem is whether that part of the produce can be included in national income or not. Prices do not remain stable. So national income should be calculated at a constant price level.

#### 38.Discuss the importance of social accounting in economic analysis.

- \* 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, are recorded and their interrelationship is traced.
- \* The social accounting framework is useful for economists as well as policy makers. Because it represents the major economic flows and statistical relationships among various sectors of the economic system. It become possible for forecast the trends of economy more accurately.
- \* Under this method, the economy is divided into the following sectors.
- i) Firms.
- ii) Households
- iii) Government
- iv) Rest of the world
- v) Capital sector.

#### i) Firms.

Firms undertake productive activities. It employs the factors of production to produce goods and services.

#### ii) Households

Households consume goods and services that are produced by the firms. And represent factors of production.

#### iii) Government

The government sector refers to the economic transactions of public bodies at all levels.

#### iv) Rest of the world

Rest of the world relates to international economic transactions of the country.

### v) Capital sector

Capital sector refers to savings and investment activities.

## Lesson 3 Part-B

#### 21. Define full employment.

Keynes defines full employment as the absence of involuntary unemployment.

## 22. What is the main features of rural unemployment?

- \* Disguised unemployment.
- \* Seasonal unemployment.

## 23. Give short note on frictional unemployment.

Frictional unemployment arises due to imbalance between supply and demand for labour. The Person who lose jobs and in search of job are also included under frictional unemployment.

## 24. Give reason for labour retrenchment at present situation.

Capital intensive requires less labourers and adoption of new techniques are the reason for labour retrenchment at present situation.

#### 25.List out the assumption of Say's Law.

- \* Buyer , seller or an input cannot affect price.
- \* Full employment.
- \* People are motivated by self interest.
- \* There will be a perfect competition.
- \* Long run analysis.

- \* There is wage price flexibility.
- \* Money acts only as medium of exchange.

## 26. What is effective demand ?

- \* Effective demand denotes money actually spent by the people on products of industry.
- \* Effective demand equals national income.

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

- \* Aggregate consumption expenditure (C)
- \* Aggregate desired savings (S)
- \* Net Tax Payments (T)
- \* Personal transfer payments to the foreigners (Rf)

Aggregate supply = C+S+T+Rf

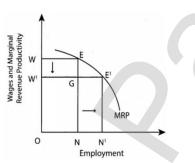
## PART-C

## 28. Explain the following in short.

- i) Seasonal unemployment
- ii) Frictional unemployment
- iii) Educated unemployment
- i) Seasonal Unemployment

This type of unemployment occurs during certain seasons of the year.

- ii) This type of unemployment arises due to imbalance between supply of labour and demand for labour.
- iii) Sometimes educated people are underemployed or unemployed when qualification does not match the job.
- 29. According to classical theory of unemployment, how wage reduction solve the problem of unemployment? (Answer is taken from net source)
- \* According to the classical theory of employment, full employment conditions can be achieved by cutting down the wage rate.
- \* It also assumes that wages and prices of goods are flexible.
- \* Production of factors will be willing to get their remuneration according to their productivity.
- \* Thus wage reduction will solve the problem of unemployment .



In the figure when the wage rate is OW, then the employment is ON.

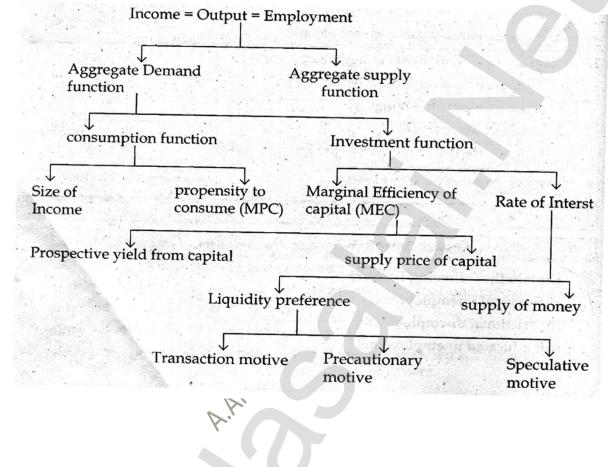
As the wage rate is reduced to  $\mathsf{OW}_1$  then the employment has increased

to  $ON_1$ . Prof. Pigou has taken this theory as base for developing the solution of unemployment problem.

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

- i) There is no possibility for over production or unemployment.
- ii) If there exist unutilized resources in the economy, it is profitable to employ them up to the point of full employment.
- iii) As automatic price mechanism operates in the economy, there is no need for government intervention.
- iv) Money is only the medium of exchange.

#### 31. Explain Keynes theory in the form of flow chart.



32. What do you mean by aggregate demand ? Mention its components.

Aggregate demand is the expected income or revenue from the sale of output at different levels of employment.

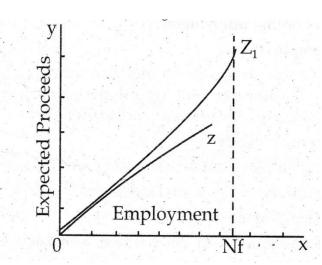
Aggregate demand has the following components.

- i) Consumptions demand.
- ii) Investment demand
- iii) Government expenditure and
- iv) Net Export

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

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

In the figure two aggregate supply curves are drawn with the assumption of fixed money wages and variable wages.



- i) Z curve is linear where money wages remains fixed and Z<sub>1</sub> curve is non-linear since wage rate increases with employment.
- ii) As full employment level (Nf) aggregate supply curve becomes inelastic.
- iii) Therefore the aggregate supply depends on the relationship between price and wages.

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

| -    |                                 | -                             |
|------|---------------------------------|-------------------------------|
| S.No | Keynesianism                    | Classicism                    |
| 1    | Short-run equilibrium           | Long-run equilibrium          |
| 2    | Saving is a vice                | Saving is a social virtue     |
| 3    | State intervention is advocated | Laissez-faire policy          |
| 4    | Rate of interest is flow        | Rate of interest is a stock   |
| 5    | Demand creates its own supply   | Supply creates its own demand |

## Part-D

## 35. Describe the types of unemployment;

#### i. Cyclical unemployment.

In a business cycle during the period of recession and depression, income and output fall leading to wide spread of unemployment.

#### ii. Seasonal unemployment.

This type of unemployment occurs during certain seasons of the year.

Eg : Agriculture and Agro-based industries.

#### iii. Frictional unemployment.

This type of unemployment arises due to unbalance between supply and demand for labour.

#### iv. Educated unemployment.

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

#### v. Disquised unemployment.

A person is said to be disquised unemployed if his contribution top output is less than what he can produce by working for normal hours per day. In this situation marginal productivity of labour is zero or less.

#### 36. Criticise Say's law of market.

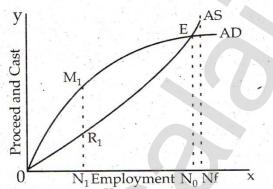
- \* Say's law of market is' *supply creates its own demand*'. Hence there cannot be general over production or the problems of unemployment in the economy.
- \* Say's law explains that total production equals total income

## Criticisms of Say's law

- 1. According to Keynes, supply does not create its own demand.
- 2. Automatic adjustment process will not remove unemployment.
- 3. Money is not neutral.
- 4. According to Say there is no over production.But Keynes said that over production is possible.
- 5. Keynes regards full employment as a special case.
- 6. The need for state intervention arises in the case of general over production and unemployment.

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

- \* Under the Keynes theory of employment, a simple two sector is taken to understand the equilibrium between ADF and ASF.
- \* All the decisions concerning consumption expenditure are taken by the house-holds, while the business firms take decisions concerning investment.
- \* It is also assumed that consumption function is linear and planned investment is autonomous.



- In the diagram aggregate demand and aggregate supply reach equilibrium at point E.
- The employment level is N<sub>0</sub> at that time.
- At ON1 employment, the aggregate demand will be high but aggregate supply will be less.
- Entrepreneurs will employ more labourers at this profit level.
- The tendency to employ more labour will stop once they reach E.
- The difference between  $N_o$  and  $N_f$  is the level of unemployment.
- Thus the concept of effective demand becomes significant in explaining the under employment equilibrium.

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

| S.No | Keynesianism  | Classicism  |
|------|---|---|
| 1    | Short-term equilibrium  | Long-term equilibrium                                   |
| 2    | Saving is a vice  | Saving is a social virtue                               |
| 3    | State intervention is advocated                                 | Laissez-faire policy                                    |
| 4    | Rate of interest is flow  | Rate of interest is a stock                             |
| 5.   | Demand creates its own supply                                   | Supply creates its own demand                           |
| 6    | Un balanced budget  | Balanced budget   |
| 7    | The function of money is medium of exchange and store of value. | The function of money is to act as a medium of exchange |

## Lesson - 4

## 21. What is consumption function?

The consumption function refers to income consumption relationship. (or) It is the functional relationship between total consumption and gross national income.

Part-B

C = f(Y)

C = Consumption

Y = Income

f = Function

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

Propensity to consume refers to income consumption relationship.

## 23. Define average propensity to consume.

The average propensity to consume is the ratio of consumption expenditure to any particular level of income.

APC = C / Y. C= Consumption, Y= Income

## 24. Define marginal propensity to consume.

The marginal propensity to consume may be defined as the ratio of the change in the consumption to the change in income.  $MPC = \Delta C / \Delta Y$ 

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

Propensity to save is the relationship between income and savings.

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

The average propensity to save is the ratio of saving to income.

APS = S / Y

## 27. Define marginal propensity to save ( MPS )

MPS is the ratio of change in saving to a change in income.

 $\mathsf{MPS} = \Delta \mathsf{S} / \Delta \mathsf{Y}$ 

## 28. Define Multiplier.

The multiplier is defined as the ratio of the change in national income to change in ivestment. K =  $\Delta$ Y /  $\Delta$  I

## 29. Define Accelerator.

The accelerator expresses the ratio of the net change in investment to change in consumption.

## PART-C

## 30.State the proposition of Keynes's psychological law of consumption.

This law has three proposition.

- i) When income increases, consumption and expenditure also increases but by a smaller amount.
- ii) The increased income will be divided in some proportion between consumption expenditure and saving.
- iii) Increase in income always leads to an increase in both consumption and saving.

#### 31. Differentiate autonomous and induced investment.

| S.No | Autonomous investment | Induced investment |
|------|-----------------------|--------------------|
| 1    | Independent           | Planned            |
| 2    | Income inelastic      | Income elastic     |
| 3    | Welfare motive        | Profit motive      |

# 32. Explain any three subjective and objective factors influencing the consumption function.

## Subjective factors;

- i) The motive of precaution.
- ii) The motive of financial independence.
- iii) The motive of foresight.

## Objective factors;

- i) Income distribution
- ii) Price level.
- iii) Wage level.

#### 33. Mention the difference between accelerator and multiplier.

| S.No | Accelerator                         | Multiplier                   |
|------|-------------------------------------|------------------------------|
| 1    | The ratio of the net change in      | The ratio of the change in   |
|      | investment to change in consumption | national income to change in |
|      |                                     | investment                   |
| 2    | ΔΥ                                  | ΔΙ                           |
|      | K=                                  | β =                          |
|      | $\Delta I$ $\Delta I$               | ΔC                           |

## 34. State the concept of super multiplier.

- \* Hicks developed the concept of super multiplier. He has combined multiplier and accelerator Mathematically. And named it super multiplier.
- \* The super multiplier is worked out by combining both consumption and induced investment.
- \* The super multiplier which includes induced investment is greater than simple multiplier.

## 35. Specify the leakages of multiplier.

- i) Payment towards past debts.
- ii) Purchase of exiting wealth.
- iii) Import of goods and services.
- iv) Non-availability of consumer goods.
- v) Full employment situation.

#### PART-D

## 36. Explain Keynes psychological law of consumption function with diagram.

Keynes formed the fundamental psychological Law of Consumption. The law implies that people spend on consumption less than the full increment of income.

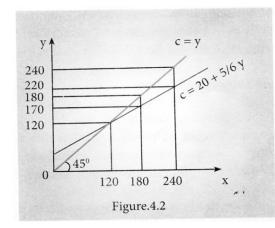
## Assumptions

- i) Ceteris paribus
- ii) Existence of normal condition
- iii) Existence of laissez-faire capitalist economy.

### Proposition of the law

- 1. When income increase, consumption expenditure also increases but by a smaller amount.
- 2. The increased income will be divided in some proportion between consumption expenditure and saving.
- 3. Increase in income always leads to an increase in consumption and saving.

### Diagram



#### Explanation.

Income is measured horizontally and consumption and saving on the vertical axis.

C is the consumption function curve and  $45^{\circ}$  line represents income consumption equality.

#### 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.

\* Thus the law implies that people spend on consumption less than the full increment of income.

## 37. Briefly explain the subjective and objective factors of consumption function.

## A) Subjective Factors.

Subjective factors are the internal factors related to psychological feelings.

#### i) The motive of precaution

To build up a reserve against unforeseen contingencies. Eg. Accidents, sickness.

## ii) The motive of foresight.

The desire to provide for anticipated future needs. Eg. Old age

- iii) **The motive of calculation**. The desire to enjoy interest and appreciation.
- iv) The motive of improvement. The desire to enjoy for improving standard of living.

## v) The motive of enterprise. Desire to do forward trading.

The government , institutions and business corporation and firms may also consume mainly because of the following motives.

- i) The motive of enterprise
- ii) The motive of liquidity.
- iii) The motive of improvement.
- iv) The motive of financial prudence.

#### B) Objective factors.

Objective factors are the external factors which are real and measurable.

### i) Income distribution.

The community with more equal distribution of income tends to have high propensity to consume.

ii) Price level.

It plays an important role in determining consumption function.

### iii) Interest rate.

Higher rate of interest encourages more savings and reduces consumption.

### iv) Fiscal policy.

When government reduces tax, the propensity to consume increases and vice-versa.

#### v) Consumer credit.

Easy availability consumer credit pushes up consumption.

#### 38.Illustrate the working of Multiplier.

## Multiplier meaning.

The multiplier is defined as the ratio of the change in national income to change in investment.

 $\mathsf{K}=\Delta\mathsf{Y}\,/\,\Delta\,\mathsf{I}$ 

The working of Multiplier.

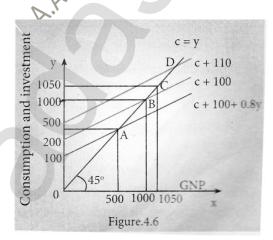
Suppose the Government undertakes I vestment expenditure equal to Rs.100 crore on some public works, by way of wages, price of materials etc. Thus income of labourer and suppliers increases by Rs.100 crore.

For example, if investment increases from Rs.200 crore to Rs.210 crore, income increases from Rs.1000 crore to Rs.1050 crore.

 $K = \Delta Y / \Delta I$ , 50 / 10 = 5. K = 5.

 $\Delta Y = K \times \Delta I$ ,  $5 \times 10 = Rs.50$  crore.

For Rs.10 increase in investment (I) income (Y) has increased by Rs.50 crore. This is due to multiplier effect.



At  $45^{\circ}$  line y = C+S. At point A, Y = C = 500. At point B, Y = 1000. At point D. Y = 1050.

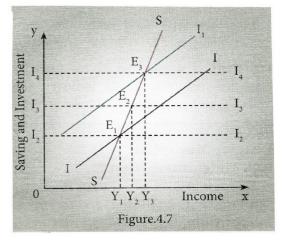
## 39. Explain the operation of the Accelerator.

## Accelerator meaning.

The accelerator expresses the ratio of the net change in investment to change in consumption.

- \* The operation of the accelerator may be explained as follows.
- \* Let us suppose that in order to produce 1000 consumer goods, 100 machines are required. Also suppose that working life of a machines is 10 years. This means that every year 10 machines have to be replaced. This might be called replacement demand.
- \* Suppose that demand for consumer goods rises by 10 percent. This results in increase the demand for 10 more machines. So that total demand for machines is 20.( 10 for replacement and 20 for meeting increased demand ) Thus a mild change in demand for consumer goods will lead to wider change in investment.

#### **Operation of Accelerator.**



SS is the saving curve. Il is the investment curve. At point  $E_1$ , the economy is in equilibrium with OY<sub>1</sub> income. Saving and investment are equal at Ol<sub>2</sub>. Now investment is increased from Ol<sub>2</sub> to Ol<sub>4</sub>. This increases income from OY<sub>1</sub> to OY<sub>3</sub>. The equilibrium point is  $E_3$ . In the diagram, it is assumed that exogenous investment is only by  $I_1$ ,  $I_3$  and induced investment is by  $I_2$ . Therefore, increases in increases by  $V_2$ ,  $V_3$  is due to the multiplier effect and the increases

is by  $I_3$ ,  $I_4$ . Therefore, increase in income by  $Y_1$ ,  $Y_2$  is due to the multiplier effect and the increase in income by  $Y_2$ ,  $Y_3$  is due to the accelerator effect.

| S.No | Marginal Efficiency of Capital (MEC)  | Marginal Efficiency of Investment (MEC)   |
|------|---|---|
| 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<br>of capital over and above the existing capital<br>stock. |
| 3    | The capital stock is taken on the X axis of diagram.  | The amount of investment is taken on the X- axis of the diagram.  |
| 4    | It is a stock concept.  | It is a flow concept.   |
| 5    | It determines the optimum capital stock<br>in an economy at each level of interest<br>rate.             | It determines the net investment of the economy at each interest rate given the capital stock.              |

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

#### Lesson - 5 Part-B

#### 21. Define Money.

'Money is what money does'. - Walker

#### 22. What is barter ?

Exchange of goods for goods was known as Barter system.

#### 23. What is commodity money ?

In ancient times commodities like furs, skins, salt ,rice and wheat are commonly used as Money which is called as commodity money.

#### 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.

#### 25. What is plastic money ?

Plastic money is an alternative to the cash. It is made of hard plastic cards. Cash cards, Credit cards, Debit cards, Pre-paid cash cards are the example for plastic money .

#### 26. Define Inflation.

" Too much of Money chasing too few goods " - Coulbourn.

#### 27. What is stagflation ?

Stagflation is a combination of stagnant economic growth, high unemployment and high inflation.

## Part –C

## 28. Write a note on metallic money.

- \* Among the modern money system evolved, metallic standard is the premier one.
- \* Under this metallic standard some kind of metal either gold or silver is used to determine the standard value of money and currency.
- \* 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. Reserve Bank of India publishes information for four alternative measures of money supply namely  $M_1$ ,  $M_2$ ,  $M_3$  and  $M_4$ .

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

- i) Currency Deposit Ratio (CDR)
- ii) Reserve Deposit Ratio (RDR)
- iii) Cash Reserve Ratio (CRR)
- iv) Standard Liquidity Ratio (SLR)

#### 31. Write types of inflation.

- i) Creeping inflation
- ii) Walking inflation

- iii) Running inflation
- iv) Galloping inflation

## 32. Explain Demand - pull and Cost - push inflation.

## Demand - pull inflation.

If the demand is high for a product and supply is low, the price of the products increases.

## Cost - push inflation.

When the cost of raw material increases, price of the product also increases. This is called as Cost - push inflation.

## 33. State Cambridge equation of value of money.

## i) Marshall's Equation.

The Marshall equation is expressed as M = KPY

M is the quantity of money.

Y = aggregate real income

P = purchasing power of money

K = The fraction of the real income which the public desires to hold in the form of money. According to Marshall's equation, the value money is influenced not only by changes In M, but also changes in K.

## ii) Keynes's Equation

The equation is expressed as n = PK.

n = the total supply of money.

P = the general price level of consumption goods

K = the total quantity of consumption goods the people decide to keep in the form of cash.

## 34. Explain disinflation.

- \* Disinflation is the slowing down the rate of inflation by controlling the amount of credit available to consumer without causing more unemployment.
- \* Disinflation may be defined as the process of reversing inflation without creating unemployment or reducing output in the economy.

## PART - D

## 35. Illustrate Fisher's Quantity theory of money.

Quantity theories of money explain the relationship between quantity of money and value of money. The general form of Equation of Exchange given by Fisher is

MV = PT.

Where M = Money supply / quantity of money

V = Velocity of money

P = Price level

T = Volume of transaction

Supply of money = Demand for money

This equation is referred to as Cash Transaction Equation.

Later Fisher extended his original equation of exchange to include bank deposits  $M_1$  and its velocity  $V_1$ .

The revised equation was

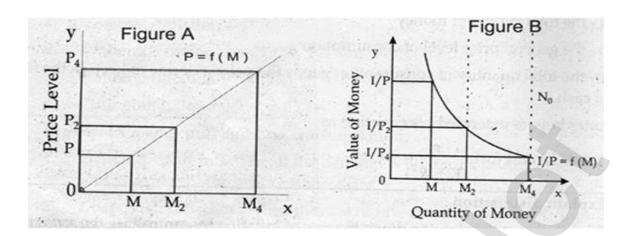


Figure (A) shows the effect of changes in the quantity of money on the price level. When the quantity of money is OM, The price level is OP. When the quantity of money is doubled to  $OM_2$  the price level also doubled to  $OP_2$ . Further, when the quantity of money is increased four-fold to  $OM_4$ , the price level also increases by four times to  $OP_4$ . Thus the quantity of money increases, the price level also increases.

Figure (B) shows the inverse relation between quantity of money and the value of money. When the quantity of money is OM, the value of money is  $O1 / P_1$ . When the quantity of money is doubled to  $OM_{2,}$  the value of money reduced to  $O1 / P_2$ . (that is one half) Further, when the quantity of money is increased four-fold to  $OM_4$ , the value of money is reduced by  $O1 / P_4$ .

#### 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 prices of all goods and services expressed in terms of money. Money measures the value of goods and services.

## 2. Secondary Functions.

i) Money as a store of value.

Savings are now done in terms of money. Money serves as an excellent store of wealth.

ii) Money as a Standard of Deferred Payments.

Money acts as the standard of deferred payments. Borrowing and lending is easily done by using money.

## iii) Money as a means of Transferring purchasing power.

The exchange of goods in now extended to distant lands. It is therefore, felt necessary to transfer purchasing power from one place to another.

## **3.Contingent Functions**

- i) Money is the basis of the credit system.
- ii) The invention of money facilitated the distribution of income as rent, wage, interest and profit.
- iii) Money helps to equalize marginal utilities and marginal productivity.
- iv) Money increases productivity of capital.

#### 4. Other Functions

- i) Money helps to maintain Repayment capacity.
- ii) Money represents Centralized purchasing power.
- iii) Money gives liquidity to capital.
- 37. What are the causes and effects of inflation on the economy ? Causes of inflation.

## 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 disposable income.

Inflation may arise due to the increase in disposable income induces the demand for goods and services.

## iii) Increase in public expenditures.

Government activities have been expanding due to developmental activities and social welfare programmes. This is also a cause for price rise.

## iv) Increase in consumer spending.

The demand for goods and services increases when they are given credit to buy goods on hire-purchase and installment basis.

## v) Cheap money policy.

This leads to increase in the money supply which raises the demand for goods and services in the economy.

## Effects of inflation

## i) Effects on production:

The profit due to rising prices encourages the traders and producers. Inflation also increases their investments in production. Hyper inflation results in a serious depreciation of the value of money.

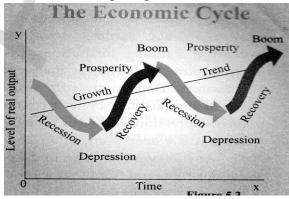
## ii) Effects on distribution.

- 1. During inflation, debtors are the gainers while the creditors are the losers.
- 2. The fixed income groups are the worst hit during inflation.
- 3. Inflation is the boon to the producers and traders.
- 4. The investors ,who generally invest in fixed interest yielding bonds and securities will lose during inflation.

## 38. Describe the phases of trade cycle.

The four different phases of trade cycle are i) Boom ii) Recession iii) Depression iv) Recovery.

These are illustrated in the following diagram.



#### i)Boom or prosperity phase.

During this period there is all round optimism. There is full employment, money wages rise, profits increase and interest rates go up.

#### ii) Recession

The turning point from boom is called recession. Investments are drastically reduced, production comes down and income and profit decline. There is panic in the stock market and business activities show signs of dullness. As the liquidity preference rises money market become tight.

#### iii) Depression

During depression economic activity becomes extremely low. Depression if the worst phase of the business cycle. Extreme point of depression is called as 'trough'.

#### iv)Recovery.

This is the turning point from depression to revival towards upswing. Autonomous investments boost the activity. Recovery may be initiated by innovation or investment or by government expenditure.

#### Lesson - 6 Part-B

#### 21.Define commercial banks.

Commercial bank refers to a bank which deals with deposit and loan services provided to corporations and public.

#### 22. What is credit creation ?

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

#### 23. Define central bank.

Central bank or reserve bank is an institution that manages a state's currency, money supply and interest rate.

## 24. Distinguish between CRR and SLR.

CRR is the percentage of money, which a bank has to keep with RBI in the form of cash. SLR is the proportion of liquid assets to time and demand liabilities.

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

The sale and purchase of Government securities and other proper eligible securities like bills and securities of private concern in the money market is called as open market operations.

## 26. What is rationing of credit ?

Rationing of credit is an instrument 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.

i) To maintain an expert staff to study all questions on agricultural credit.

ii) To finance the rural sector through eligible institutions engaged in the business of agricultural credit and to co-ordinate their activities.

#### Part –C

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

- i) Bank credit refers to bank loans and advances. Money is said to be created when the banks through their lending activities make a net addition to the supply of money in the economy.
- ii) Banks have the power to expand or contract demand deposits.
- iii) This power of commercial bank to create deposits through their loans and advances is known as credit creation.

## 29. Give a brief note on NBFL. (Non - Banking Financial Institution )

- i) Non Banking Financial Institution is a financial institution that does not have a full banking license or not supervised by the central bank.
- ii) NBFL do not carry on pure banking business. They are institution which undertake borrowing and lending.
- iii) NBFL are classified into stock exchange and other financial institution.

## 30. Bring out the methods of credit control.

#### Credit control measures

| S.No | General ( Quantitative )    | Selective ( Qualitative )     |
|------|-----------------------------|-------------------------------|
| 1    | Bank                        | Rationing of credit           |
| 2    | Open market operation       | Direct action                 |
| 3    | Variable cash Reserve Ratio | Regulation of consumer credit |

## 31. What are the functions of NABARD ?

- i) NABARD acts as a refinancing institution for all kinds of production and investment credit to various industries with a view to promote integrated rural development.
- ii) It provides short, medium and long term credits to Co-operative Banks, RRBS,LDBS and other financial institution approved by RBI.
- iii) NABARD gives long term loans to State Government to enable them to subscribe to the share of capital of co-operative credit societies.

## 32. Specify the function of IFCL.( Industrial Finance Corporation of India )

- i) Long term loans both in rupees and foreign currencies.
- ii) Underwriting of equity, preference and debenture issues.
- iii) Guaranteeing of loans raised in foreign currency from foreign financial institutions.

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

| S.No | Money market  | Capital market   |
|------|---|--|
| 1    | Money market is the mechanism through which short term funds are loaned and borrowed.     | Capital market where investments like<br>bonds, equities and mortgages are<br>traded for long term is known as capital<br>market |
| 2    | Money markets have low risks.   | Capital markets have a significant risk in comparison to money market.   |
| 3    | Commercial banks, non-banking financial institutions and Central banks are the investors. | Stock brokers and insurance companies are the investors.   |

#### 34.Mention the objectives of Demonetization.

i) Removing the black money.

- ii) Stopping corruption,
- iii) Stopping terror funds
- iv) Curbing Fake notes.

#### Part-D

## 35. Explain the role of commercial Banks in economic development.

## i) Capital formation.

Bank mobilize the small savings of the people scattered over a wide area and make it available for productive purposes.

## ii) Creation of credit.

Banks create credit for the purpose of providing more funds for development projects, credit creation brings about faster economic development.

## iii) Encouraging right type of industries.

Commercial banks grant loans and advances to manufacturers whose products are ion great demand. The manufacturers in turn increase their products by introducing new methods of production and assist in raising the national income of the country.

#### iv) Finance to Government.

Banks provide long term and short term loans to government to promote industries in under developed countries for which finance is needed for it.

#### v) Employment generation.

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

## 36. Elucidate the 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.

#### i) Demand Deposits.

The owners of these deposits are allowed to withdraw money any time without any notice to the bank.

## ii) Time Deposits.

It refers to deposits that are made for certain committed period of time.

## 2. Advancing Loans.

Commercial banks grant loans in the form of overdraft, cash credit and discounting bills of exchange.

## b) Secondary Functions.

## 1) Agency functions.

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

- i) Collecting cheques
- ii) Collecting income
- iii) Paying Expenses.

#### 2) General utility Functions.

Commercial banks provide some utility to customers by performing various functions.

- i) Providing Locker Fecilities.
- ii) Issuing Traveller's Cheques
- iii) Dealing in Foreign Exchange.

#### 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.

## 4. Letter of Credit.

Commercial banks issue letters credit to their customers to certify their credit worthiness.

## 5. Electronic Banking.

It includes services such as debit cards, credit cards, and internet banking.

## C. Other Functions.

## i) Money supply.

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

## ii) Credit creation.

Credit Creation means the multiplication of loans and advances.

## iii) Collection of Statistics.

Banks collect and publish statistics relating to trade, commerce and industry.

## **37. Describe the functions of Reserve Banks of India.**

The Reserve Bank of India is India's central banking institution. The functions of Reserve Banks of India are as follows.

## 1.Monetary Authority.

It controls the supply of money in the economy to stabilize exchange rate, maintain healthy balance of payments, attain financial stability, control inflation, strengthen banking system.

## 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.

## 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 bankers to both central and the state government.

## 5.Banker's Bank.

It provides loan to banks, accepts the deposit of banks and re-discount the bills of banks.

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

## i) Neutrality of money.

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

## ii) Exchange rate stability.

Exchange rate stability was the traditional objectives of monetary authority. This was the main objective under Gold Standard among different countries. Instability in the exchange rate rates will result in unfavorable balance of payments.

## iii) Price stability.

Price stabilization is the main objectives of monetary policy. Stable prices repose public confidence. It promotes business activity and ensures equitable distribution of income and wealth.

## iv) Full Employment.

Full employment was considered as the main goal of monetary policy. With the publication of Keynes' General Theory of Employment, Interest and Money in 1936, the objectives of full

employment gained full support as the chief objectives of monetary policy.

#### v) Economic Growth.

Monetary policy should promote sustained and continuous economic growth by maintaining equilibrium between the tot6al demand for money and total production capacity and further creating favourable conditions for saving and investment.

## Lesson - 7 Part-B

## 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.( Foreign trade )

## 22. Define international trade.

It refers to the trade or exchange of goods and services between two or more countries.

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

- i) Equalization of prices between countries.
- ii) Equitable distribution of scarce materials.

# 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. Ricardo demonstrates the comparative cost advantage.

#### 25. Define Terms of Trade.

Terms of Trade refers to the ratio of export prices to import prices.

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

Balance of Payments 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 for a unit of foreign currency.

#### Part-C

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

## i) Price Theory of Trade.

This component includes the causes for foreign trade and determination of the terms of trade and exchange rates.

## ii) Policy Issues.

Under this part policy issues regarding international trade are covered.

## iii) International Cartels and Trade Blocs.

This part deals with the economic integration in the form of international cartels, trade blocs and also the operation of MNC's.

## iv) International Financial and Trade Regulatory Institutions.

The financial institutions which influence international economic transactions and relations shall also be the part of international economics.

## 29. Compare the Classical Theory of International trade and Modern Theory of International trade.

| S.No | Classical Theory of International<br>trade  | Modern Theory of<br>International trade.   |
|------|---|--|
| 1    | This theory explains the<br>phenomenon of International trade<br>on the basis of labour theory of<br>value                                  | This theory explains the phenomenon<br>of International trade on the basis of<br>General theory of value.      |
| 2    | It presents a factor model.   | It presents a multi factor model.  |
| 3    | It attributes the difference in the<br>comparative costs to differences in<br>the productive efficiency of workers<br>in the two countries. | It attributes the difference in the comparative costs to differences in factor endowment in the two countries. |

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

1. **Net Barter Terms of Trade:** This type was developed by Taussig in 1927. The ratio between the prices of exports and of imports is called the "net barter terms of trade".

It is expressed as:  $Tn = (P \times Pm) \times 100$  Where,

Tn = Net Barter Terms of Trade

Px = Index number of export prices

Pm = Index number of import prices

This is used to measure the gain from international trade.

## 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.

 $T = (Qm / Qx) \times 100$  Where,

Qm = Index of import quantities

Qx = Index of export quantities.

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

Balance of Trade and Balance of Payments are two different concepts to the subject of international trade.

| S.No | Balance of Trade                     | Balance of Payments.                        |
|------|--------------------------------------|---|
|      | Balance of trade refers to the total | Balance of Payments is a systematic         |
| 1    | value of a country's exports of      | record of a country's economic and          |
|      | commodities and total value of       | financial transactions with the rest of     |
|      | imports of commodities.              | the world over a period of time.            |
| 2    | Only export and imports of           | When a payment is received from a           |
|      | commodities are included in the      | foreign country it is a credit transaction. |
|      | statements of Balance of Trade of a  | While a payment to a foreign country it     |
|      | country.                             | is a debit transaction.                     |
|      |                                      |   |
| 3    | It is a trade in visible item only.  | It is a trade in both visible and non-      |
|      |                                      | visible items.                              |

#### 32. What are import quotas ?

- \* An **import quota** is a type of trade restriction that sets a physical limit on the quantity of a good that can be imported into a country in a given period of time.
- \* Quotas, like other trade restrictions, are typically used to benefit the producers of a good in that economy.

#### 33. Write a brief note on flexible exchange rate ?

**Flexible Exchange Rates**: 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.

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

FDI has the following objectives.

- 1. Sales Expansion
- 2. Acquisition of resources
- 3. Diversification
- 4. Minimization of competitive risk.

Part-D

#### 35. Discuss the differences between internal trade and international trade.

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

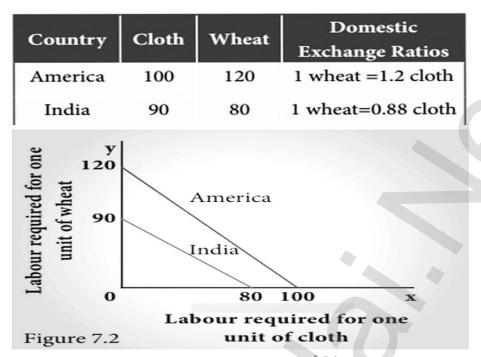
## 36. Explain briefly the Comparative Cost Theory.

David Ricardo formulated a systematic theory called Comparative Cost Theory. According to Ricardo, A country can gain from trade when it produces at relatively lower cost. **Assumptions.** 

- i) There are only two nations and two commodities.
- ii) Labour is the only element of cost of production.
- iii) No change in technology.
- iv) No government intervention.

#### Example and illustration.

This theory can be explained with an example of production costs of cloths and wheat in America and India. Ricardo's theory of comparative cost can be explained with a hypothetical example of production costs of cloth and wheat in America and India.



It is evident from the example that India has an absolute advantage in production of both cloth and wheat. However, India should concentrate on the production of wheat in which she enjoys a comparative cost advantage. (80/120 < 90/100). For America the comparative cost disadvantage is lesser in cloth production. Hence America will specialize in the production of cloth and export it to India in exchange for wheat. (Any exchange ratio between 0.88 units and 1.2 units of cloth against one unit of wheat represents gain for both the nations).

With trade, India can get 1 unit of cloth and 1 unit of wheat by using its 160 labour units. In the absence of trade, for getting this benefit, India will have to use 170 units of labour. America also gains from this trade. With trade, America can get 1 unit of cloth and one unit of wheat by using its 200 units of labour. Otherwise, America will have to use 220 units of labour for getting 1 unit of cloth and 1 unit of wheat.

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

#### Introduction:

The modem theory of international trade was developed by Swedish economist Eli Heckscher and his student Bertil Ohlin in 1919.

#### The Theory:

This model was based on the Ricardian theory of international trade. This theory says that the basis for international trade is the difference in factor endowments. It is otherwise called as 'Factor Endowment Theory'.

This theory attributes international differences in comparative costs to:

- 1. Difference in the endowments of factors of production between countries, and
- 2. Differences in the factor proportions required in production.

## Assumptions:

- 1. There are two countries, two commodities and two factors.  $(2 \times 2 \times 2 \text{ model})$
- 2. Countries differ in factor endowments.
- 3. Commodities are categorized in terms of factor intensity.
- 4. Countries use same production technology.
- 5. Countries have identical demand conditions.

## 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".

| Particulars          | India                       | America      |
|----------------------|-----------------------------|--------------|
| Supply of Labour     | 50                          | 24           |
| Supply of Capital    | 40                          | 30           |
| Capital-Labour Ratio | 40/50 = 0.8                 | 30/24 = 1.25 |
| Capital-Labour Ratio | 40/50 = 0.8                 | 30.          |
| Export               | of capital- intensive goods | Labour       |

| Capital  | Export of cupital intensive goods | Labour   |
|----------|-----------------------------------|----------|
| abundant | -                                 | abundant |
| country. | Export of labour -intensive goods | country. |

In the above example, even though India has more capital in absolute terms, America is more richly endowed with capital because the ratio of capital in India is 0.8 which is less than that in America where it is 1.25. The following diagram illustrates the pattern of word trade. Limitations:

i) Factor endowment of a country may change over time.

ii) The efficiency of the same factor (say labour) may differ in the two countries.

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

## 1. The Single Factoral Terms of Trade:

Viner has devised another concept called "the single factoral terms of trade" as an improvemen upon the commodity 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

 $T_f = (P_x / P_m) F_x$ 

Where,  $T_f$  stands for single factoral terms of trade index.  $F_x$  stands for productivity in exports. **2)Double Factoral Terms of Trade:** 

Viner constructed another index called "Double factoral terms of Trade". It is expressed as  $T_{ff} = (P_x / P_m)(F_x / F_m)$ 

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

Here,  $F_m$  represents import index.

#### 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, i.e.

- 1. The current account,
- 2. The capital account and
- 3. The official settlements account or official reserve assets account.

## 1. 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).

## 2. 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.

#### 3. 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. The official reserve assets of a country include its gold stock, holdings of its convertible foreign currencies and Special Drawing Rights (SDRs) and its net position in the International Monetary Fund (IMF).

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

Types BOP Disequilibrium:

There are three main types of BOP Disequilibrium, which are discussed below.

- 1. Cyclical Disequilibrium,
- 2. Secular Disequilibrium,
- 3. Structural Disequilibrium.

#### 1. 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.

#### 2. Secular Disequilibrium:

The secular or long-run disequilibrium in BOP occurs because of long – run and deep seated changes in an economy as it advances from one stage of growth to another. In the initial stages of development, domestic investment exceeds domestic savings and imports exceed exports, as it happens in India since 1951.

#### 3. Structural Disequilibrium:

Structural changes in the economy may also cause balance of payments disequilibrium. 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?

Determinants of Exchange Rates:

Exchange rates are determined by numerous factors and they are related to the trading relationship between two countries.

#### Factors determining Exchange Rate:

1.Differentials in Inflation

2.Differential in Interest Rates

3.Current Account Deficits

4.Public Debt

5.Terms of Trade

#### 1. Differentials in Inflation:

Inflation and exchange rates are inversely related.

A country with a consistently lower inflation rate exhibits a rising currency value, as its purchasing power increases relative to other currencies.

#### 2. Differentials in Interest Rates:

There is a high degree of correlation between interest rates, inflation and exchange rates. Central banks can influence over both inflation and exchange rates by manipulating interest rates. Higher interest rates attract foreign capital and cause the exchange rate to rise and vice versa.

#### 3. Current Account Deficits:

A deficit in the current account implies excess of payments over receipts.

The country resorts to borrowing capital from foreign sources to make up the deficit.

Excess demand for foreign currency lowers a country's exchange rate.

#### 4. Public Debt:

Large public debts are driving out foreign investors, because it leads to inflation.

As a result, exchange rate will be lower.

#### 5. Terms of Trade:

A country's terms of trade also determines the exchange rate. If the price of a country's exports rises by a greater rate than that of its imports, its terms ' of trade will improve.

Favorable terms of trade imply greater demand for the country's exports and thus BOP becomes favorable.

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

#### Foreign Direct Investment (FDI) and Trade:

1.FDI is an important factor in global economy.

- 2. Foreign trade and FDI are closely related. In developing countries like India
- 3.FDI in the natural resource sector, including plantations, increases trade volume.
- 4. Foreign production by FDI is useful to substitute foreign trade.
- 5.FDI is also influenced by the income generated from the trade and regional integration schemes.
- 6.FDI is helpful to accelerate the economic growth by facilitating essential imports needed for carrying out development programmes like capital goods, technical know-how, raw materials and other inputs and even scarce consumer goods.
- 7.FDI may be required to fill the trade gap.
- 8.FDI is encouraged by the factors such as foreign exchange shortage, desire to create employment and acceleration of the pace of economic development.
- 9.Many developing countries strongly prefer foreign investment to imports.

10. However, the real impact of FDI on different sections of an economy.

#### Lesson - 8 Part-B

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

International monetary reserve currency created by the International Monetary Fund(IMF) that operate as a supplement to the existing money reserves of member countries.

## 22. Mention any two objectives of ASEAN?

- i) To accelerate the economic growth, social progress and cultural development in the region.
- ii) To promote regional peace and stability and adherence to the principles of the United Nations Charter.

## 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?

Common market is established through trade pacts. A group formed by countries within a geographical area to promote duty free trade and free movement of labour and capital among its members.

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

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

Such agreements involve cooperation between at least two countries to reduce trade barriers.

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

The SAARC Secretariat was established in Kathmandu (Nepal) on 10<sup>th</sup> January 1987.

## 27. Specify any two affiliates of World Bank Group?

- i) International Development Association ( IDA )
- ii) International Finance Corporation (IFC)

#### Part-C

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

An economic union is composed of a common market with a customs union. The participant countries have both common policies on product regulation, freedom of movement of goods, services and the factors of production and a common external trade policy.

(e.g. European Economic Union)

## 29. What are trade blocks?

- i) A free trade area is the region encompassing a trade bloc whose member countries have signed a free-trade agreement (FTA). Such agreements involve cooperation between at least two countries to reduce trade barriers.
- ii) 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 (zero tariffs among members) with a common external tariff.
- iii) Common market is established through trade pacts. 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).

## 30. Mention any three lending programmes of IMF?

#### 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.

In 1963 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?

- i) Multilateral trade agreement is a multi national legal or trade agreements between countries. It is an agreement between more than two countries but not many.
- ii) The agreements reduce tariffs and make it easier for business to import and export.
- iii) Since they are among many countries, they are difficult to negotiate.

## 32. Write the agenda of BRICS Summit, 2018?

South Africa hosted the 10th BRICS summit in July 2018. The agenda for BRICS summit 2018 includes Inclusive growth, Trade issues, Global governance, Shared Prosperity, International peace and security.

## 33. State briefly the functions of SAARC?

The main functions of SAARC are as follows.

- 1. Maintenance of the co operation in the region
- 2. Prevention of common problems associated with the member nations.
- 3. Ensuring strong relationship among the member nations.
- 4. Removal of the poverty through various packages of programmes.
- 5. Prevention of terrorism in the region.

## 34. List out the achievements of ASEAN?

1.To accelerate the economic growth, social progress and cultural development in the region;

- 2.To promote regional peace and stability and adherence to the principles of the United Nations Charter.
- 3.To promote cooperation among the members of ASEAN through the exchange of knowledge and experience in the field of public sector auditing.

#### Part – D

## 35. Explain the objectives of IMF?

- 1. To promote international monetary cooperation among the member nations.
- 2. To facilitate faster and balanced growth of international trade.
- 3. To ensure exchange rate stability by curbing competitive exchange depreciations.
- 4. To eliminate or reduce exchange controls imposed by member nations.
- 5. To establish multilateral trade and payment system in respect of current transactions instead of bilateral trade agreements.
- 6. To promote the flow of capital from developed to developing nations.
- 7. To solve the problem of international liquidity.

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

## i) 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. It also

encourages the development of productive facilities and resources in less developed countries.

## ii) 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.

## iii) Provision of loans and guarantees.

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

## iv) Promotion of foreign private investment.

The promotion of private foreign investment by means of guarantees on loans and other investment made by private investors. The Bank supplements private investment by providing finance for productive purpose out of its own resources or from borrowed funds.

## v) 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. It enjoys MFN status and allows the same status to all other trading partners. India benefited from WTO on following grounds.

- i) 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.
- ii) India gets market access in several countries without any bilateral trade agreements.
- lii) Advanced technology has been obtained at cheaper cost.
- iv) India is in a better position to get quick redressal from the trade disputes.
- v) The Indian exporters benefited from wider market information.

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

## (a) SAARC

- The South Asian Association for Regional Co operation (SAARC) is an organisation of South Asian nations, which was established on 8 December 1985 for the promotion of economic and social progress, cultural development within the South Asia region and also for friendship and co-operation with other developing countries.
- The SAARC Group (SAARC) comprises of Bangaladesh, 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.
- The first SAARC summit was held at Dhaka in the year 1985.

 SAARC meets once in two years. Recently, the 20th SAARC summit was hosted by Srilanka in 2018.

#### (b) BRICS.

- BRICS is the acronym for an association of five major emerging national economies: Brazil, Russia, India, China and South Africa.
- Since 2009, the BRICS nations have met annually at formal summits.
- South Africa hosted the 10th BRICS summit in July 2018.
- The agenda for BRICS summit 2018 includes Inclusive growth, Trade issues, Global governance, Shared Prosperity, International peace and security.
- It's headquarters is at Shanghai, China.
- 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.

#### Lesson - 9 Part-B

#### 21. Define public finance.

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

#### 22. What is public revenue?

The income of the government through all sources is called public revenue or public income. It 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.

#### 23. Differentiate tax and fee.

| S.No | Тах                            | Fee                               |  |  |
|------|--------------------------------|-----------------------------------|--|--|
| 1    | Compulsory payment             | There is no compulsion            |  |  |
| 2    | Legally imposed by the         | Charged by public authorities     |  |  |
|      | government is                  | for rendering a service to the    |  |  |
|      | let                            | citizens                          |  |  |
| 3    | The citizen should not expect  | The citizen can expect returns in |  |  |
|      | returns or benefit             | the form of services from the     |  |  |
|      |                                | government                        |  |  |
| 4    | Example: Income tax, Sales tax | Example: Issuing passports,       |  |  |
|      |                                | driving licenses                  |  |  |

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

- 1. The first ZBB was presented in 1987-88.
- 2. It involves fresh evaluation of expenditure in the government budget, assuming it as a new item.
- 3. Every year is taken as a new year.

## 25. Give two examples for direct tax.

i. Income tax ii. Wealth tax

## 26. What are the components of GST?

- 1. **CGST:** Collected by the Central Government on an intra-state sale (Eg: Within state/ union territory)
- 2. **SGST:** Collected by the State Government on an intra-state sale (Eg: Within state/union territory)
- 3. **IGST:** Collected by the Central Government for inter-state sale (Eg: Maharashtra to Tamil Nadu)

#### 27. What do you mean by 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.

#### 3 MARKS

#### 28.Describe canons of Taxation

**Meaning**: The characteristics or qualities which a good tax should possess. It was given by Adam Smith.

**Canon of Ability**: Tax levied by the government should be on the basis of payers ability. Rich persons should pay more than middle class or poor class persons.

**Canon of Certainty**: The rate of tax and the time of payment should be certain. There should not be any uncertainty.

**Canon of Convenience**: The method of tax collection and the timing of the tax payment should be convenient to the tax payers. They should pay it without difficulty.

**Canon of Economy**: As the Government has to spend money for collecting taxes, it should impose the taxes whose collection costs are very less and cheap. If it is more it is considered as bad tax.

#### 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 utilization: Both the private and public sectors have limited resources at their disposal.

#### 30. What are the functions of a modern state?

As the modern state is a welfare state, it has to perform various functions. They are **Defense**: protecting people from external aggression and internal disorder through adequate police and military forces.

**Judiciary**: Rendering justice and settlement of disputes to all classes of citizens through adequate judicial structure.

**Enterprises**: Regulating and controlling private enterprises for the welfare of the people **Social Welfare**: Providing education, social security, social insurance, health and sanitation for the betterment of the people

**Infrastructure**: providing social and economic infrastructure to accelerate economic development. **Macro-economic policy**: Administering fiscal policy and monetary policy to achieve macroeconomic goals.

**Social Justice**: Redistributing income through fiscal measures to benefit all sections of society. **Control of Monopoly**: Controlling monopoly through MRTP Act to curb concentration of economic power.

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

- 1. A tax is a compulsory payment made to the government. People on whom a tax is imposed must pay the tax. Refusal to pay the tax is a punishable offence.
- 2. There is no quid pro quo between a taxpayer and public authorities.

This means that the tax payer cannot claim any specific benefit against the payment of a tax.

- 3. Every tax involves some sacrifice on part of the tax payer.
- 4. 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  |
|----------------------|--|---|
| Meaning              | Direct tax is referred to<br>as the tax, levied on person's<br>income<br>and wealth. | Indirect Tax is referred to<br>as the tax, levied<br>on a person who<br>consumes the goods and<br>services. |
| Nature               | Progressive  | Regressive  |
| Impact               | Falls on the same person.  | Falls on different persons.   |

#### 33. What is primary deficit?

- 1. primary deficit = Fiscal deficit Interest payment.
- 2. Shows the real burden of the government and it does not include the interest burden on loans taken in the past.
- 3. It reflects borrowing requirement of the government exclusive of interest payments.

#### 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 utilized for repaying the debt.



#### 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. (Mention any three

#### methods of redemption of public debt.)

**Meaning:** The process of repaying a public debt.

- 1) **Sinking Fund**: Government creates a separate fund and credits a fixed amount of money in it every year. After its maturity it returns both the principal and interest. Ex. First introduced in England by Walpol.
- 2) **Conversion**: An old loan is converted into a new loan is high interest public debt is converted into a low interest public debt. Suggested by Dalton
- 3) **Budgetary Surplus**: By presenting surplus, government using the surplus to repay the debt. But it is rare only.
- 4) **Terminal Annuity**: Government pays off the public debt on the basis of terminal annuity in equal annual instalments. It is the easiest way.
- 5) **Repudiation**: Government does not recognise its obligation to repay the loan. It is certainly not paying off a loan but destroying it. If the government do like that its loose its credibility. So the government avoids it during formal case.
- 6) **Reduction in rate of interest**: It means Compulsory reduction in the rate of interest during the time of financial crisis.
- 7) Capital Levy: When the government imposes levy on the capital assets owned by an individual or any institution, the surplus fund above a minimum limit is used to repay the debt. Ex. repayment of war time debt obligations.

#### 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**: The government should normally enjoy autonomy in fiscal matters. Each government should have separate sources of revenue, authority to levy taxes, to borrow money and to meet the expenditure. It should be free about the internal financial matters concerned.
- 2. **Principle of Equity**: There should be equal distribution of resources among states.
- 3. **Principle of Uniformity**: Each state should contribute equal tax payments for federal finance. Here the taxable capacity of each unit is not the same.
- 4. **Principle of Adequacy of resources**: The resources of the governments should be adequate to carry out its functions effectively with reference to their current and future needs. It should be elastic to the growing needs and unforeseen expenditure also.
- 5. **Principle of Fiscal Access**: There should have the possibility to develop new source of revenue to meet the growing financial needs.
- 6. **Principle of Integration and coordination**: There should be perfect coordination among different layers of the financial system of the county to promote the overall economic development of the country.
- 7. **Principle of Efficiency**: There should not be scope for evasion and fraud. Double taxation should be avoided.
- 8. **Principle of Administrative Economy**: The cost of collection should be at the minimum level.
- 9. **Principle of Accountability**: Each Government should be accountable to its own legislature for its financial decisions i.e. the Central to the Parliament and the State to the Assembly.

## 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.

Revenue Deficit (RD) = Total Revenue Expenditure (RE) - Total Revenue Receipts (RR)

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

Budget deficit is the difference between total receipts and total expenditure (both revenue and capital) Budget Deficit = Total Expenditure – 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:** Massive investment in health and education (due to increase in youth number), law and order etc. and transfer payments like pension, social security etc due to the growth of populations raises the public expenditure.
- **2. Defence Expenditure:** The raise in defense expenditure due to modernization of defense equipments raises the public expenditure.
- **3. Government Subsidies: An** increase in government subsidies like food, fertilizers, education etc. raises the public expenditure.
- **4. Debt Servicing: Rep**ayment of internal and external debt is very huge that raises the public expenditure.
- **5. Development Projects: De**velopment projects such as irrigation, iron and steel, heavy machinery, power, telecommunication etc. raises the public expenditure.
- 6. Urbanization: The increase in urbanization requires heavy expenditure

on law and order, education and civic amenities etc. raises the public expenditure.

#### Kindly send me your study materials to our email id - padasalai.net@gmail.com

- 7. Industrialization: Setting up of basic and heavy industries and the development of a strong infrastructure like transport, communication, power, fuel, etc. raises the public expenditure.
  8. Increase in grants in aid to state and union territories: The tremendous increase in grants
- **8. Increase in grants in aid to state and union territories:** The tremendous increase in grants in aid to state and union territories to meet natural disasters raises the public expenditure.

#### LESSON – 10 : ENVIRONMENTAL ECONOMICS 2 MARKS

#### 21. State the meaning of environment.

The term environment has been derived from a French word "Environia" means to surround. 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.

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

| SI.No | COUNTRIES     | PER CAPIT CO2 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 (footpaths, cycle ways, greenways, etc.), 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
- 5. Installations of noise barriers in the work place
- 6. Regulation of Loudspeakers

#### 26. Define Global warming.

Increase in temperature of the Earth's surface (both land and water) as well as its atmosphere, due to greenhouse gases, like CO2, methane etc. is known as Global Warming.

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

- 1. 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.
- 2. Seed balls are an easy and sustainable way to cultivate plants that provide a larger window of time when the sowing can occur.

#### 3 MARKS

# 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.

# 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. EX .cooking and heating with solid fuels on open fires or traditional stoves.

**Outdoor Air Pollution:** It refers to ambient air. EX. combustion processes from motor vehicles, solid fuel burning and industry.

# 31.What are the causes of water pollution?

- 1. **Discharge of sewage and waste water**: Discharging of sewage, garbage and liquid wastes contain harmful chemicals and toxins pollute water and affect aquatic animals and plants.
- 2. Dumping of solid wastes and litters: This also pollute water bodies and create huge problems.
- 3. **Discharge of industrial wastes**: Industrial wastes like lead, mercury etc. affects both people and environment.
- 4. **Oil Spill**: Oil spill from ships and tankers will not dissolve with water and forms a thick sludge polluting water.
- 5. Acid rain: When the acidic particles caused by air pollution in the atmosphere mix with water vapour causes acid rain.
- 6. **Global warming**: It results in increasing water temperature and affect fish and other aquatic animals.
- 7. **Eutrophication**: It is an increased level of nutrients in water bodies and causes bloom of algae, results in depletion of oxygen in water and affect fish and other aquatic animals badly.

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

1. It is the new by product of the Info Tech society. It is a physical waste in the form of old discarded electronic devices. It comes from large household appliances like cell phones, TV etc and from business and from consumers side for re-cycling . Ex. VCR. DVD, Xerox machines 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.

#### **5 MARKS**

#### 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-revival 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.

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.

#### Kindly send me your study materials to our email id - padasalai.net@gmail.com

#### LESSON - 11

#### ECONOMICS OF DEVELPOMENT AND PLANNING

#### 2 MARKS

#### 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.

- 1. Gross Domestic Product (GDP)
- 2. Gross National Product (GNP)
- 3. GNP per capita
- 4. Human Development Index (HDI) (welfare) improvement in health and standard of living
- 5. Social indicators like health, education, food, water, sanitation and housing facilities.

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

| Economic Growth                      | Economic Development                |
|--------------------------------------|-------------------------------------|
| Deals with the problems of Developed | Deals with the problems of UDCs     |
| countries                            |                                     |
| Change is gradual and steady         | change in discontinuous and         |
|                                      | spontaneous                         |
| Narrow                               | Wider concept Development = Growth+ |
|                                      | Change                              |

#### 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?

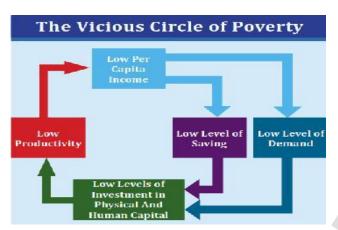
The basic needs for development such as health, education, sanitation, water, food etc.

#### 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.

#### 3 MARKS

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

# S.P.G.T.L.DBHSS.V.P.E S.P.G.T.L.DBHSS.V.P.E S.R.G.T.L.DBHSS.V.P.E S.R.G.T.DBHSS.V.P.E S.R.G.T.L.DBHSS.V.P.E S.R.G.T.DBHSS.V.P.E S.R.G.T.L.DBHSS.V.P.E S.R.G.T.L.DBHSS.V.P.E S.R.G.T.DBHSS.V.P.E S.R.G. 30. How would you break the vicious circle of poverty?

Vicious circle of poverty: The circular relationships that tend to perpetuate the low level of development in less developed countries.

**Supply side**: Rising investment rate and capital formation without reducing consumption by keeping the marginal rate of savings greater than average rate of savings. This breaks the circle from the supply side.

**Demand side**: The strategy of balanced growth suggested by Nurske. Simultaneous investment in several industries increases the income of the workers by raising employment and in turn increases the demand for the goods of all industries. This breaks the circle from the demand side.

#### 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
- 4. Development of Agriculture and Industrial Sectors
- 5. Development of Infrastructure
- 6. Development of Money and Capital Markets.

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

| Basis of<br>Difference                             | Functional Planning   | Structural Planning  |  |  |
|--|---|--|--|--|
| Meaning  | Functional planning refers to that<br>Planning which seeks to remove<br>Economic difficulties | The structural planning refers to<br>a good deal<br>of changes in the<br>socioeconomic frame work<br>of the country. |  |  |
| Approach   | Attempt within the existing socioeconomic framework   | Attempt to change the economic<br>Structure<br>fundamentally   |  |  |
| Nature   | socioeconomic framework<br>Functional planning is<br>evolutionary                             | Structural planning is therefore revolutionary   |  |  |
| 34.What are  | the functions of NITI Aayog?  | 8H2  |  |  |
| <ol> <li>Shared Na</li> <li>Decentraliz</li> </ol> | Scenario Planning<br>Expertise  |  |  |  |

#### 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.

#### **5 MARKS**

#### 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.

#### 1. Democratic Vs Totalitarian:

**Democratic planning** – Planning within democracy. It includes consultations with the various state governments and private enterprises at the stage of preparation by the planning commission and finally accepted, rejected or modified by the parliament of the country.

**Totalitarian planning** – Planning authority is the supreme body and every activity is in the central control and directions are in accordance with a single plan. All decisions regarding targets, schemes, allocations, methods procedures of implementation is decided by planning authority.

#### 2. Centralized Vs Decentralized:

**Centralized planning** – It is called as planning from above. All decisions regarding targets, schemes, allocations, methods procedures of implementation is decided by central planning authority.

**Decentralized Planning – It is** called planning from below. Local organisations and institutions formulate, adopt, execute and supervise the plan without interference by the central authorities. **3. Planning by Direction Vs Inducement:** 

**Planning by Direction – There** is a central authority to plan, direct and order and execute in accordance with pre-determined targets and priorities.

**Planning by Inducement - The** people are induced to act in a certain way through various monetary and fiscal measures. Planning authority encourages through giving subsidies to the firms. It involves only less sacrifice of individual liberty.

#### 4. Indicative Vs Imperative Planning:

**Indicative Planning – The** outline of plan is prepared by the government. Then it discussed with the representatives of private management, trade unions, consumer groups finance institutions and other experts. Here state provides all types of facilities to the private sectors and they have to fulfill the targets and priorities of planning. The planning procedure is soft and flexible and in turn expected coordination of different economic units. It is peculiar to mixed economy. **Imperative Planning –** The state has the full power to prepare and implement the plan. Once a plan is drawn up its implementation is a matter of enforcement. There is no consumer sovereignty. Government policies and procedures are rigid. Ex. China and Russia.

#### 5. Short, Medium and Long term Planning:

**Short term planning** - Period of one year. Other names are Controlling plans and annual plans. **Medium-term planning** – 3 to 7 years. Generally for five years. It relates to allocation of financial resources and physical resources.

**Long term planning** – 10 to 30 years. Other name is perspective plans. Its aim is to bring structural changes in the economy.

#### 6. Financial Vs Physical Planning:

Financial Planning - The technique of allocation of resources in terms of money .

**Physical Planning – The technique of allocation of resources in terms of men, materials and machinery.** 

#### 7. Functional Vs Structural Planning:

**Functional Planning – Planning** which seeks to remove economic difficulties with the existing economic and social structure. It is adopted in developed countries.

**Structural Planning** A good deal of changes in the socio economic framework of the country. It is mostly adopted in UDCs.

8. Comprehensive Vs Partial Planning:

Comprehensive Planning –Give Importance to the whole economic issues.

Partial Planning- Give importance only to the few important sectors of the economy.

## 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.

## Lesson-12 2 Marks

#### 21.What is Statistics?

The term Statistics is used in two senses: as singular and plural. In singular form it simply means statistical methods. Statistics when used in singular form helps in the collection, presentation, classification and interpretation of data to make it easily comprehensible. In its plural form it denotes collection of numerical figures and facts.

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

#### **Types of Statistics**

There are two major types of statistics named as Descriptive Statistics and Inferential Statistics.

#### i) **Descriptive Statistics**:

The branch of statistics devoted to the summarization and description of data is called descriptive Statistics.

#### ii) Inferential Statistics:

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

- i) Quantitative Data
- ii) Qualitative Data
- Based on data
- i) Primary data ii) Secondary data

#### 25. Define Correlation?

Correlation is a statistical device that helps to analyse the covariation of two or more variables.

#### 26. Define Regression?

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

#### 27. What is Econometrics?

#### **Origin Of Econometrics**

- 1. Economists tried to support their ideas with facts and figures in ancient times.
- 2. Irving Fisher is the first person, developed mathematical equation in the quantity theory of money with help of data.
- 3. Ragnar Frisch, a Norwegian economist and statistician named the integration of three subjects such that mathematics, statistical methods and economics as Econometrics" in 1926.

#### Part – C

#### 28. What are the functions of Statistics? Functions of Statistics

- 1. Statistics presents facts in a definite form.
- 2. It simplifies mass of figures.
- 3. It facilitates comparison.
- 4. It helps in formulating and testing.
- 5. It helps in prediction.
- 6. 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

|        | The State of | and the second se |                  |
|--------|--|---|------------------|
| Sl. No | Values (X)   | X – <del>X</del>  | (X − <b>X</b> )² |
| 1      | 25   | 25-25=0   | 0                |
| 2      | 15   | 15-25=10  | 100              |
| 3      | 23   | 23-25= -2   | 4                |
| 4      | 42   | 42-25=17  | 289              |
| 5      | 27   | 27-25=2   | 4                |
| 6      | 25   | 25-25=0   | 0                |
| 7      | 23   | 23-25=-2  | 4                |
| 8      | 25   | 25-25=0   | 0                |
| 9      | 20   | 20-25=-5  | 25               |
| N=9    | 225  | 0   | 426              |
|        |  |   |                  |

$$\sigma = \sqrt{\left(\frac{\Sigma(x-\bar{x})^2}{n}\right)} = \sqrt{\frac{426}{9}} = \sqrt{47.33}$$

 $\sigma = 4.18$ 

#### 30. State and explain the different kinds of Correlation?

#### 1) Based on the direction of change of variables.

- i) Positive correlation
- ii) Negative correlation

#### 2) Based upon the number of variables studied

- 1. Simple Correlation
- 2. Multiple Correlation
- 3. Partial Correlation

#### 3) Based upon the constancy of the ratio of change between the variables

- i) linear correlation
- ii) Non Linear correlation

#### 31. Mention the uses of Regression Analysis?

- 1. Regression means going back and it is a mathematical measure showing the average relationship between two variables.
- 2. Both the variables may be random variables.
- 3. It indicates the cause and effect relationship between the variables and establishes functional relationship.
- 4. Besides verification it is used for the prediction of one value, in relation to the other given value.
- 32. Specify the objectives of econometrics?
  - 1. It helps to explain the behaviour of a forthcoming period that is forecasting economic phenomena.
  - 2. It helps to prove the old and established relationships among the variables or between the variables
  - 3. It helps to establish new theories and new relationships.
  - 4. It helps to test the hypotheses and estimation of the parameter.

# 33. Differentiate the economic model with econometric model?

#### Economic Model

- 1. Economic model is the theoretical construct that represents the complex economic process.
- 2. Economic model is based on mathematical modeling.
- 3. Economic model is focused on establishing the logical relationships between the variables in the model.

#### Econometric Model

- 1. Econometric model is the statistical concept that represents the numerical estimate of the variables involved in economic process.
- 2. Econometric model is based on statistical modeling.
- 3. Econometric model is focused on estimating the magnitude and direction of relationship between the variables.

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

1. The Ministry of Statistics and Programme Implementation (MOSPI) came into existence as an Independent Ministry in 1999 after the merging of the Department of Statistics and the Department of Programme Implementation.

The Ministry has two wings, Statistics and Programme Implementation.

2. The National Sample Survey Organisation, (NSSO now known as National Sample Survey Office, is an organization under the Ministry of Statistic of the Government of India. It is the largest organisation in India, conducting regular socio-economic surveys.

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

- 1. Different Statisticians and Economists differ in views about the nature of statistics, some call it a science and some say it is an art.
- 2. Tipett on the other hand considers Statistics both as a science as well as an art.

#### **Scope of Statistics**

Statistics is applied in every sphere of human activity – social as well as physical – like Biology, Commerce, Education, Planning, Business Management, Information Technology, etc. Statistics and Economics:

- 1. Statistical data and techniques are immensely useful in solving many economic problems
- 2. Such as fluctuation in wages, prices, production, distribution of income and wealth and so
- on.

#### Statistics and Firms

Statistics is widely used in many firms to find whether the product is conforming to specifications or not.

#### **Statistics and Commerce**

- 1. Statistics are life blood of successful commerce.
- 2. Market survey plays an important role to exhibit the present conditions and to forecast the likely changes in future.

#### **Statistics and Education**

- 1. Statistics is necessary for the formulation of policies to start new course, according to the changing environment.
- 2. There are many educational institutions owned by public and private engaged in research and development work to test the past knowledge and evolve new knowledge.
- 3. These are possible only through statistics.

#### **Statistics and Planning**

- 1. Statistics is indispensable in planning. In the modem world, which can be termed as the "world of planning", almost all the organisations in the government are seeking the help of planning for efficient working, for the formulation of policy decisions and execution of the same.
- 2. In order to achieve the above goals, various advanced statistical techniques are used for processing, analyzing and interpreting data.
- 3. In India, statistics play an important role in planning, both at the central and state government levels, but the quality of data highly unscientific.

#### **Statistics and Medicine**

- In Medical sciences, statistical tools are widely used. In order to test the efficiency of a new drug or to compare the efficiency of two drugs or two medicines, t – test for the two samples is used.
- 2. More and more applications of statistics are at present used in clinical investigation.

#### **Statistics and Modern applications**

- Recent developments in the fields of computer and information technology have enabled statistics to integrate their models and thus make statistics a part of decision making procedures of many organisations.
- 2. There are many software packages available for solving simulation problems.

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

| Dema               | and of F | K :    | 23          | 27       | 28    | 29    | 30      | 31                | 33   | 35                 | 36   | 39      |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
|--------------------|----------|--------|-------------|----------|-------|-------|---------|-------------------|------|--------------------|------|---------|----|---|----|---|----|---|------|---|---|---|---|---|--|---|--|----|--|---|--|----|--|
| Sale of Product Y: |          |        | 18 22 23 24 |          |       | 24    | 25 26 2 |                   |      | 28 29 30           |      | 32      |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| S.No.              | x        | Y      | (X-/        | A)=dx    | 0     | (-A)= | tv      | dx                |      | $dy^2$             |      | dxdy    |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| 1                  | 23       | 18     |             | -8       |       | -8    |         | 64                |      | 64                 | T.   | 64      |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| 2                  | 27       | 22     | -4          |          |       |       | 16      |                   | 16   |                    | 16   |         |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| 3                  | 28       | 23     | -3          |          | -3 -3 |       | 9       | 9                 |      |                    | 9    |         |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| 4                  | 29       | 24     | -2          |          | -2    |       | -2 -2   |                   |      | 4 4                |      |         | 4  |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| 5                  | 30       | 25     | -1          |          | -1    |       | -1      |                   | -1   |                    | -1   |         | -1 |   | -1 |   | -1 |   |      | 1 |   | 1 |   | 1 |  |   |  |    |  |   |  |    |  |
| 6                  | 31       | 26     | 0           |          | 0     |       | 0       |                   | 26 0 |                    |      | 0       |    | 0 |    | 0 |    | 0 | ~~~~ |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| 7                  | 33       | 28     | 2           |          | 2     |       | 2       |                   | 2    |                    | 28 2 |         | 2  |   | 2  |   | 2  |   | 2    |   | 2 |   |   | 4 |  | 4 |  | 4  |  |   |  |    |  |
| 8                  | 35       | 29     | 4           |          | 4     |       | 4       |                   | 4    |                    | 4    |         | 4  |   | 4  |   | 4  |   | 4    |   | 4 |   | 4 |   |  | 3 |  | 16 |  | 9 |  | 12 |  |
| 9                  | 36       | 30     | 5           |          |       | 4     |         | 25                |      | 16                 |      | 20      |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| 10                 | 39       | 32     | 8           |          |       | 6     |         | 64                |      | 36                 |      | 48      |    |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |
| N=10               | ΣX=311   | ΣY=257 | Σ(X-        | Σ(X-A)=1 |       | -A)=( | -2)     | $\Sigma dx^2 = 2$ | 203  | $\Sigma dy^2 = 15$ | 59 2 | Edxdy=1 | 78 |   |    |   |    |   |      |   |   |   |   |   |  |   |  |    |  |   |  |    |  |

$$\overline{\mathbf{X}} = \frac{\Sigma \mathbf{X}}{\mathbf{N}} = \frac{311}{10} = 31.1$$

 $\overline{X} = \frac{\Sigma Y}{N} = \frac{257}{10} = 25.7$ 

Take the assumed values A = 31 & B = 26

Therefore  $dx = X - A \Rightarrow X - 31$  and

 $dy = Y - A \Rightarrow Y - 26$ 

$$\therefore r = \frac{N\sum dXdy - (\sum dx) (\sum dy)}{\sqrt{N\sum dX^2 - (\sum dX)^2} \sqrt{N\sum dy^2 - (\sum dy)^2}}$$

$$\frac{10 \times 178 - 1 \times (-3)}{\sqrt{10 \times 203 - (1)^2} \times \sqrt{10 \times 159 - (-3)^2}}$$

$$r = \frac{1870 - 9}{\sqrt{2030 - 1}} \frac{.}{\sqrt{1830 - 81}}$$

 $r = \frac{1861}{\sqrt{2029}} \frac{.}{\sqrt{1749}} = \frac{1861}{(45.04)(41.82)} = \frac{1861}{1883.57} = 0.9880$ 

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

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

| X                         | Y                         | <i>d</i> <sub>x</sub> =X-45 | $d_{\rm Y} = {\rm Y} - 65$ | $d_{\rm X}^{2}$      | $d_{Y}^{2}$         | $d_{\rm X} d_{\rm Y}$ |
|---------------------------|---------------------------|-----------------------------|----------------------------|----------------------|---------------------|-----------------------|
| 25                        | 45                        | -20                         | -20                        | (20 × 20)<br>400     | (20 × 20)<br>400    | (20 × 20)<br>400      |
| 30                        | 48                        | -15                         | -18                        | (15 × 15)<br>225     | (18 × 18)<br>324    | (15 × 18)<br>270      |
| 35                        | 50                        | -10                         | -15                        | (10 × 10)<br>100     | (15 × 15)<br>225    | (10 × 15)<br>150      |
| 30                        | 55                        | -15                         | -10                        | (15 × 15)<br>225     | (10 × 10)<br>100    | (15 × 10)<br>150      |
| 40                        | 65                        | -5                          | 0                          | (5 × 5)<br>25        | $(0 \times 0)$<br>0 | (5 × 0)<br>0          |
| 50                        | 70                        | 5                           | 5<br>5 maai se kish hatara | (5 × 5)<br>25        | (5 × 5)<br>25       | (5 × 5)<br>25         |
| 45                        | 75                        | 0                           | 10                         | $(0 \times 0)$<br>-0 | (10 × 10)<br>100    | (0 × 10)<br>0         |
| 55                        | 72                        | 10                          | 7                          | (10 × 10)<br>100     | (7 × 7)<br>. 49     | (10 × 7)<br>70        |
| 60                        | 80                        | 15                          | 15                         | (15 × 15)<br>225     | (15 × 15)<br>225    | (15 × 15)<br>225      |
| 65                        | 85                        | 20                          | 20                         | (20 × 20)<br>400     | (20 × 20)<br>400    | (20 × 20)<br>400      |
| 435<br>[435÷10]<br>= 43.5 | 645<br>[645÷10]<br>= 64.5 | [(-65) - (+50)] = [-15]     | [(-63) - (+57)]<br>= [-6]  | [Total]<br>1725      | [Total]<br>1848     | [Total]<br>1690       |

$$b_{Xy} = \frac{N \sum d_X d_Y - (\sum d_X)(\sum d_Y)}{N \sum d_Y^2 - (\sum d_Y)^2}$$
$$= \frac{(10)(1690) - (-15)(-6)}{10(1848) - (-6)^2}$$
$$= \frac{16900 - 90}{18480 - 36}$$
$$= \frac{16810}{18444}$$
$$= \frac{3362}{3689} = 1.09$$
$$N = 10$$

$$\overline{\mathbf{X}} = \frac{\Sigma X}{N} = \frac{435}{10} = 43.5$$

$$\overline{\mathbf{Y}} = \frac{\Sigma Y}{N} = \frac{645}{10} = 64.5$$

$$b_{xy} = \frac{N \Sigma d_x d_y - (\Sigma d_x) (\Sigma d_y)}{N \Sigma d_x^2 - (\Sigma d_x)^2}$$

$$= \frac{16810}{17250 - 225}$$

$$= \frac{16810}{17250 - 225} = 1.01$$
X on Y
$$X - \overline{\mathbf{X}} = b_{xy} (Y - \overline{\mathbf{Y}})$$

$$X - 43.5 = 1.01 (Y - 64.5)$$

$$X - 43.5 = 1.01 Y - 65.145 [64.5 \times 1.01]$$

$$X - 43.5 = 1.01 Y - 65.145$$

$$X - 43.5 = 0.01 Y - [65.145 - 43.5]$$

$$X = 0.01 Y - 21.645$$

Kindly send me your study materials to our email id - padasalai.net@gmail.com

# 38. Describe the application of Econometrics in Economics? Origin Of Econometrics.

Irving Fisher is the first person, developed mathematical equation in the quantity theory of money with help of data. Ragnar Frisch, a Norwegian economist and statistician named the integration of three subjects such that mathematics, statistical methods and economics as Econometrics" in 1926. Ragnar Anton Kittil Frisch Noble Memorial Prize in 1969.

#### Definitions.

Tinbergen points out that "Econometrics, as a result of certain outlook on the role of economics, consists of application of mathematical statistics to economic data to lend empirical support to the models constructed by mathematical economics and to obtain numerical results".

#### **Objectives Of Econometrics**.

The general objective of Econometrics is to give empirical content to economic theory. The specific objectives are as follows:

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

Best wishes from :

A.Alexis.PG.Tr.Don Bosco Hr.Sec.School, Varadharajanpet. Ariyalur.Dt, 621805 .Cell:9543776128 G. Vadivel, PG Tr.Govt.Hr.Sec.School, Pochampalli, Krishnagiri DT.Cell ; 9486048143