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## PREFACE

The woods are lovely, dark and deep.  
But I have promises to keep, and  
**miles to go before I sleep**

- Robert Frost

Respected Principals, Correspondents, Headmasters/  
Headmistresses, Teachers,

From the bottom of our heart, we at SURA Publications sincerely thank you for the support and patronage that you have extended to us for more than a decade.

It is in our sincerest effort we take the pride of releasing **SURA'S Economics** for +2 Standard – Edition 2022-23. This guide has been authored and edited by qualified teachers having teaching experience for over a decade in their respective subject fields. This Guide has been reviewed by reputed Professors who are currently serving as Head of the Department in esteemed Universities and Colleges.

With due respect to Teachers, I would like to mention that this guide will serve as a teaching companion to qualified teachers. Also, this guide will be an excellent learning companion to students with exhaustive exercises and in-text questions in addition to precise answers for textual questions.

In complete cognizance of the dedicated role of Teachers, I completely believe that our students will learn the subject effectively with this guide and prove their excellence in Board Examinations.

I once again sincerely thank the Teachers, Parents and Students for supporting and valuing our efforts.

God Bless all.

**Subash Raj**, B.E., M.S.  
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CHAPTER

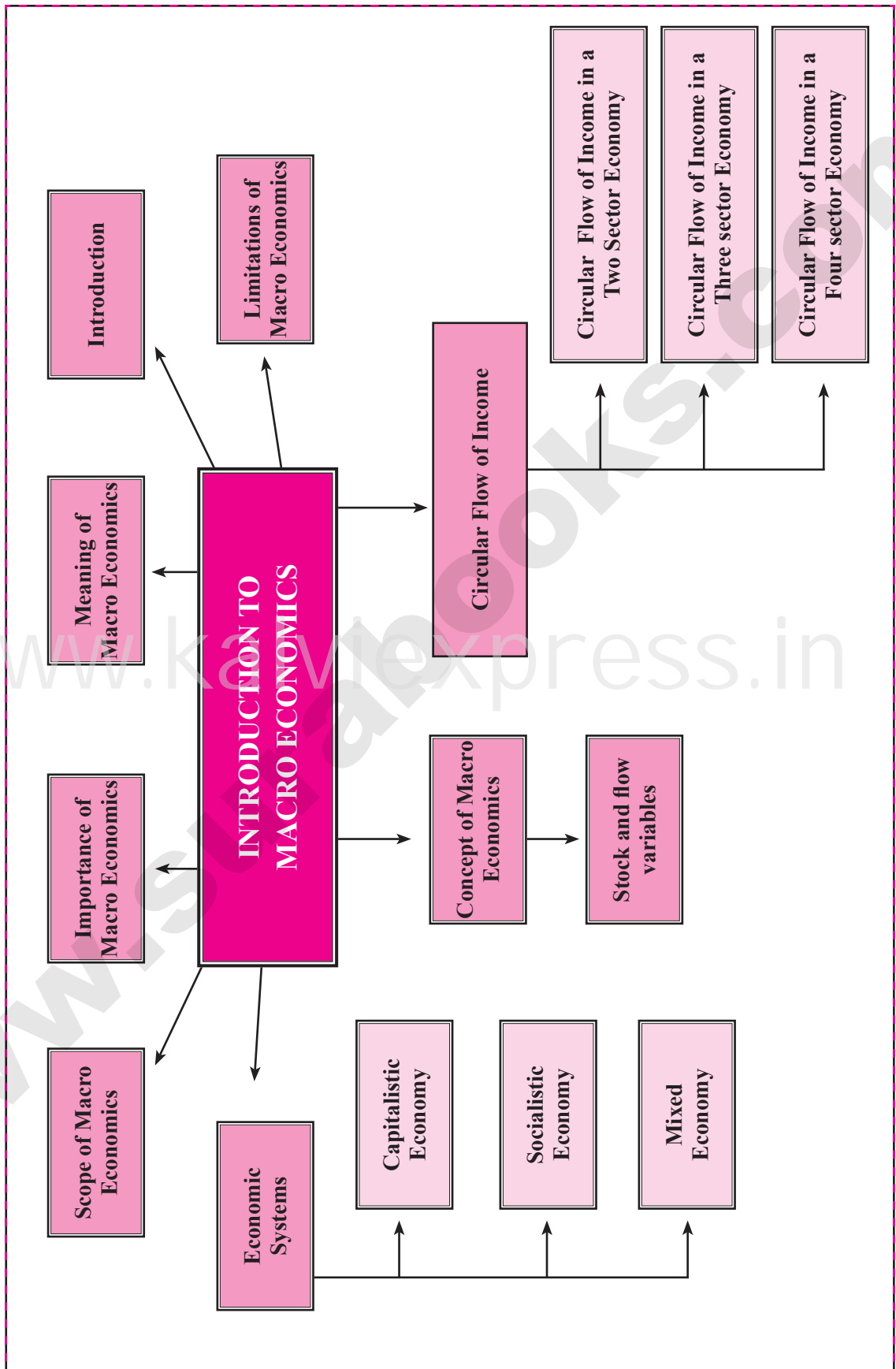
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INTRODUCTION TO  
MACRO ECONOMICS

CHAPTER SNAPSHOT

- |       |                                   |       |   |
|-------|-----------------------------------|-------|---|
| 1.1   | Introduction                      | 1.8   | Concepts of Macro Economics                       |
| 1.2   | Meaning of Macro Economics        | 1.8.1 | Stock and flow variables                          |
| 1.3   | Importance of Macro Economics     | 1.9   | Circular Flow of Income                           |
| 1.4   | Scope of Macro Economics          | 1.9.1 | Circular Flow of income in a Two Sector Economy   |
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| 1.6   | Economy and its Types             | 1.9.3 | Circular Flow of Income in a Four Sector Economy  |
| 1.7   | Economic Systems                  |       |   |
| 1.7.1 | Capitalistic Economy (Capitalism) |       |   |
| 1.7.2 | Socialistic Economy (Socialism)   |       |   |
| 1.7.3 | Mixed Economy (Mixedism)          |       |   |

*Concept Map*



## Important Terms

- Macro Economics** : Macro Economics deals with aggregates such as national income, employment and output.
- Business Cycle** : All the economies face the problem of business fluctuations and business cycle.
- Economic Systems** : Economic system refers to the manner in which individuals and institutions are connected together to carry out economic activities in a particular area.
- Globalism** : Globalisation that connects nations together through international trade and aiming at global development.
- Capitalistic Economy / Market Economy / Free Trade Economy** : Capitalist economy is where the role of the government is minimum and market determines the economic activities.
- Socialistic Economy / Command Economy / Socialism** : Socialism refers to a system of total planning, public ownership and state control on economic activities.
- Mixed Economy / Mixedism** : In a mixed economy system both private and public sectors co-exist and work together towards economic development.
- Economic Model** : A model is a simplified representation of real situation.
- Circular flow of Income** : The circular flow of income is a model of an economy showing connections between different sectors of an economy.
- Stock** : Stock refers to a quantity of a commodity measured at a point of time.

## Definitions

- Macro Economics** : According to - Dorn Busch, Fischer and Startz “ Macro Economics is very much about tying together facts and theories”.
- Economy** : The term economy has been defined by A.J. Brown as, “A system by which people earn their living”.
- J.R. Hicks Definition of Economy** : J.R. Hicks defined as, “An economy is a cooperation of producers and workers to make goods and services that satisfy the wants of the consumers”.
- Capitalistic Economy** : According to “Adam Smith” capitalistic economy is also termed as a free economy (Laissez Faire, in Latin) or market economy where the role of government is minimum and market determines the economic activities.



- Socialism** : Socialism is defined as a way of organizing a society in which major industries are owned and controlled by the government.
- Mixed Economy** : An economic system combining private and state enterprise.
- Circular flow of income** : Circular flow of income is the flow of money made as payments in exchange for products and services between various sectors in the economy, balanced by the flow of payments made in exchange for goods and services.

## MODEL QUESTIONS

### PART - A

#### MULTIPLE CHOICE QUESTIONS

- The branches of the subject Economics is**  
(a) Wealth and welfare [PTA-6]  
(b) Production and consumption  
(c) Demand and supply  
(d) Micro and macro  
[Ans. (d) Micro and macro]
- Who coined the word 'Macro'?** [QY-2019]  
(a) Adam Smith (b) J M Keynes  
(c) Ragnar Frisch (d) Karl Marx  
[Ans. (c) Ragnar Frisch]
- Who is regarded as Father of Modern Macro Economics?**  
[Govt. MQP-2019; Mar-2020; Sep-2020]  
(a) Adam Smith (b) J M Keynes  
(c) Ragnar Frisch (d) Karl Marx  
[Ans. (b) J M Keynes]
- Identify the other name for Macro Economics.** [PTA-1]  
(a) Price Theory (b) Income Theory  
(c) Market Theory (d) Micro Theory  
[Ans. (b) Income Theory]
- Macro economics is a study of \_\_\_\_\_.** [PTA-2 Mar-2020]  
(a) individuals (b) firms  
(c) a nation (d) aggregates  
[Ans. (d) aggregates]
- Indicate the contribution of J M Keynes to economics.**  
(a) Wealth of Nations (b) General Theory  
(c) Capital (d) Public Finance  
[Ans. (b) General Theory]
- A steady increase in general price level is termed as \_\_\_\_\_.**  
(a) Wholesale price index  
(b) Business Cycle  
(c) Inflation  
(d) National Income [Ans. (c) Inflation]
- Identify the necessity of Economic policies.**  
(a) to solve the basic problems [PTA-5]  
(b) to overcome the obstacles  
(c) to achieve growth  
(d) all the above [Ans. (d) all the above]
- Indicate the fundamental economic activities of an economy.**  
(a) Production and Distribution  
(b) Production and Exchange  
(c) Production and Consumption  
(d) Production and Marketing  
[Ans. (c) Production and Consumption]
- An economy consists of** [PTA-4; HY-2019]  
(a) Consumption sector  
(b) Production sector  
(c) Government sector  
(d) All the above  
[Ans. (d) All the above]
- Identify the economic system where only private ownership of production exists.**  
(a) Capitalistic Economy  
(b) Socialistic Economy  
(c) Globalistic Economy  
(d) Mixed Economy  
[Ans. (a) Capitalistic Economy]
- Economic system representing equality in distribution is \_\_\_\_\_.**  
(a) Capitalism (b) Globalism  
(c) Mixedism (d) Socialism  
[Ans. (d) Socialism]



13. Who is referred as 'Father of Capitalism'?

- (a) Adam Smith (b) Karl Marx  
(c) Thackeray (d) J M Keynes

[Ans. (a) Adam Smith]

14. The country following Capitalism is \_\_\_\_\_.

[PTA-3; Aug-2021]

- (a) Russia (b) America  
(c) India (d) China

[Ans. (b) America]

15. Identify The Father of Socialism.

[PTA-1; HY-2019; Aug-2021]

- (a) J M Keynes (b) Karl Marx  
(c) Adam Smith (d) Samuelson

[Ans. (b) Karl Marx]

16. An economic system where the economic activities of a nation are done both by the private and public together is termed as \_\_\_\_\_.

[PTA-6]

- (a) Capitalistic Economy  
(b) Socialistic Economy  
(c) Globalistic Economy  
(d) Mixed Economy

[Ans. (d) Mixed Economy]

17. Quantity of a commodity accumulated at a point of time is termed as \_\_\_\_\_.

- (a) production (b) stock  
(c) variable (d) flow

[Ans. (b) stock]

18. Identify the flow variable. [QY-2019; Sep-2020]

- (a) money supply (b) assests  
(c) income  
(d) foreign exchange reserves

[Ans. (c) income]

19. Identify the sectors of a Two Sector Model.

- (a) Households and Firms [PTA-4]  
(b) Private and Public  
(c) Internal and External  
(d) Firms and Government

[Ans. (a) Households and Firms]

20. The Circular Flow Model that represents an open Economy. [PTA-2]

- (a) Two Sector Model  
(b) Three Sector Model  
(c) Four Sector Model  
(d) All the above

[Ans. (c) Four Sector Model]

## PART - B

ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES

21. Define Macro Economics. [PTA-4; QY-2019]

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

(ii) In other words macro economics deals with aggregates such as national income, employment and output. Macro Economics is also known as "Income theory".

22. Define the term Inflation.

[Govt. MQP - 2019; QY-2019; Mar-2020]

Ans. (i) Inflation refers to steady increase in general price level.

(ii) Estimating the general price level by constructing various price index numbers such as wholesale price Index, Consumer Price Index etc, are needed.

23. What is meant by an 'Economy'?

[PTA-1, 5; HY-2019]

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

24. Classify the economies based on status of development.

- Ans. (i) Developed economies  
(ii) Under developed economies  
(iii) Undeveloped economies  
(iv) Developing economies

25. What do you mean by Capitalism? [HY-2019]

Ans. Adam Smith is the 'Father of Capitalism'. Capitalistic economy is also termed as a free economy (Laissez faire, in Latin) or market economy where the role of the government is minimum and market determines the economic activities.

26. Define 'Economic Model'. [PTA-6]

- Ans. (i) A Model is a simplified representation of real situation.  
(ii) Economists use models to describe economic activities, their relationships and their behaviour.

27. 'Circular Flow of Income' - Define. [PTA-2]

- Ans. (i) The circular flow of income is a model of an economy showing connections between different sectors of an economy.  
(ii) It shows flows of income, goods and services and factors of production between economic agents such as firms, households, government and nations.

## PART - C

### ANSWER THE FOLLOWING QUESTIONS IN ABOUT A PARAGRAPH

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

[PTA-5; Mar-2020]

**Ans.** The importance and the need for introducing a macro outlook of an economy are given below.

- (i) There is a need to understand the functions of an economy at the aggregate level to evolve suitable strategies and to solve the basic problems prevailing in an economy.
- (ii) Understanding the future problems, needs and challenges of an economy as a whole.
- (iii) Macro economics provides ample opportunities to use scientific investigation to understand the reality.
- (iv) Macro economics helps to make meaningful comparison and analysis of economic indicators.
- (v) Macro economics helps for better prediction about future.

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

[QY-2019]

**Ans.** There are three major types of economic systems. They are,

- (i) **Capitalistic Economy (Capitalism) :**  
Capitalistic economy is also termed as a free economy or market economy where the role of the government is minimum and market determines the economic activities.
- (ii) **Socialistic Economy (Socialism) :**  
Socialism refers to a system of total planning, public ownership and state control on economic activities.
- (iii) **Mixed Economy (Mixedism) :**  
In a mixed economy system both private and public sectors co-exist and work together towards economic development.

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

[PTA-6; Aug-2021]

**Ans. (i) Automatic Working :**

Without any government intervention the economy works automatically.

- (ii) **Efficient use of Resources :**  
All resources are put into optimum use.
- (iii) **Incentives for Hard work :**  
Hard work is encouraged and entrepreneurs get more profit for more efficiency.
- (iv) **Consumers Sovereignty :**  
All production activities are aimed at satisfying the consumers.

(vi) **Higher Rates of Capital Formation :**

Increase in saving and investment leads to higher rates of capital formation.

**31. Indicate the demerits of socialism. [PTA-1]**

**Ans. (i) Red Tapism and Bureaucracy :**

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

(ii) **Absence of Incentive :**

The major limitation of socialism is that this system does not provide any incentive for efficiency.

(iii) **Limited Freedom of choice :**

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

(iv) **Concentration of Power :**

The State takes all major decisions.

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

[PTA-2; HY-2019; Sep-2020]

**Ans. Features of Mixed Economy :**

1. **Ownership of Property and Means of Production :** The means of production and properties are owned by both private and public. Public and Private have the right to purchase, use or transfer their resources.
2. **Coexistence of Public and Private Sectors :** In mixed economies, both private and public sectors coexist. Private industries undertake activities primarily for profit. Public sector firms are owned by the government with a view to maximize social welfare.
3. **Economic Planning :** The central planning authority prepares the economic plans. National plans are drawn up by the Government and both private and public sectors abide. In general, all sectors of the economy function according to the objectives, priorities and targets laid down in the plan.
4. **Solution to Economic Problems :** The basic problems of what to produce, how to produce, for whom to produce and how to distribute are solved through the price mechanism as well as state intervention.
5. **Freedom and Control :** Though private has freedom to own resources, produce goods and services and distribute the same, the overall control on the economic activities rests with the government.

CHAPTER

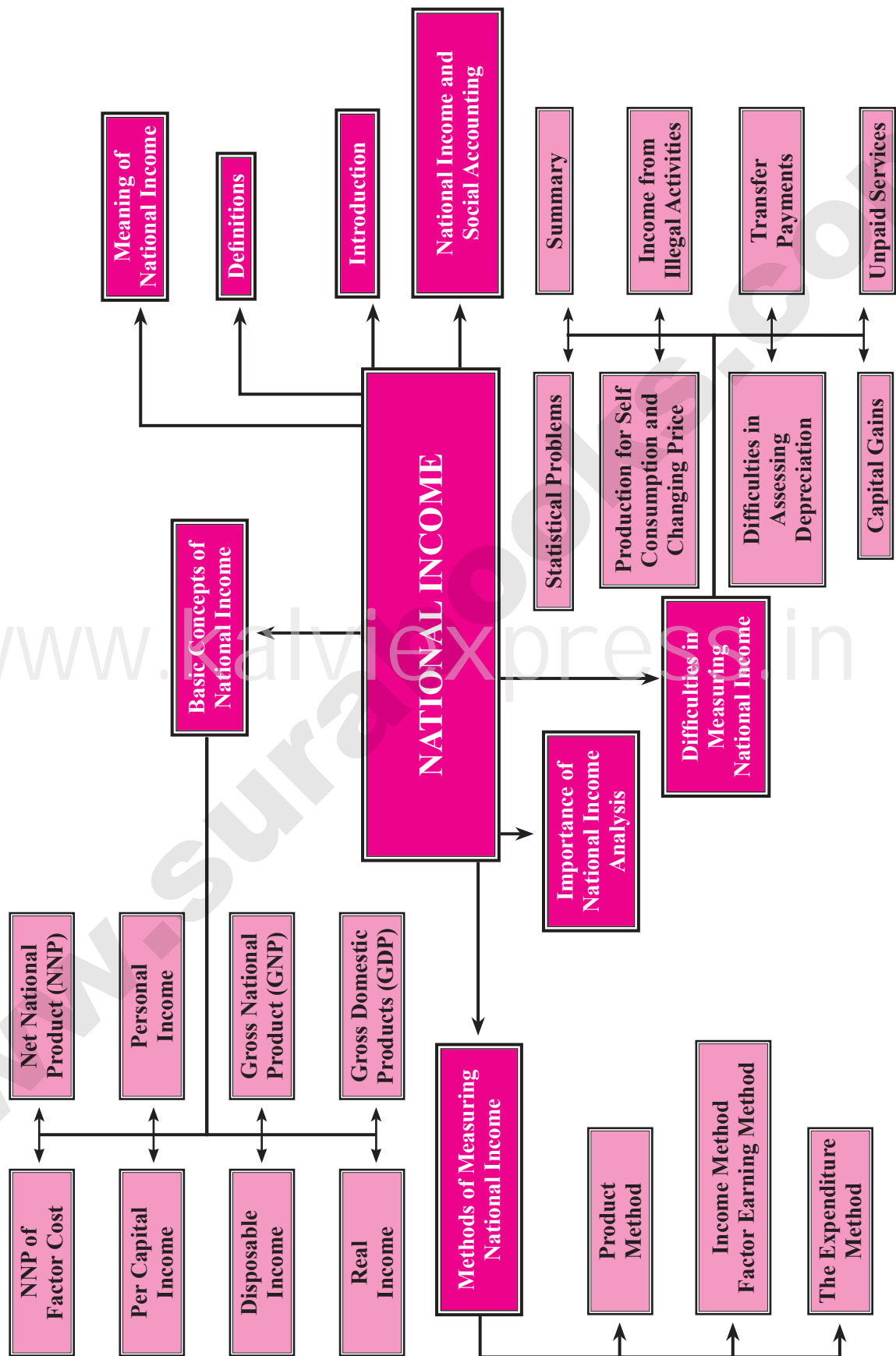
2

NATIONAL INCOME

CHAPTER SNAPSHOT

- 2.1 Introduction
- 2.2 Meaning of National Income
- 2.3 Definitions
- 2.4 Basic Concepts of National Income
  - 2.4.1 Gross Domestic Product (GDP)
  - 2.4.2 Gross National Product (GNP)
  - 2.4.3 Net National Product (NNP)
  - 2.4.4 NNP at Factor Cost
  - 2.4.5 Personal Income
  - 2.4.6 Disposable Income
  - 2.4.7 Per Capita Income
  - 2.4.8 Real Income
  - 2.4.9 GDP deflator
- 2.5 Methods of Measuring National Income
  - 2.5.1 Product Method
  - 2.5.2 Income Method (Factor Earning Method)
  - 2.5.3 The Expenditure Method (Outlay method)
- 2.6 Importance of National Income Analysis
- 2.7 Difficulties in Measuring National Income
  - 2.7.1 Transfer payments
  - 2.7.2 Difficulties in assessing depreciation allowance
  - 2.7.3 Unpaid services
  - 2.7.4 Income from illegal activities
  - 2.7.5 Production for self - consumption and changing price
  - 2.7.6 Capital Gains
  - 2.7.7 Statistical problems
- 2.8 National Income and Social Accounting
  - 2.8.1 Social Accounting and Sector
  - 2.8.2 National Income and Welfare
  - 2.8.3 National Income & Erosion of National Wealth
  - 2.8.4 National income interms of US\$
  - 2.8.5 Social and Environmental Cost

*Concept Map*





## Important Terms

- GNP** : Total money value of final goods and services produced in a country during a particular year (one year) including depreciation and net exports.
- NNP** : Total money value of final goods and services produced in a country during a particular year excluding depreciation including net exports.
- NNP at factor cost** : The total of income payment made to factors of production.
- Personal Income** : Total income received by the individuals of a country before payment of direct taxes.
- Disposable Income** : It is the sum of the consumption and saving of individuals after the payment of income tax.
- Per capita Income** : Annual average income of a person.
- Social Accounts** : The accounts of national income considering the social cost generated by economic activities.
- Unpaid Services** : Rendering useful services like preparation of meals, washing, learning bringing up children, services to their friends and relatives without payment.
- Capital Sector** : It includes saving and investment activities.
- Transfer Payments** : Government makes payments in the form of pensions unemployment allowance, subsidies, etc.
- Real Income** : Nominal income is national income expressed in term of a general price level of a particular year in the other words, real income is the buying power of nominal income.
- Outlay Method** : The total expenditure incurred by the society in a particular year is called total expenditure of a society.
- Factor Cost** : There are number of inputs that are included into a production process when producing goods and services. These inputs are commonly known as factors of production.
- Market Price (MP)** : The market price is the price that consumer will pay for the product when they purchase it from the sellers.
- Capital Gains** : Capital gains are the difference between a higher selling price and a lower purchase price.
- Social Accounting** : "Social accounting is the process of measuring and reporting to stakeholders the social and environmental effects of an organisation's actions".

## Definitions

- National Income by Alfred Marshall** : Alfred Marshal defined National Income as “The labour and capital of 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 annual income or revenue of the country or national dividend”.
- National Income by Samuelson** : According to Samuelson “The concept of national Income is an indispensable preparation for tackling the great issues of unemployment, inflation and growth”.
- GDP Deflator** : The GDP deflator, also known as the implicit price deflator, measures the impact of inflation on the gross domestic product during a specified period, usually a year.
- 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 nation income by population.
- National Income by Simon Kuznets** : “The net output of the commodities and services flowing during the year from the country’s productive system into the hands of the ultimate consumers or into net addition to the country’s stock of capital goods”.  
- Simon Kuznets.

## Formulae

### 1. Gross Domestic product (GDP)

$$\text{GDP by expenditure method at market prices} \\ = C + I + G + (X - M)$$

### 2. Net Domestic Product (NDP)

$$\text{Net Domestic Product} = \text{GDP} - \text{Depreciation}$$

### 3. GNP at market prices = GDP at market prices + Net factor income from abroad.

### 4. NNP = GNP - Depreciation allowance.

### 5. NNP at factor cost = NNP at market prices - Indirect taxes + subsidies.

### 6. Personal Income = National income - (Social security contribution and undistributed corporate profits) + Transfer payment.

### 7.

$$\text{Disposable Income} = \text{Personal income} - \text{Direct tax.}$$

As the entire disposable income is not spent on consumption,  
Disposal income = consumption + saving.

### 8. Per capita Income

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

### 9. Real Income

$$\text{National Income at constant price} \\ = \text{National income at current price} \div \frac{P_1}{P_0}$$

### 10. GDP deflator

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

### 11. Method of measuring National Income

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

### 12. Income method

$$Y = W + r + i + \pi \quad F(R - P)$$

### 13. The expenditure method

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

## MODEL QUESTIONS

### PART - A

#### MULTIPLE CHOICE QUESTIONS

- Net National product at factor cost is also known as [PTA-3]  
(a) National Income  
(b) Domestic Income  
(c) Per capita Income (d) Salary.  
[Ans. (a) National Income]
- Primary sector is \_\_\_\_\_. [PTA-6; HY-2019; Mar-2020]  
(a) Industry (b) Trade  
(c) Agriculture (d) Construction.  
[Ans. (c) Agriculture]
- National income is measured by using \_\_\_\_\_ methods. [QY-2019]  
(a) Two (b) Three  
(c) Five (d) Four  
[Ans. (b) Three]
- Income method is measured by summing up of all forms of \_\_\_\_\_.  
(a) Revenue (b) Taxes  
(c) expenditure (d) Income  
[Ans. (d) Income]
- Which is the largest figure?  
(a) Disposable income (b) Personal Income  
(c) NNP (d) GNP  
[Ans. (d) GNP]
- Expenditure method is used to estimate national income in \_\_\_\_\_.  
(a) Construction sector  
(b) Agricultural Sector  
(c) Service sector (d) Banking sector  
[Ans. (a) Construction sector]
- Tertiary sector is also called as \_\_\_\_\_ sector [PTA-1; Sep-2020]  
(a) Service (b) Income  
(c) Industrial (d) Production  
[Ans. (a) Service]
- National income is a measure of the \_\_\_\_\_ performance of an economy. [PTA-5]  
(a) Industrial (b) Agricultural  
(c) Economic (d) Consumption  
[Ans. (c) Economic]
- Per capita income is obtained by dividing the National income by \_\_\_\_\_. [PTA-3; Aug-2021]  
(a) Production  
(b) Population of a country  
(c) Expenditure  
(d) GNP [Ans. (b) Population of a country]
- GNP = \_\_\_\_\_ + Net factor income from abroad.  
(a) NNP (b) NDP  
(c) GDP (d) Personal income  
[Ans. (c) GDP]
- NNP stands for \_\_\_\_\_.  
(a) Net National Product  
(b) National Net product  
(c) National Net Provident  
(d) Net National Provident  
[Ans. (a) Net National Product]
- \_\_\_\_\_ is deducted from gross value to get the net value. [Sep-2020]  
(a) Income (b) Depreciation  
(c) Expenditure  
(d) Value of final goods [Ans. (b) Depreciation]
- The financial year in India is \_\_\_\_\_. [Govt. MQP-2019; HY-2019]  
(a) April 1 to March 31  
(b) March 1 to April 30  
(c) March 1 to March 16  
(d) January 1 to December 31  
[Ans. (a) April 1 to March 31]
- When net factor income from abroad is deducted from NNP, the net value is \_\_\_\_\_.  
(a) Gross National Product [PTA-6]  
(b) Disposable Income  
(c) Net Domestic Product  
(d) Personal Income  
[Ans. (c) Net Domestic Product]
- The value of NNP at production point is called \_\_\_\_\_. [PTA-5]  
(a) NNP at factor cost  
(b) NNP at market cost  
(c) GNP at factor cost  
(d) Per capita income  
[Ans. (a) NNP at factor cost]



16. The average income of the country is \_\_\_\_\_.

- (a) Personal Income [PTA-4]  
(b) Per capita income  
(c) Inflation Rate (d) Disposal Income

[Ans. (b) Per capita income]

17. The value of national income adjusted for inflation is called \_\_\_\_\_.

- (a) Inflation Rate (b) Disposal Income  
(c) GNP  
(d) Real national income

[Ans. (d) Real national income]

18. Which is a flow concept ?

- (a) Number of shirts (b) Total wealth  
(c) Monthly income (d) Money supply

[Ans. (c) Monthly income]

19. PQLI is the indicator of \_\_\_\_\_.

- (a) Economic growth  
(b) Economic welfare  
(c) Economic progress  
(d) Economic development

[Ans. (b) Economic welfare]

20. The largest proportion of national income comes from \_\_\_\_\_.

- (a) Private sector [PTA-2]  
(b) Local sector  
(c) Public sector  
(d) None of the above [Ans. (a) Private sector]

## PART - B

### ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES

21. Define National Income. [PTA-5; Mar-2020]

**Ans.** According to Alfred Marshall, "The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend".

22. Write the formula for calculating GNP.

[QY-2019; Sep-2020]

**Ans.** GNP at market prices = GDP at market prices + Net factor income from Abroad.

$$\text{GNP} = \text{C} + \text{I} + \text{G} + ((\text{X}-\text{M}) + (\text{R} - \text{P}))$$

C - Consumption Expenditure

I - Investment Expenditure

G - Government Expenditure

X-M - Difference between value exports and imports of goods.

R-P - Net factor income from abroad

23. What is the difference between NNP and NDP?

S. No.	NNP	NDP
1.	NNP refers to the market value of output	NDP is the value of net output of the economy during the year.
2.	NNP at factor cost is the total of income payment made to factors of production.	The country's capital equipment wears out or becomes outdated each year during the production process.
3.	Formula : NNP = GNP - depreciation allowance	Net Domestic Product = GDP - Depreciation.

24. Trace the relationship between GNP and NNP.

[PTA-2]

S. No.	GNP	NNP
1.	<b>Gross National Product (GNP)</b> is the total measure of the flow of final goods and services at market value resulting from current production in a country during a year, including net income from abroad.	<b>Net National Product (NNP)</b> refers to the value of the net output of the economy during the year. NNP is obtained by deducting the value of depreciation.
2.	GNP at Market prices = GDP at market prices + Net Factor income from Abroad.	$\text{NNP} = \text{GNP} - \text{depreciation allowance}$

## National Income

**25. What do you mean by the term 'Personal Income'?** [Mar - 2020]

- Ans. (i)** Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in a year.
- (ii)** Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income.

**26. Define GDP deflator.**

[Govt. MQP-2019; Aug-2021]

**Ans.** GDP deflator is an index of price changes of goods and services included in GDP.

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

**27. Why is self consumption difficult in measuring national income?** [PTA-6]

**Ans. (i)** Farmers keep a large portion of food and other goods produced on the farm for self consumption.

- (ii)** The problem is whether that part of the produce which is not sold in the market can be included in national income or not.

### PART - C

**ANSWER THE FOLLOWING QUESTIONS IN ONE PARAGRAPH**

**28. Write a short note on per capita income.**

[QY-2019; Sep-2020]

**Ans. (i)** The average income of a person of a country in a particular year is called Per Capita Income.

- (ii)** Per capita income is obtained by dividing national income by population.

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

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

[PTA-5]

**Ans.**

S. No.	Personal Income	Disposable Income
1.	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 also known as Disposable personal income. It is the individuals income after the payment of income tax.
2.	Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income.	This is the amount available for households for consumptions.
3.	Personal Income = National income - Social security contribution and undistributed corporate profits) + Transfer payments.	Disposable Income = Personal Income - Direct tax. As the entire disposable income is not spent of consumption. Disposable income = Consumption + Saving

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

- Ans. (i)** NNP refers to the market value of output.
- (ii)** NNP at factor cost is the total of income payment made to factors of production.
- (iii)** Thus from the money value of NNP at market price, we deduct the amount of indirect taxes and add subsidies to arrive at the net national income at factor cost.

$$\text{NNP at factor cost} = \text{NNP at Market prices} - \text{Indirect taxes} + \text{Subsidies.}$$

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

[PTA-3; HY-2019]

- Ans. (i)** The total expenditure incurred by the society in the particular year is added together.
- (ii)** To calculate the expenditure of a society, it includes personal consumption expenditure, net domestic investment, government expenditure on consumption as well as capital goods and net exports.

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

- C = Private consumption expenditure.  
 I = Private investment expenditure.  
 G = Government expenditure.  
 X – M = Net exports.

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

[PTA-6; QY-2019]

- Ans. (i)** 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.
- (ii)** Double counting is to be avoided under value added method.
- (iii)** Any commodity which is either raw material or intermediate good for the final production should not be included.
- (iv)** For example, value of cotton enters value of yarn as cost, and value of yarn in cloth and that of cloth in garments.
- (v)** At every stage value added only should be calculated.

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

- Ans. (i)** National income is considered as an indicator of the economic well-being of a country.
- (ii)** The economic progress of country is measured in terms of their GDP per capita and their annual growth rate.
- (iii)** A country with a higher per capita income is supposed to enjoy greater economic welfare with a higher standard of living.
- (iv)** But the rise in GDP or per capita income need not always promote economic welfare.

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

**Ans. Uses of National Income :** [Govt. MQP - 2019]

- (i)** The National Income of a country describes the economic performance or production performance of a country.
- (ii)** Economists, planners, Government, businessmen and international agencies (IMF, World Bank etc.) use national income data and analysis them for various purposes.
- (iii)** National income data help in measuring changes in the standard of living over time and also enable us to compare standard of living of different countries.
- (iv)** Level of development of a country is also measured by using national income figures.

**PART - D**

**ANSWER THE FOLLOWING QUESTIONS IN ABOUT A PAGE**

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

[Govt. MQP-2019; PTA-5; Mar-2020; Sep-2020]

**Ans. Importance of National Income :**

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

- (i)** To know the relative importance of the various sectors of the economy and their contribution towards national income.
- (ii)** To formulate the national policies such as monetary policy, fiscal policy and other policies.
- (iii)** To formulate planning and evaluate plan progress. It is essential that the data pertaining to a country's gross income.
- (iv)** To build economic models both in short-run and long-run.
- (v)** To make international comparison, inter regional comparison and inter-temporal comparison for the growth of the economy during different periods.
- (vi)** To know a country's per capita income which reflects the economic welfare of the country.
- (vii)** To know the distribution of income for the various factors of production in the country.
- (viii)** To arrive at many macro economic variables namely, Tax - GDP ratio, Current Account Deficit - GDP ratio, Fiscal Deficit GDP ratio, Debt - GDP ratio etc.

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

[PTA-1; QY-2019; Aug-2021]

**Ans.** There are three methods of measuring national Income. They are,

- (i)** Production (or) Value added method.  
**(ii)** Income method (or) Factor earning method.  
**(iii)** Expenditure method.

And if these methods are done correctly, the following equation must hold.

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

**(i) Product Method :**

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

CHAPTER

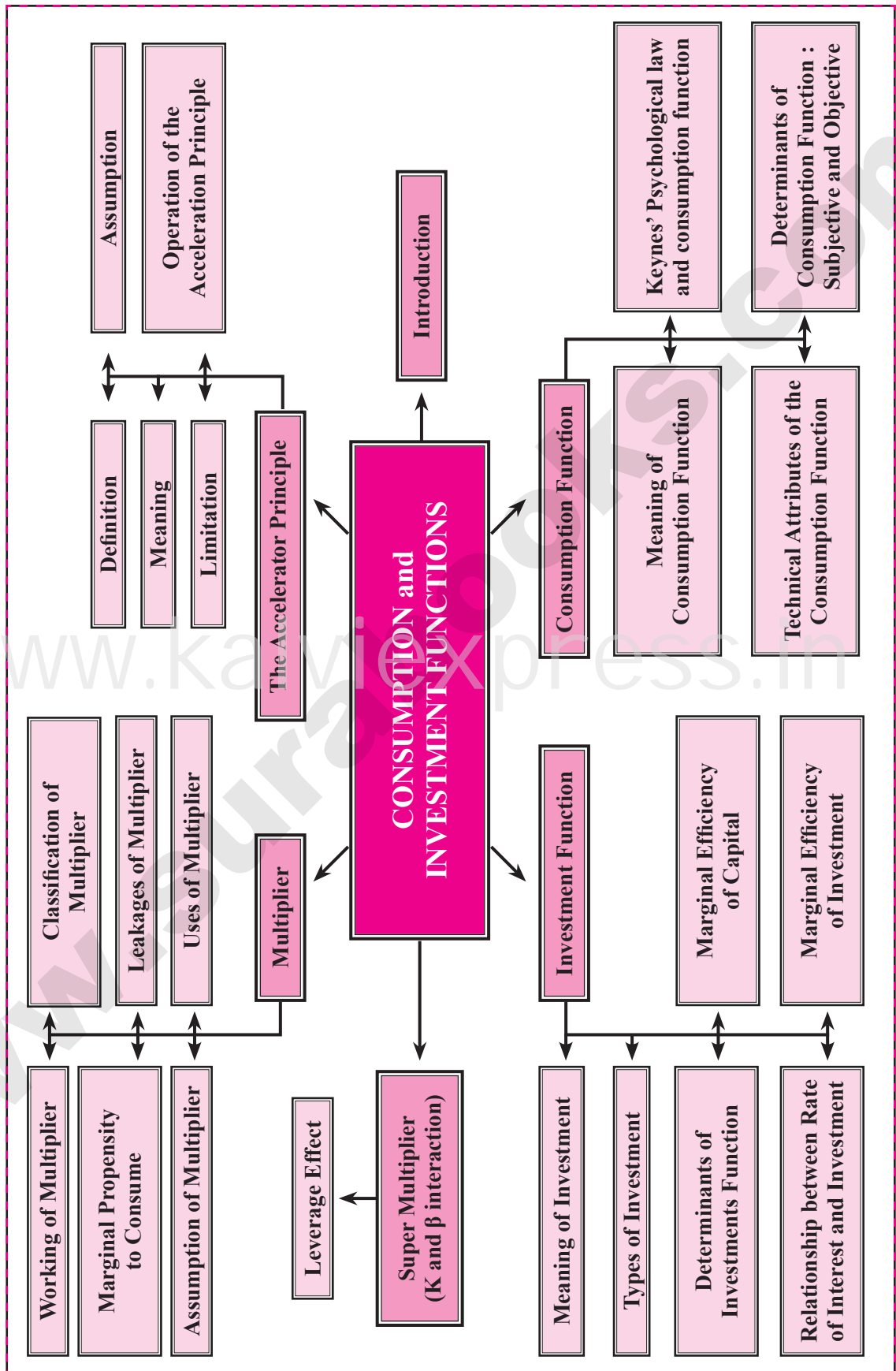
4

CONSUMPTION AND  
INVESTMENT FUNCTIONS

CHAPTER SNAPSHOT

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>4.1 Introduction</li><li>4.2 Consumption Function<ul style="list-style-type: none"><li>4.2.1 Meaning of Consumption Function</li><li>4.2.2 Technical Attributes of the Consumption Function</li><li>4.2.3 Keynes's Psychological Law of Consumption</li><li>4.2.4 Determinants of Consumption Function : Subjective and Objective factors</li></ul></li><li>4.3 Investment Function<ul style="list-style-type: none"><li>4.3.1 Meaning of Investment</li><li>4.3.2 Types of Investment</li><li>4.3.3 Determinants of Investment Function</li><li>4.3.4 Relationship between rate of interest and Investment</li><li>4.3.5 Marginal Efficiency of Capital</li><li>4.3.6 Marginal Efficiency of Investment</li></ul></li></ul> | <ul style="list-style-type: none"><li>4.4 Multiplier<ul style="list-style-type: none"><li>4.4.1 Assumptions of Multiplier</li><li>4.4.2 Marginal Propensity to consume and Multiplier</li><li>4.4.3 Working of Multiplier</li><li>4.4.4 Classification of Multiplier</li><li>4.4.5 Leakages of Multiplier</li><li>4.4.6 Uses of Multiplier</li></ul></li><li>4.5 The Accelerator Principle<ul style="list-style-type: none"><li>4.5.1 Meaning</li><li>4.5.2 Definition</li><li>4.5.3 Assumptions</li><li>4.5.4 Operation of the Acceleration Principle</li><li>4.5.5 Limitations</li></ul></li><li>4.6 Super Multiplier : (K and <math>\beta</math> interaction)<ul style="list-style-type: none"><li>4.6.1 Leverage Effect</li></ul></li></ul> |
|--|---|

*Concept Map*





## Important Terms

- Consumption Function** : The term Consumption Function explains the relationship between income and consumption.
- Propensity to Consume** : Propensity to Consume is the ratio that measures the functional relationship between income and consumption the proportion of income spent on actual consumption at different levels of income.
- The Average Propensity to Consume** : The Average Propensity to Consume is the ratio of consumption expenditure to any particular level of income.
- The Marginal Propensity to Consume (MPC)** : The Marginal Propensity to Consume may be defined as the ratio of the change in the consumption to the change in income.
- The Average Propensity to Save (APS)** : The Average Propensity to Save is the ratio of saving to income.
- Income Distribution** : If there is large disparity between rich and poor the consumption is low because the rich people have low propensity to consume and high propensity to save.
- Investment function** : The investment function refers to investment interest rate relationship.
- Autonomous investment** : Autonomous investment is the expenditure on capital formation which is independent of the change in income rate of interest or rate of profit.
- Marginal efficiency of capital** : It may be defined as the highest rate of return over cost expected from the additional unit of capital asset.
- Marginal efficiency of investment (MEI)** : MEI is the expected rate of return on investment as additional units of investment are made under specified conditions and over a period of time.
- Multiplier** : The multiplier is defined as the ratio of the change in national income to change in investment.
- Accelerator** : Accelerator is the numerical value of the relation between an increase in consumption and the resulting increase in investment.
- Super multiplier  $K$  and  $\beta$  interaction** : The super multiplier is greater than simple multiplier which includes only autonomous investment.
- Leverage effect** : The combined effect of the multiplier and the accelerator is also called the leverage effect.

# Definitions

- Multiplier and Accelerator** : The theory of multiplier and the theory of accelerator are the two sides of the theory of fluctuations just as the theory of demand and the theory of supply are the two sides of the theory of value. The full theory must be that which shows both sides in operation. – J.R.Hicks.
- Consumption function** : Consumption function is a "functional relationship between two aggregates viz. total consumption and gross national income".
- Autonomous consumption** : Even when income is zero, people spend some minimum level either by gift or borrowing. This consumption which is not related to income is called as autonomous consumption.
- Keynes's Psychological law of consumption** : According to Keynes, "The fundamental psychological law upon which we are entitled to depend with great confidence both prior from our knowledge of human nature and from the detailed facts of experience, is that men are disposed as a rule and on the average to increase their consumption as their income increases but not by as much as the increase in their income".
- Marginal efficiency of capital (MEC)** : According to J.M. Keynes, MEC may be defined as the highest rate of return over cost expected from the additional unit of capital asset.
- Multiplier** : The multiplier is defined as the ratio of the change in national income to change in investment.
- Accelerator Co-efficient** : The accelerator co-efficient is the ratio between included investment and an initial change in consumption.
- Super multiplier** : The super multiplier is greater than simple multiplier which includes only autonomous investment and induced investment, while super multiplier includes induced investment.

# Formulae

S. NO.	TO CALCULATE	FORMULA
1.	The average propensity to consume	$\frac{C}{Y}$
2.	The marginal propensity to consume	$\frac{\Delta C}{\Delta Y}$
3.	The average propensity to save	$\frac{S}{Y}$
4.	The marginal propensity to save	$\frac{\Delta S}{\Delta Y}$
5.	Multiplier K	$\Delta Y / \Delta I$ (or) $K = 1 / 1 - MPC$ Or $\frac{1}{MPS}$
6.	Accelerator Effect ( $\beta$ )	$\frac{\Delta I}{\Delta C}$
7.	Leverage Effect	$Y = C + I_A + I_P$

- (iv) Investment is increased from  $OI_2$  to  $OI_4$ . This increases income from  $OY_1$  to  $OY_3$  the equilibrium point being  $E_3$ .
- (v) In this diagram, it is assumed that exogenous investment is only by  $I_2I_3$  and induced investment is by  $I_3I_4$ .
- (vi) Therefore, increase in income by  $Y_1Y_2$  is due to the multiplier effect and the increase in income by  $Y_2Y_3$  is due to the accelerator effects.

40. What are the differences between MEC and MEI.

[PTA-4; Sep-2020]

Ans.

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

## PTA QUESTIONS AND ANSWERS

### MULTIPLE CHOICE QUESTIONS 1 MARK

(i) State whether the Statements are true or false.

- (i) APC - Ratio of their consumption expenditure to income [PTA-1]
- (ii) APS - Ratio of the savings to income
- (a) both (i) and (ii) are true
- (b) both (i) and (ii) are false
- (c) (i) is true but (ii) is false
- (d) (i) is false but (ii) is true

[Ans. (a) both (i) and (ii) are true]

(ii) Match the following and choose the correct answer by using code given below.

[PTA-3]

A	APC	(i)	$\Delta S/\Delta Y$
B	MPC	(ii)	$S/Y$
C	APS	(iii)	$C/Y$
D	MPS	(iv)	$\Delta C/\Delta Y$

Codes :

- (a) A - (iii), B - (ii), C - (iv), D - (i)
- (b) A - (ii), B - (iii), C - (i), D - (iv)
- (c) A - (iii), B - (iv), C - (ii), D - (i)
- (d) A - (ii), B - (iii), C - (iv), D - (i)

[Ans. (c) A - (iii) B - (iv) C - (ii) D - (i)]

### ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES 2 MARKS

1. What are the technical attributes of conception function? [PTA-2]

Ans. (i) The Average Propensity to Consume

$$(APC) = \frac{C}{Y}$$

(ii) The Marginal Propensity to Consume

$$(MPC) = \frac{\Delta C}{\Delta Y}$$

(iii) The Average Propensity to Save (APS)

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

(iv) The Marginal Propensity to Save (MPS)

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



**ANSWER THE FOLLOWING QUESTIONS IN ONE PARAGRAPH 3 MARKS**

1. Distinguish cheap money policy dear money policy. [PTA-3]

Ans.	Cheap Money Policy	Dear Money Policy
	Cheap money policy or the policy of credits expansion also leads to increase in the money supply which raises the demand for goods and services in the economy.	The contractionary monetary policy, which maintains short-term interest rates higher than usual or which slows the rate of growth in the money supply or even shrinks it.

2. Give an account of the classification of multiplier. [PTA-5]

Ans. Static and dynamic multiplier

(i) **Static multiplier** is otherwise known as simultaneous multiplier, timeless multiplier, and logical multiplier. Under static multiplier the change in investment and the resulting change in income are simultaneous. There is no time lag. There is also no change in MPC as the economy moves from one equilibrium position to another.

(ii) **Dynamic multiplier** is also known as 'sequence multiplier'. In real life, income level does not increase instantly with investment. In fact, there is a time lag between increase in income and consumption expenditure.

**GOVERNMENT EXAM QUESTIONS AND ANSWERS**

**MULTIPLE CHOICE QUESTIONS 1 MARK**

Choose the Correct Option.

1. Match it: [QY-2019]

- |             |   |                          |
|-------------|---|--------------------------|
| (a) MPS     | - | 1. C+S                   |
| (b) K       | - | 2. $\Delta I / \Delta C$ |
| (c) Y       | - | 3. $\Delta S / \Delta Y$ |
| (d) $\beta$ | - | 4. $\frac{1}{1 - MPC}$   |
- (a) 1 2 3 4                      (b) 2 1 4 3  
(c) 3 4 1 2                      (d) 1 4 3 2

[Ans. (c) 3 4 1 2]

**PART - B**

**ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES 2 MARKS**

1. Explain the kinds of multiplier. [QY-2019]

- Ans. (i) Tax Multiplier  
(ii) Employment Multiplier  
(iii) Foreign Trade Multiplier  
(iv) Investment Multiplier

2. What is investment function? [Govt. MQP-2019]

Ans. The investment function refers to investment - interest rate relationship. There is a functional and inverse relationship between rate of interest and investment. The investment function slopes downward.

$$I = f(r)$$

I= Investment (Dependent variable)

r = Rate of interest (Independent variable)

**PART - C**

**ANSWER THE FOLLOWING QUESTIONS IN ONE PARAGRAPH 3 MARKS**

1. Complete the table [Govt. MQP-2019]

Income	Consumption	Savings
0	20	
60		-10
	120	0
		10
240	220	

Ans.

Income	Consumption	Savings
0	20	-20
60	70	-10
120	120	0
180	170	10
240	220	20

**PART - D**

**ANSWER THE FOLLOWING QUESTIONS IN ONE PAGE 5 MARKS**

1. Specify the uses and leakages of Multiplier.

**Ans. Uses of Multiplier :** [HY-2019; Mar-2020]

- (i) Multiplier highlights the importance of investment in income and employment theory.
- (ii) The process throws light on the different stages of trade cycle.
- (iii) It also helps in bringing the equality between S and I.
- (iv) It helps to reduce unemployment and achieve full employment.

**limitations of Multiplier :**

(i) **Payment towards past debts :**

If a portion of the additional income is used for repayment of old loan, the MPC is reduced and as a result the value of multiplier is cut.

(ii) **Non availability of consumer goods :**

The multiplier theory assumes instantaneous supply of consumer goods following demand. But there is often a time lag.

(iii) **Full employment situation :**

Under conditions of full employment, resources are almost fully employed. So additional investment will lead to inflation only, rather than generation of additional real income.

**ADDITIONAL QUESTIONS AND ANSWERS**

**PART - A**

**MULTIPLE CHOICE QUESTIONS 1 MARK**

(i) **Choose the Correct Option.**

1. Higher Interest rates likely to

- (a) Reduce investment
- (b) Decrease the cost of borrowing
- (c) Discourage saving
- (d) Increase borrowing and spending

[Ans. (a) Reduce investment]

2. If the Keynesian consumption function is  $C = 10 + 0.9 Y$  then, if disposable income is ₹1000, what is amount of total consumption?

- (a) 0.9
- (b) 800
- (c) 0.91
- (d) 910

[Ans. (d) 910]

3. If the Keynesian consumption function is  $C = 10 + 0.8Y$  then, if disposable income is ₹1000, what is amount of total saving?

- (a) 810
- (b) 190
- (c) 0.8
- (d) 0.81

[Ans. (b) 190]

4. If the Keynesian consumption function is  $C = 10 + 0.5Y$  then, and disposable income is 100, what is the average propensity to consume?

- (a) 0.5
- (b) 0.6
- (c) 0.7
- (d) 0.8

[Ans. (b) 0.6]

5. Decrease in consumption at any given level of income is likely to lead

- (a) Lower aggregate demand
- (b) An increase in exports
- (c) Higher aggregate demand
- (d) An increase in Investment

[Ans. (a) Lower aggregate demand]

6. Formula for calculating Multiplier

- (a)  $K = \frac{1}{1-MPC}$
- (b)  $\frac{\Delta Y}{\Delta I}$
- (c)  $\frac{1}{MPS}$
- (d) All the above

[Ans. (d) All the above]

7. If the MPC = 0.6, find MPS

- (a) 1
- (b) 0.4
- (c) 0.6
- (d) 2

[Ans. (b) 0.4]

8. Consumption function is the relationship between \_\_\_\_\_ and the national income.

- (a) Consumption expenditure
- (b) Government expenditure
- (c) Distribution expenditure
- (d) Investment expenditure

[Ans. (a) Consumption expenditure]

9. \_\_\_\_\_ principle explains the relationship between consumption expenditure and capital expenditure

- (a) Multiplier
- (b) Accelerator
- (c) Super Multiplier
- (d) All the above

[Ans. (b) Accelerator]

10. In the long run, the autonomous consumption will become \_\_\_\_\_.

- (a) Maximum
- (b) Minimum
- (c) Negative
- (d) Zero

[Ans. (d) Zero]

11. In the short run, consumption function \_\_\_\_\_.

- (a) increase
- (b) decrease
- (c) remain constant
- (d) none of these

[Ans. (c) remain constant]

12. Investment is the addition to real \_\_\_\_\_.  
 (a) Input (b) Output Asset  
 (c) Capital Assets (d) None of these  
**[Ans. (c) Capital Assets]**
13. According to Keynes, employment depends on \_\_\_\_\_.  
 (a) savings (b) Income  
 (c) Interest (d) Investment  
**[Ans. (d) Investment]**
14. MPC Stands for \_\_\_\_\_.  
 (a) Marginal Physical Consumption  
 (b) Marginal Propensity to Consume  
 (c) Marginal Price of the Commodity  
 (d) None of these  
**[Ans. (b) Marginal Propensity to Consume]**
15. The term consumption function explains the relationship between \_\_\_\_\_ and \_\_\_\_\_.  
 (a) Labour and Consumer  
 (b) Income and Consumption  
 (c) Consumer and Consumption  
 (d) Organisation and Consumption  
**[Ans. (b) Income and Consumption]**
16. \_\_\_\_\_ is the ratio of change in savings to a change in income.  
 (a) Marginal Propensity to Save  
 (b) Debt equity ratio  
 (c) BEP ratio  
 (d) Marginal Propensity to Consume  
**[Ans. (a) Marginal Propensity to Save]**
17. The Great Depression of 1930s was also caused by a \_\_\_\_\_.  
 (a) Fall in investment  
 (b) Income and consumption  
 (c) Income and employment  
 (d) Interest and money  
**[Ans. (a) Fall in investment]**
18. The magnified effect of initial investment on income is called \_\_\_\_\_ effect.  
 (a) Multiplier  
 (b) Value of multiplier  
 (c) Both  
 (d) None  
**[Ans. (a) Multiplier]**
19. Multiplier  $K =$  \_\_\_\_\_.  
 (a)  $C + S$  (b)  $C + I$   
 (c)  $1/1 - MPC$  (d)  $\Delta S/\Delta Y$   
**[Ans. (c)  $1/1 - MPC$ ]**
20. Accelerator ( $\beta$ ) = \_\_\_\_\_.  
 (a)  $C + I$  (b)  $1/1 - MPC$   
 (c)  $\frac{\Delta I}{\Delta C}$  (d)  $\Delta C/\Delta Y$   
**[Ans. (c)  $\frac{\Delta I}{\Delta C}$ ]**
21. \_\_\_\_\_ is the author of the "General theory of employment, interest and money".  
 (a) J.M. Keynes (b) J.B. Say's  
 (c) David Ricardo (d) Malthus  
**[Ans. (a) J.M. Keynes]**
22. The marginal propensity save \_\_\_\_\_.  
 (a)  $\Delta C/\Delta Y$  (b)  $\Delta S/\Delta Y$   
 (c)  $\Delta P/\Delta Q$  (d)  $C/Y * \Delta P/\Delta Q$   
**[Ans. (b)  $\Delta S/\Delta Y$ ]**
23. The author of the book "General Theory of Employment, Interest and Money" is :  
 (a) Adam smith  
 (b) J.M. Keynes  
 (c) David Ricardo  
 (d) Alfred Marshall  
**[Ans. (b) J.M. Keynes]**
24. \_\_\_\_\_ is the autonomous consumption.  
 (a) Consumption made either by gift or borrowings  
 (b) Consumption  
 (c) Demand  
 (d) None  
**[Ans. (a) Consumption made either by gift or borrowings]**
25. \_\_\_\_\_ is the correct formula of MPS.  
 (a)  $\Delta S/\Delta Y$  (b)  $\Delta I/\Delta Y$   
 (c)  $\Delta P/\Delta Q$  (d)  $\Delta C/\Delta Y$   
**[Ans. (a)  $\Delta S/\Delta Y$ ]**
26. Theory of \_\_\_\_\_ states the effect of investment upon the level of income.  
 (a) Multiplier  
 (b) J.B. Say's Law of market theory  
 (c) General theory  
 (d) Classical theory of employment  
**[Ans. (a) Multiplier]**
27. Ratio of change in aggregate income due to a change in investment is called \_\_\_\_\_.  
 (a) Multiplier  
 (b) Classical  
 (c) Supply  
 (d) None  
**[Ans. (a) Multiplier]**
28. The expected rate of profit technically means \_\_\_\_\_.  
 (a) Marginal efficiency of capital  
 (b) Aggregate Demand  
 (c) The principle of effective demand  
 (d) Consumption function  
**[Ans. (a) Marginal efficiency of capital]**
29. Investment depends upon \_\_\_\_\_ and rates of interest.  
 (a) MEC (b) AD  
 (c) Both (d) None  
**[Ans. (a) MEC]**

30.  $K=1/MPS =$  \_\_\_\_\_

- (a)  $\frac{\Delta P}{\Delta Q}$  (b)  $\frac{C}{4} \times \frac{\Delta P}{\Delta Q}$

- (c) Value of multiplier  
(d) Value of accelerator

[Ans. (c) Value of multiplier]

31. The average propensity to save is measured by \_\_\_\_\_

- (a) C/Y (b)  $C \times Y$   
(c) S/Y (d)  $C + Y$

[Ans. (c) S/Y]

32. Marginal propensity to save is measured by \_\_\_\_\_

- (a)  $\Delta C/\Delta Y$  (b)  $\Delta S/\Delta Y$   
(c) C/Y (d) S/Y

[Ans. (b)  $\Delta S/\Delta Y$ ]

33. If the MPS is 0.5, the multiplier is \_\_\_\_\_

- (a) 0.2 (b) 1 (c) 0.5 (d) 2

[Ans. (d) 2]

34. The concept of multiplier was first developed by \_\_\_\_\_ in terms of employment.

- (a) R.F.Khan (b) J.M Keynes  
(c) H.F.Khan (d) M.J.Keynes

[Ans. (a) R.F.Khan]

35. The simple accelerated model was made by J.M. Clark in \_\_\_\_\_

- (a) 1915 (b) 1916  
(c) 1917 (d) 1910

[Ans. (c) 1917]

36. As income decreases, consumption will \_\_\_\_\_

- (a) fall (b) not change  
(c) fluctuate (d) increase

[Ans. (a) fall]

37. According to Keynes, consumption function will depend upon consumption and \_\_\_\_\_

- (a) Saving (b) Income  
(c) Investment (d) Demand

[Ans. (b) Income]

38. "The consumption expenditure depends not only on his current income but also past income and standard of living". Who said this?

- (a) J.M.Keynes (b) R.F.Khan  
(c) J.R.Hicks (d) Duesenberry

[Ans. (d) Duesenberry]

39. Formula for calculating Accelerator

- (a)  $MPC = \Delta C/\Delta Y$  (b)  $K = 1/MPS$   
(c)  $\Delta I/\Delta C$  (d) C/Y

[Ans. (c)  $\Delta I/\Delta C$ ]

(ii) Match the following and choose the correct answer by using codes given below.

1. (A)	C	(i)	1
(B)	K	(ii)	Average propensity to consume
(C)	$MPC + MPS$	(iii)	$1/1-MPC$
(D)	APC	(iv)	f(Y)

Codes :

- (a) A - (iv) B - (iii) C - (ii) D - (i)  
(b) A - (ii) B - (iii) C - (iv) D - (i)  
(c) A - (iv) B - (iii) C - (i) D - (ii)  
(d) A - (ii) B - (i) C - (iv) D - (iii)

[Ans. (c) A-(iv) B-(iii) C-(i) D-(ii)]

2. (A)	Determinants of consumption function	(i)	Autonomous investment
(B)	I	(ii)	Profit motive
(C)	Investment that is not dependent on the national income	(iii)	Subjective and Objective
(D)	Induced Investment	(iv)	f(r)

Codes :

- (a) A - (iii), B - (iv), C - (i), D - (ii)  
(b) A - (iv), B - (iii), C - (ii), D - (i)  
(c) A - (ii), B - (i), C - (iv), D - (iii)  
(d) A - (ii), B - (iii), C - (iv), D - (i)

[Ans. (a) A-(iii) B-(iv) C-(i) D-(ii)]

(iii) State whether the Statements are true or false.

1. (i) Ratio of change in consumption to change in investment – Multiplier  
(ii) Ratio of change in induced investment to change in consumption. – Accelerator.

- (a) Both (i) and (ii) are true  
(b) Both (i) and (ii) are false  
(c) (i) is true but (ii) false  
(d) (i) is false but (ii) is true

[Ans. (d) (i) is false but (ii) is true]

(iv) Which one of the following is correctly matched?

1.	(a)	K	=	Accelerator principle
	(b)	$\beta$	=	Multiplier
	(c)	MPS	=	$\frac{\Delta S}{\Delta Y}$
	(d)	MPC + MPS	=	2

[Ans. (c)  $MPS = \frac{\Delta S}{\Delta Y}$ ]

2.	(a)	Average propensity to save	=	$\frac{\Delta S}{\Delta Y}$
	(b)	Marginal propensity to save	=	$\frac{\Delta I}{\Delta C}$
	(c)	Marginal propensity to consume	=	$\frac{\Delta C}{\Delta Y}$
	(d)	Average propensity to consume	=	$\frac{S}{Y}$

[Ans. (c) Marginal propensity to consume -  $\frac{\Delta C}{\Delta Y}$ ]

3.	(a)	Simple Acclerator Model ( $\beta$ )	-	R.F. Khan
	(b)	Multiplier (K)	-	Duesenberry
	(c)	Psychological law of consumption	-	J.M. Keynes
	(d)	Factors affecting consumption function	-	J.M. Clark

[Ans. (c) Psychological law of consumption - J.M. Keynes]

4.	(a)	Marginal Efficiency of Capital	-	1936
	(b)	Consumption Function	-	1960
	(c)	Employment Multiplier	-	J.M. Keynes
	(d)	Simple Acclerator Model	-	1920

[Ans. (a) Marginal Efficiency of Capital - 1936]

(v) Which one of the following is Not correctly matched?

- (a) Accelerator model - J.M.Clark  
(b) Multiplier was developed by - R.F.Khan  
(c) MEC - Duesenberry  
(d) Investment Multiplier - J.M. Keynes

[Ans. (c) MEC - Duesenberry]

- (a) Multiplier (K) -  $\frac{\Delta I}{\Delta Y}$   
(b) MPS -  $\frac{\Delta S}{\Delta Y}$   
(c) Accelerator ( $\beta$ ) -  $\frac{\Delta I}{\Delta C}$   
(d) APC -  $C/Y$

[Ans. (a) Multiplier (K) -  $\frac{\Delta I}{\Delta Y}$ ]

(vi) Assertion and Reason.

1. **Assertion (A)** : Keynes propounded the fundamental psychological Law of Consumption.

**Reason (R)** : The people to spend on consumption less than the full increment of income.

**Choose the Correct option :**

- Both A and R are true and R is not the correct explanation of A
- Both A and R are true and R is the correct explanation of A
- R is true but A is false
- A is true but R is false

[Ans. (b) Both A and R are true and R is the correct explanation of A]

2. **Assertion (A)** : J.M.Keynes has divided factors influencing the consumption function into two.

**Reason (R)** : Subjective factors are the internal factors related to psychological feelings.

**Choose the Correct option :**

- Both A and R are true and R is the correct explanation of A
- Both A and R are true and R is not the correct explanation of A
- A is true but R is false
- A is false but R is true

[Ans. (a) Both A and R are true and R is the correct explanation of A]

(vii) Pick the Odd one Out.

1. The Accelerator Principle

- $\beta = \frac{\Delta I}{\Delta C}$
- Ratio between induced investment and an initial change in consumption.
- Further developed by Hicks Samuelson and Harrod.
- First introduced by - J.M. Keynes

[Ans. (d) First introduced by - J.M. Keynes]

CHAPTER

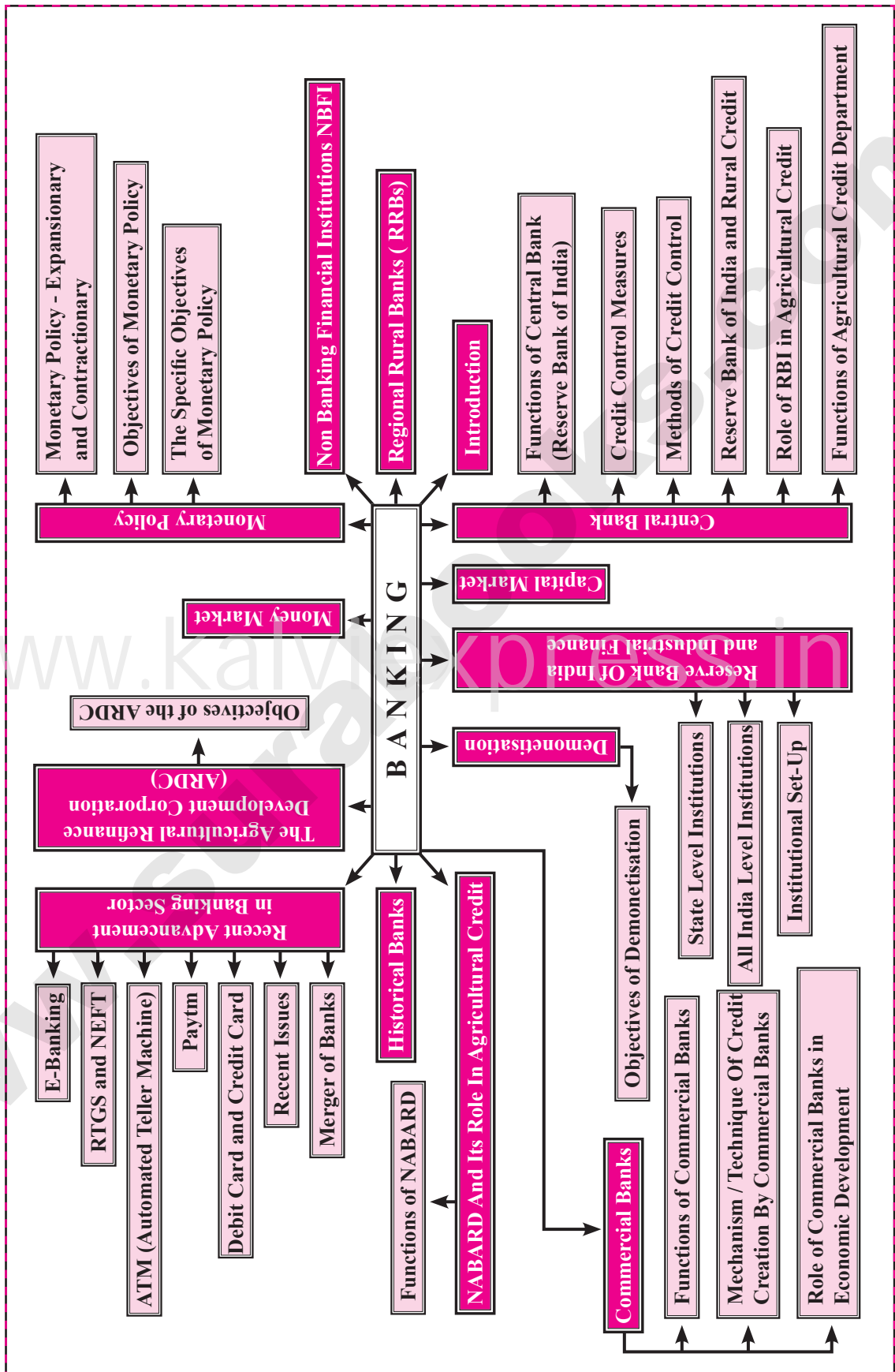
6

BANKING

CHAPTER SNAPSHOT

- 6.1 Introduction
- 6.2 Historical Development
- 6.3 Commercial Banks
  - 6.3.1 Functions of Commercial Banks
  - 6.3.2 Mechanism / Technique of Credit Creation by Commercial Banks
  - 6.3.3 Role of Commercial Banks in Economic Development of a Country.
- 6.4 Non-Banking Financial Institution (NBFI)
- 6.5 Central Bank
  - 6.5.1 Functions of Central Bank (Reserve Bank of India)
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- 6.10 Monetary Policy
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- 6.11 Recent Advancements in Banking Sector
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  - 6.11.7 Merger of Banks
- 6.12 Money Market
- 6.13 Capital Market
- 6.14 Demonetisation
  - 6.14.1 Objectives of Demonetisation

*Concept Map*



## Important Terms

- Commercial Banks** : Commercial banks are institutions that conduct business with profit motive by accepting public deposits and leading loans for various investment purposes..
- Credit Creation** : It means the multiplication of loans and advances.
- Non-Banking Financial Institution** : It is a financial institution that does not have a full banking license.
- Central Bank** : It is an institution that manages a state's currency, money supply, and interest rates.
- Bank Rate** : It is the rate at which the Central Bank of a country is prepared to re-discount the first class securities .
- Statutory Liquidity Ratio (SLR)** : It is the amount which a bank has to maintain in the form of cash, gold etc.
- Cash Reserve Ratio (CRR)** : Banks are required to hold a certain proportion of their deposits in the form of cash with RBI.
- Monetary Policy** : It is the macro-economic policy laid down by the Central Bank towards the management of money supply and interest rate.
- Capital Market** : It is financial market in which long term debt or equity backed securities are bought and sold.
- Time Deposits** : It refers to deposits that are made for certain committed period of time.
- Money Supply** : It refers to one of the important functions of commercial banks that help in increasing money supply.
- Demonetisation** : It is the act of stripping a currency unit of its status as legal tender. It occurs whenever there is a change of national currency.
- Letter of Credit** : Commercial banks issue letters of credit to their customers to certify their credit worthiness.
- Electronic Banking** : It includes services, such as debit cards, credit cards and Internet banking.
- Underwriting securities** : Commercial banks also undertake the task of underwriting securities.
- General Utility Functions** : The commercial banks provide some utility services to customers by performing various functions.
- Issuing Traveler's cheques** : Banks issue traveler's cheques to individuals for traveling outside the country.
- E-Banking** : Internet banking is an electronic payment system.



- SIDCO** : SIDCOs provide financial assistance to industrial concerns by way of loans guarantees and underwriting of or direct subscriptions to shares and debentures.
- IDBI** : The Industrial Development Bank of India has been conceived with the primary object of creating an apex institution to co-ordinate the activities of other financial institutions including banks.
- State Level Institution** : State Financial Corporations are mainly intended for the development of small and medium industrial units within their respective states.

## Definitions

- Definition of the Banking** : According to Culbertson “Commercial Banks are the institutions that make short term loans to business and in the process create money”.
- Role of banks in economic development** : Kent defines a bank as “an organisation whose principal operations are concerned with the accumulation of the temporarily idle money of the general public for the purpose of advancing to others for expenditure.
- Definition of a Central Bank** : According to Smith “The primary definition of Central Banking is a banking system in which a single bank has either complete control or a residuary monopoly of note issue.  
According to H.A. Shaw defines a Central Bank, “as a bank which controls credit”.
- Definition of Monetary Policy** : Monetary policy is the macro economic policy laid down by the Central Bank. It involves management of money supply and interest rate and is the demand side economic policy used by the government of a country to achieve. macro economic objectives like inflation consumption, growth and liquidity.



## MODEL QUESTIONS

### PART - A

#### MULTIPLE CHOICE QUESTIONS

1. A Bank is a [PTA-5]
  - (a) Financial institution
  - (b) Corporate
  - (c) An Industry
  - (d) Service institutions

**[Ans. (a) Financial institution]**
2. A Commercial Bank is an institutions that provides services
  - (a) Accepting deposits
  - (b) Providing loans
  - (c) Both a and b
  - (d) None of the above **[Ans. (c) Both a and b]**
3. The Functions of commercial banks are broadly classified into
  - (a) Primary Functions
  - (b) Secondary functions
  - (c) Other functions
  - (d) a, b, and c **[Ans. (d) a, b, and c]**
4. Bank credit refers to [PTA-4]
  - (a) Bank Loans
  - (b) Advances
  - (c) Bank loans and advances
  - (d) Borrowings

**[Ans. (c) Bank loans and advances]**
5. Credit creation means [PTA-2]
  - (a) Multiplication of loans and advances
  - (b) Revenue
  - (c) Expenditure
  - (d) Debt

**[Ans. (a) Multiplication of loans and advances]**
6. NBFBI does not have [Ans. (a) Banking license]
  - (a) Banking license
  - (b) government approval
  - (c) Money market approval
  - (d) Finance ministry approval
7. Central bank is [PTA-3] authority of any country.
  - (a) Monetary
  - (b) Fiscal
  - (c) Wage
  - (d) National Income

**[Ans. (a) Monetary]**
8. Who will act as the banker to the Government of India? [PTA-4; QY-2019; HY-2019; Aug-2021]
  - (a) SBI
  - (b) NABARD
  - (c) ICICI
  - (d) RBI

**[Ans. (d) RBI]**
9. Lender of the last resort is one of the functions of. [PTA-6]
  - (a) Central Bank
  - (b) Commercial banks
  - (c) Land Development Banks
  - (d) Co-operative banks

**[Ans. (a) Central Bank]**
10. Bank Rate means. [PTA-2]
  - (a) Re-discounting the first class securities
  - (b) Interest rate
  - (c) Exchange rate
  - (d) Growth rate

**[Ans. (a) Re-discounting the first class securities]**
11. Repo Rate means. [Govt. MQP - 2019]
  - (a) Rate at which the Commercial Banks are willing to lend to RBI
  - (b) Rate at which the RBI is willing to lend to commercial banks
  - (c) Exchange rate of the foreign bank
  - (d) Growth rate of the economy

**[Ans. (b) Rate at which the RBI is willing to lend to commercial banks]**
12. Moral suasion refers.
  - (a) Optimization
  - (b) Maximization
  - (c) Persuasion
  - (d) Minimization

**[Ans. (c) Persuasion]**
13. ARDC started functioning from
  - (a) June 3, 1963
  - (b) July 3, 1963
  - (c) June 1, 1963
  - (d) July 1, 1963

**[Ans. (d) July 1, 1963]**
14. NABARD was set up in. [PTA-3; QY-2019; Mar-2020; Aug-2021]
  - (a) July 1962
  - (b) July 1972
  - (c) July 1982
  - (d) July 1992

**[Ans. (c) July 1982]**
15. EXIM bank was established in. [Govt. MQP - 2019]
  - (a) June 1982
  - (b) April 1982
  - (c) May 1982
  - (d) March 1982

**[Ans. (d) March 1982]**
16. The State Financial Corporation Act was passed by
  - (a) Government of India
  - (b) Government of Tamilnadu
  - (c) Government of Union Territories
  - (d) Local Government.

**[Ans. (a) Government of India]**

**17. Monetary policy his formulated by.**

- (a) Co-operative banks [PTA-5; Sep-2020]  
(b) Commercial banks  
(c) Central Bank  
(d) Foreign banks [Ans. (c) Central Bank]

**18. Online Banking is also known as.**

- (a) E-Banking (b) Internet Banking  
(c) RTGS (d) NEFT  
[Ans. (b) Internet Banking]

**19. Expansions of ATM. [PTA-1]**

- (a) Automated Teller Machine  
(b) Adjustment Teller Machine  
(c) Automatic Teller mechanism  
(d) Any Time Money  
[Ans. (a) Automated Teller Machine]

**20. 2016 Demonetization of currency includes denominations of [QY-2019]**

- (a) ₹500 and ₹1000 (b) ₹1000 and ₹2000  
(c) ₹200 and ₹500 (d) All the above  
[Ans. (a) ₹500 and ₹1000]

**PART - B**

**ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES**

**21. Define Commercial banks. [PTA-1]**

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

**22. What is credit creation? [PTA-5; Sep-2020]**

- Ans. (i)** Credit Creation means the multiplication of loans and advances.  
**(ii)** Commercial banks receive deposits from the public and use these deposits to give loans. However, loans offered are many times more than the deposits received by banks. This function of banks is known as 'Credit Creation'.

**23. Define Central bank. [Aug-2021]**

**Ans.** A central bank, reserve bank, or monetary authority is an institution that manages a state's currency, money supply, and interest rates. Central banks also usually oversee the commercial banking system of their respective countries.

**24. Distinguish between CRR and SLR. [Govt. MQP - 2019]**

Ans. S. No.	CRR	SLR
(1)	The Central Bank controls credit by changing the Cash Reserves Ratio.	Statutory Liquidity Ratio (SLR) is the amount which a bank has to maintain in the form of cash, gold or approved securities.
(2)	Commercial Banks have excessive cash reserves on the basis of which they are creating too much of credit, this will be harmful for the larger interest of the economy.	The quantum is specified as some percentage of the total demand and time liabilities.

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

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

**26. What is rationing of credit? [PTA-2; HY-2019]**

- Ans. (i)** Rationing of credit is the oldest method of credit control.  
**(ii)** It aims to control and regulate the purposes for which credit is granted by commercial banks.

**27. Mention the functions of agriculture credit department. [PTA-3]**

- Ans. (i)** To maintain an expert staff to study all questions on agricultural credit.  
**(ii)** To provide expert advice to Central and State Government, State Co-operative Banks.  
**(iii)** To finance the rural sector through eligible institutions engaged in the business of agricultural credit and to co-ordinate their activities.

## PART - C

### ANSWER THE FOLLOWING QUESTIONS IN ONE PARAGRAPH

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

- Ans.** (i) Bank Credit refers to bank loans and advances.  
(ii) Money is said to be created when the banks provide loans.  
(iii) Money is said to be destroyed when the loan is repaid by the borrowers to the banks and consequently the credit already created by the banks is wiped out in the process.  
(iv) Banks have the power to expand or contract demand deposits and they exercise this power through granting more or less loans and advances and acquiring other assets.  
(v) This power of commercial bank to create deposits through expanding their loans and advances is known as credit creation.

**29. Give a brief note on NBFIs.** [PTA-2]

- Ans.** (i) NBFIs means Non-Banking Financial Institution (or) Non-Bank Financial Company (NBFC)  
(ii) It is a financial institution that does not have full banking license or is not supervised by the central bank.  
(iii) The NBFIs do not carry on pure banking services, but it carries on other financial transactions.  
(iv) They receive deposits and provide loans.  
(v) They operate in both the money and the capital markets.  
(vi) NBFIs can be broadly classified into two categories. Viz.  
(1) Stock Exchange and  
(2) Other Financial Institutions.  
(vii) Examples for the latter category are Finance Corporations, Chit funds, Building societies etc.

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

- Ans.** (I) Quantitative (or) General Method  
(II) Qualitative (or) Selective Method  
(I) **Quantitative Method :**  
(i) Bank Rate Policy  
(ii) Open Market Operations  
(iii) Variable Reserve Ratio  
(iv) Cash Reserve Ratio, Statutory Liquidity Ratio (SLR)

(II) **Qualitative Method :**

- (i) Rationing of Credit
- (ii) Direct Action
- (iii) Moral Suasion
- (iv) Publicity
- (v) Regulation of Consumer's Credit
- (vi) Marginal requirements

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

[Govt. MQP-2019; PTA-5; QY-2019; Aug-2021]

**Ans.** NABARD has inherited its apex role from RBI. It is performing all the functions performed by RBI with regard to agricultural credit.

- (i) NABARD acts as a refinancing institution for all kinds of production and investment credit to agriculture, small-scale industries, cottage and village industries, handicrafts and rural crafts and other allied economic activities with a view to promoting integrated rural development.
- (ii) It provides short-term, medium term and long-term credit to state cooperative Banks, RRB, LDBs and other financial institutions approved by RBI.
- (iii) NABARD gives long-term loans (upto 20 years) to State government.
- (iv) NABARD gives long-term loans to any institution approved by the Central Government.
- (v) NABARD has the responsibility of co-ordinating the activities of Central and State Governments, NITI Aayog, etc.
- (vi) It maintains a Research and Development Fund to promote research in agriculture and rural development.
- (vii) It has the responsibility to inspect RRBs and co-operative banks, other than primary co-operative societies.

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

**Ans. Functions of IFCI :**

- (i) Long term loans, both in rupees and foreign currencies.
- (ii) Underwriting of equity, preference and debenture issues.
- (iii) Subscribing to equity, preference and debenture issues.
- (iv) Guaranteeing the deferred payments in respect of machinery imported from abroad or purchased in India.
- (v) Guaranteeing of loans raised in foreign currency from foreign financial institutions.

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

**Ans.**

S. No.	Money Market	Capital Market
(1)	Money Market is the mechanism in which short term funds are loaned and borrowed.	It is a part of financial system.
(2)	It handles the purchase, sales and transfer of short term credit instruments.	It is raising capital by dealing in shares, bonds and other long term investments.
(3)	Commercial banks, acceptance houses, non banking financial institutions and the Central Bank are the institutions catering to the requirements of short term funds in the money market.	The market where investment instruments like bonds, equities and mortgages are traded is known as the capital market.

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

**Ans. Meaning of Demonitisation :** [HY-2019]

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

**Objectives of Demonitisation :**

- (i) Removing Black Money from the country.
- (ii) Stopping of corruption.
- (iii) Stopping terror funds.
- (iv) Curbing fake notes.

**PART - D**

**ANSWER THE FOLLOWING QUESTIONS IN ONE PAGE**

**35. Explain the role of Commercial Banks in economic development.** [PTA-3]

**Ans.** Role of Commercial Banks in Economic Development of Country :

- (1) **Capital Formation :**
  - (i) Banks play an important role in capital formation which is essential for the economic development of a country.
  - (ii) It is utilized for productive purpose.
- (2) **Creation of Credit :**
  - (i) Banks create credit for the purpose of providing more funds for development project.
  - (ii) Credit Creation leads to increased production, employment, sales and prices and thereby they bring about faster economic development.
- (3) **Channelizing the Funds towards Productive Investment :**
  - (i) Banks invest the savings mobilized by them for productive purposes.

- (ii) Pooled savings should be allocated to various sector of the economy with a view to increase the productivity.

(4) **Encouraging Right type of Industries :**

- (i) Money banks help in the development of the right type of Industries by extending loan to right type of persons.
- (ii) It helps not only for industrialization of the country but also the economic development of the country.

(5) **Bank monetize debt :**

- (i) Commercial banks transform the loan to be repaid after a certain period into cash, which can be immediately used for business activities.
- (ii) Manufacturers and wholesale traders cannot increase their sales without selling goods on credit basis.

(6) **Finance to Government**

Banks provide long-term credit to Government by investing their funds in Government securities and short-term finance by purchasing Treasury Bills.

(7) **Employment Generation**

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

(8) **Banks promote entrepreneurship**

In recent days, banks have assumed the role of developing entrepreneurship particularly in developing countries like India by inducing new entrepreneurs to take up the well-formulated projects and provision of counseling services like technical and managerial guidance.

**36. Elucidate the functions of Commercial Banks.**

**Ans.** Functions of Commercial Banks

[PTA-1; Sep-2020]

(a) **Primary Functions:** [Mar-2020]

1. **Accepting Deposits:** There are two types of deposits, which are discussed as follows

(i) **Demand Deposits**

It refers to deposits that can be withdrawn by individuals without any prior notice to the bank.

(ii) **Time Deposits**

It refers to deposits that are made for certain committed period of time. Banks pay higher interest on time deposits.

2. **Advancing Loans:** Commercial banks grant loans in the form of overdraft, cash credit, and discounting bills of exchange.

(b) **Secondary Functions:** The secondary functions can be classified under three heads, namely, agency functions, general utility functions, and other functions.

1. **Agency Functions:** It implies that commercial banks act as agents of customers by performing various functions.

(i) **Collecting Cheques:** Banks collect cheques and bills of exchange on the behalf of their customers through clearing house facilities provided by the central bank.

(ii) **Collecting Income:** Commercial banks collect dividends, pension, salaries, rents, and interests on investments on behalf of their customers.

(iii) **Paying Expenses:** Commercial banks make the payments of various obligations of customers, such as telephone bills, insurance premium, school fees, and rents.

(2) **General Utility Functions:** It implies that commercial banks provide some utility services to customers by performing various functions.

(i) **Providing Locker Facilities:** Commercial banks provide locker facilities to its customers for safe custody of jewellery, shares, debentures, and other valuable items.

(ii) **Issuing Traveler's Cheques:** Banks issue traveler's cheques to individuals for traveling outside the country.

(iii) **Dealing in Foreign Exchange:**

Commercial banks help in providing foreign exchange to businessmen dealing in exports and imports.

(3) **Transferring Funds:** It refers to transferring of funds from one bank to another.

(4) **Letter of Credit:** Commercial banks issue letters of credit to their customers to certify their creditworthiness.

(i) **Underwriting Securities:** Commercial banks also undertake the task of underwriting securities.

(ii) **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. Commercial banks receive deposits from the public and use these deposits to give loans.

(iii) **Collection of Statistics:** Banks collect and publish statistics relating to trade, commerce and industry.

**37. Describe the functions of Reserve Bank of**

**India.** Govt. MQP-2019; PTA-4; QY-2019;

HY-2019; Aug-2021]

**Ans. Functions of RBI:**

(1) **Monetary Authority:**

(i) It controls the supply of money.

(ii) To stabilize exchange rate, maintain healthy balance of payment, attain financial stability, control inflation, strengthen banking system.

(2) **The issuer of currency:**

(i) The objective is to maintain the currency and credit system of the country.

(ii) It is the sole authority to issue currency.

(iii) To control the circulation of fake currency.

(3) **The issuer of banking licence:** 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) **Bankers to the Government:** It acts as banker both to the Central and the State Government.

(5) **Banker's Bank:** RBI is the bank of all banks in India.

- (6) **Lender of last resort** : The banks can borrow from the RBI by keeping eligible securities as collateral at the time of need or crisis, when there is no other source.
- (7) **Act as clearing house** : RBI manages 14 clearing houses.
- (8) Custodian of foreign exchange reserves.
- (9) Regulator of economy.
- (10) Managing government securities.
- (11) Regulator and supervisor of payment and settlement system.
- (12) Developmental Role.
- (13) Publisher of monetary data and other data.
- (14) Exchange manager and controller.
- (15) Banking Ombudsman Scheme.
- (16) Banking Codes and Standards Boards of India.

**38. What are the objectives of Monetary Policy? Explain.** [PTA-2, 6; QY-2019; Mar-2020]

**Ans. Objectives of Monetary Policy :**

- (1) **Neutrality of Money** : Economists like Wicksteed, Hayek and Robertson are the chief exponents of neutral money. They hold the view that monetary authority should aim at neutrality of money in the economy. Monetary changes could be the root cause of all economic fluctuations.

- (2) **Exchange Rate Stability** : Exchange rate stability was the traditional objective of monetary authority. This was the main objective under Gold Standard among different countries.
- (3) **Price Stability** : Economists like Crustave Cassel and Keynes suggested price stabilization as a main objective of monetary policy. Price stability is considered the most genuine objective of monetary policy.
- (4) **Full Employment** : During world depression, the problem of unemployment had increased rapidly. It was regarded as socially dangerous, economically wasteful and morally deplorable.
- (5) **Economic Growth** : Economic growth is the process whereby the real per capita income of a country increases over a long period of time. It implies an increase in the total physical or real output, production of goods for the satisfaction of human wants.
- (6) **Equilibrium in the Balance of Payments** : Equilibrium in the balance of payments is another objective of monetary policy which emerged significant in the post war years.

## PTA QUESTIONS AND ANSWERS

**ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES** **2 MARKS**

**1. Write a note on traveler's cheque.** [PTA-4]

**Ans.** Banks issue traveler's cheques to individuals for traveling outside the country. Traveler's cheques are the safe and easy way to protect money while traveling.

**ANSWER THE FOLLOWING QUESTIONS IN ONE PARAGRAPH** **3 MARKS**

**1. Write a note on** [PTA-4]

- (i) Debit Card
- (ii) Credit Card

**Ans. (i) Debit Card :**

A Debit card is a card allowing the holder to transfer money electronically from their bank account when making a purchase.

**(ii) Credit Card :**

A credit card is a payment card issued to users (cardholders) to enable the cardholder to pay a merchant for goods and services based on the cardholder's promise to the card issuer to pay them for the amounts so paid plus the other agreed charges.

**2. Explain the nature of recession.** [PTA-5]

- Ans. (i)** Borrowing is difficult  
**(ii)** Consumers buy less  
**(iii)** Businesses Postpone expansion  
**(iv)** Unemployment increases  
**(v)** Production is reduced

**ANSWER THE FOLLOWING QUESTIONS IN ONE PAGE** **5 MARKS**

**1. Explain the qualitative credit control.** [PTA-1]

- Ans. (i)** The qualitative or the selective methods are directed towards the diversion of credit into particular uses or channels in the economy.  
**(ii)** The following are the frequent methods of credit control under selective method:

1. **Rationing of Credit** : This is the oldest method of credit control. Rationing of credit as an instrument of credit control was first used by the Bank of England by the end of the 18<sup>th</sup> Century. It aims to control and regulate the purposes for which credit is granted by commercial banks.

CHAPTER

8

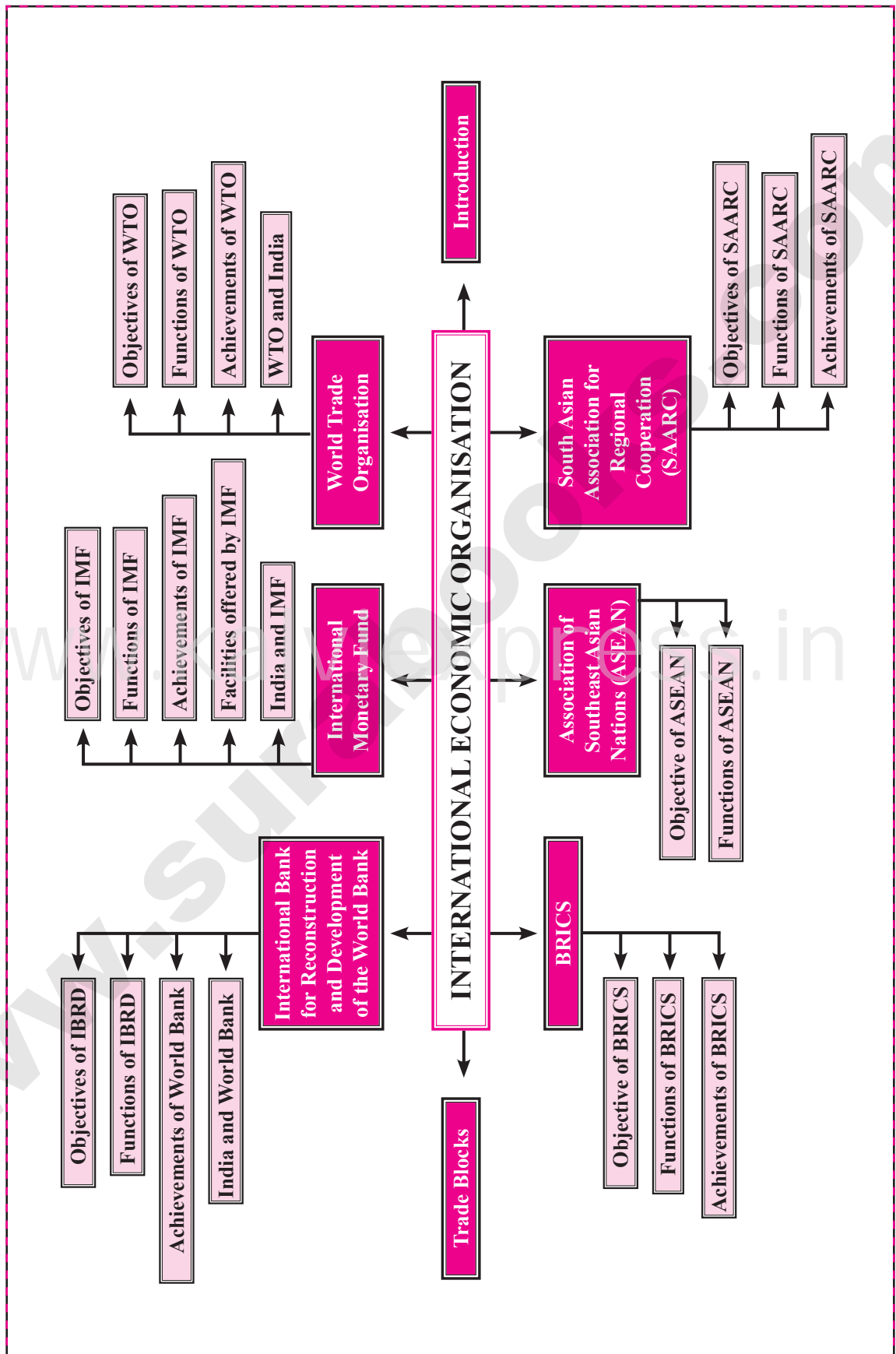
INTERNATIONAL ECONOMIC  
ORGANISATIONS

CHAPTER SNAPSHOT

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| <ul style="list-style-type: none"><li>8.1 Introduction</li><li>8.2 International Monetary Fund.<ul style="list-style-type: none"><li>8.2.1 Objectives of IMF</li><li>8.2.2 Functions of IMF</li><li>8.2.3 Facilities offered by IMF</li><li>8.2.4 Achievements of IMF</li><li>8.2.5 India and IMF</li></ul></li><li>8.3 International Bank for Reconstruction and Development (IBRD) or World Bank.<ul style="list-style-type: none"><li>8.3.1 Objectives of IBRD</li><li>8.3.2 Functions of IBRD</li><li>8.3.3 Achievements of World Bank</li><li>8.3.4 India and World Bank</li></ul></li><li>8.4 World Trade Organization<ul style="list-style-type: none"><li>8.4.1 Objectives of WTO</li><li>8.4.2 Functions of WTO</li></ul></li></ul> | <ul style="list-style-type: none"><li>8.4.3 Achievements of WTO</li><li>8.4.4 WTO and India</li><li>8.5 Trade Blocks</li><li>8.6 South Asian Association for Regional Co-operation (SAARC)<ul style="list-style-type: none"><li>8.6.1 Objectives of SAARC</li><li>8.6.2 Functions of SAARC</li><li>8.6.3 Achievements of SAARC</li></ul></li><li>8.7 Association of South East Asian Nations (ASEAN)<ul style="list-style-type: none"><li>8.7.1 Objectives of ASEAN</li><li>8.7.2 Functions of the ASEAN</li></ul></li><li>8.8 BRICS<ul style="list-style-type: none"><li>8.8.1 Objectives of BRICS</li><li>8.8.2 Functions of BRICS</li><li>8.8.3 Achievements of BRICS</li></ul></li></ul> |
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*Concept Map*





## Important Terms

<b>International Monetary Fund</b>	: The IMF was established to assist the member nations to tide over the Balance of Payments disequilibrium in the short term.
<b>SARRC</b>	: 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.
<b>ASEAN</b>	: ASEAN was established on 8 August 1967 in Bangkok by the five original member countries: Indonesia, Malaysia, Philippines, Singapore and Thailand.
<b>BRICS</b>	: BRICS is the acronym for an Association of five major emerging national economies : Brazil, Russia, India, China and South Africa.
<b>Multi Fibre Agreement</b>	: The Multi fibre agreement governed the world trade in textiles and garments since 1974.
<b>Structural Adjustment facility</b>	: Providing additional balance of payments assistance on concessional terms to the poorer member nations to undertake strong macro economic and structural programmes.
<b>Special Drawing Rights</b>	: International Monetary reserve currency created by IMF.
<b>Trade related Intellectual property Rights (TRIP)</b>	: TRIPs include copyright, trade mark, patents geographical indications, industrial designs and invention of microbial plants.
<b>Trade Related Investment Rights (TRIMs)</b>	: TRIMs are related to conditions or restrictions imposed in respect of foreign investment in the country.
<b>Multilateral trade agreement</b>	: It is a multinational, legal or trade agreements between countries. It is an agreement between more than two countries but not many.
<b>Trade Blocks</b>	: They are a set of countries which engage in international trade together and are usually related through a free trade agreement or other associations.
<b>Free trade Area</b>	: A region encompassing a trade bloc whose member countries have signed a Free Trade Agreement (FTA)
<b>Customs union</b>	: Free trade area (zero tariffs among members) with a common external tariff.
<b>Common market</b>	: A group formed by countries within geographical area to promote duty free trade and free movement of labour and capital among its members.

## Definitions

<b>International Bank for Reconstruction and Development</b>	: IBRD is an International financial institution that offers loans to middle – income developing countries. The IBRD is the first of five member institution that is otherwise called the World Bank and headquartered in Washington, D.C United States.
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## MODEL QUESTIONS

### PART - A

#### MULTIPLE CHOICE QUESTIONS

1. International Monetary Fund was an outcome of [PTA-5; Aug-2021]  
 (a) Pandung Conference  
 (b) Dunkel Draft  
 (c) Bretton Woods Conference  
 (d) Doha Conference  
**[Ans. (c) Bretton Woods Conference]**
2. International Monetary Fund is having its headquarters at [Govt. MQP - 2019; QY - 2019; Sep-2020]  
 (a) Washington D.C. (b) New York  
 (c) Vienna (d) Geneva  
**[Ans. (a) Washington D.C.]**
3. IBRD is otherwise called [Govt. MQP - 2019; HY-2019]  
 (a) IMF  
 (b) World Bank  
 (c) ASEAN  
 (d) International Finance Corporation  
**[Ans. (b) World Bank]**
4. The other name for Special Drawing Rights is [PTA-4; HY-2019]  
 (a) Paper gold  
 (b) Quotas  
 (c) Voluntary Export Restrictions  
 (d) None of these **[Ans. (a) Paper gold]**
5. The organization which provides long term loan is [PTA-3]  
 (a) World Bank  
 (b) International Monetary Fund  
 (c) World Trade Organisation  
 (d) BRICS **[Ans. (a) World Bank]**
6. Which of the following countries is not a member of SAARC?  
 (a) Sri Lanka (b) Japan  
 (c) Bangladesh (d) Afghanistan  
**[Ans. (b) Japan]**
7. International Development Association is an affiliate of  
 (a) IMF (b) World Bank  
 (c) SAARC (d) ASEAN  
**[Ans. (b) World Bank]**
8. \_\_\_\_\_ relates to patents, copyrights, trade secrets, etc., [PTA-2]  
 (a) TRIPS (b) TRIMS  
 (c) GATS (d) NAMA  
**[Ans. (a) TRIPS]**
9. The first ministerial meeting of WTO was held at  
 (a) Singapore (b) Geneva  
 (c) Seattle (d) Doha  
**[Ans. (a) Singapore]**
10. ASEAN meetings are held once in every \_\_\_\_\_ years  
 (a) 2 (b) 3 (c) 4 (d) 5  
**[Ans. (b) 3]**
11. Which of the following is not the member of SAARC? [QY-2019]  
 (a) Pakistan (b) Sri Lanka  
 (c) Bhutan (d) China  
**[Ans. (d) China]**
12. SAARC meets once in \_\_\_\_\_ years.  
 (a) 2 (b) 3 (c) 4 (d) 5  
**[Ans. (a) 2]**
13. The headquarters of ASEAN is  
 (a) Jaharta (b) New Delhi  
 (c) Colombo (d) Tokyo  
**[Ans. (a) Jaharta]**
14. The term BRIC was coined in [Sep-2020]  
 (a) 2001 (b) 2005  
 (c) 2008 (d) 2010  
**[Ans. (a) 2001]**
15. ASEAN was created in [PTA-6]  
 (a) 1965 (b) 1967  
 (c) 1972 (d) 1997  
**[Ans. (b) 1967]**
16. The Tenth BRICS Summit was held in July 2018 at  
 (a) Beijing (b) Moscow  
 (c) Johannesburg (d) Brasilia  
**[Ans. (c) Johannesburg]**
17. New Development Bank is associated with [PTA-5]  
 (a) BRICS (b) WTO  
 (c) SAARC (d) ASEAN  
**[Ans. (a) BRICS]**
18. Which of the following does not come under 'Six dialogue partners' of ASEAN?  
 (a) China (b) Japan  
 (c) India (d) North Korea  
**[Ans. (d) North Korea]**
19. SAARC Agricultural Information Centre (SAIC) works as a central information institution for agriculture related resources was founded on  
 (a) 1985 (b) 1988 (c) 1992 (d) 1998  
**[Ans. (b) 1988]**



- 20. BENELUX is a form of** [PTA-1]  
(a) Free trade area (b) Economic Union  
(c) Common market (d) Customs union  
[Ans. (d) Customs union]

### PART - B

#### ANSWER THE FOLLOWING QUESTIONS (2 MARKS)

- 21. Write the meaning of Special Drawing rights.**  
[Govt. MQP - 2019; Sep-2020; Aug-2021]

- Ans. (i)** Special Drawing Rights are a form of international reserves created by the IMF in 1969 to solve the problem of international liquidity.  
**(ii)** They are allocated to the IMF members in proportion to their Fund quotas.  
**(iii)** SDRs are used as a means of payment by Fund members to meet balance of payments deficits and their total reserve position with the Fund.  
**(iv)** Thus SDRs act both as an international unit of account and a means of payment.  
**(v)** Special Drawing Rights (SDRs) is otherwise called as 'Paper Gold'.

- 22. Mention any two objectives of ASEAN.**  
[PTA-5; Mar-2020]

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

- 23. Point out any two ways in which IBRD lends to member countries.** [PTA-1]

- Ans.** The Bank advances loans to member in three ways.  
**(i)** Loans out of its own fund.  
**(ii)** Loans out of borrowed capital.  
**(iii)** Loans through Bank's guarantee.

- 24. Define Common Market.** [PTA-3; QY-2019]

- Ans.** Common market is established through trade packs. 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?** [PTA-6; HY-2019]

- Ans. (i)** A free trade area is the region encompassing a trade bloc whose member countries have signed a free trade agreement (FTA).  
**(ii)** Such agreements involve cooperation between at least two countries to reduce trade barriers. E.g. SAFTA, EFTA.

- 26. When and where was SAARC Secretariat established?**

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

- 27. Specify any two affiliates of World Bank Group.**  
**Ans. (i)** International Development Association. (IDA).  
**(ii)** International Finance corporation. (IFC)

### PART - C

#### ANSWER THE FOLLOWING QUESTIONS (3 MARKS)

- 28. Mention the various forms of economic integration.**

- Ans. (i)** **Economic integration** takes the form of Free Trade Area, Customs Union, Common Market and Economic Union.  
**(ii)** A **free trade** area is the region encompassing a trade bloc whose member countries have signed a free-trade agreement (FTA). e.g. SAFTA, EFTA.  
**(iii)** A **customs union** is defined as a type of trade block which is composed of a free trade area with no tariff among members and (zero tariffs among members) with a common external tariff. e.g. BENELUX  
**(iv)** **Common market** is established through trade pacts. A group formed by countries within a geographical free movement of labour and capital among its members. e.g. European Common Market (ECM)  
**(v)** 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)

EU > CM > CU > FTA

- 29. What are trade blocks?** [PTA-1] [QY-2019]

- Ans. (i)** Some Countries create business opportunities for themselves by integrating their economies in order to avoid unnecessary competition among them.  
**(ii)** Trade block covers different kinds of arrangements between countries for mutual benefits.  
**(iii)** Economic integration takes the form of Free Trade Area, Customs union, Common Market and Economic union.

- 30. Mention any three lending programmes of IMF.** [PTA-4]

- Ans. (i) Basic Credit Facility :**  
The IMF provides Financial assistance to its member nations to overcome their temporary difficulties relating to balance of payment.  
**(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) Buffer Stock Facility :**

The Buffer Stock financing facility was started in 1969. The purpose of this scheme was to help the primary goods (food grains) producing countries to finance contributions to buffer stock arrangements for the stabilisation of primary product prices.

**31. What is Multilateral Agreement?**

[Govt. MQP-2019; PTA-5; Sep-2020]

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

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

[Aug-2021]

- Ans. (i)** South Africa hosted the 10<sup>th</sup> BRICS summit in July 2018.
- (ii)** 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.**

[HY-2019]

**Ans.** 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. [PTA-6]**

- Ans. (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;
- (iii)** To promote cooperation among the members of ASEAN through the exchange of knowledge and experience in the field of public sector auditing.
- (iv)** To provide a conducive environment and facilities for research, training, and education among the members
- (v)** To serve as a centre of information and as an ASEAN link with other international organizations.

**PART - D**

**ANSWER THE FOLLOWING QUESTIONS (5 MARKS)**

**35. Explain the objectives of IMF. [PTA-1; Sep-2020]**

- Ans. (i)** To promote international monetary co-operation among the member nations.
- (ii)** To facilitate faster and balanced growth of international trade.
- (iii)** To ensure exchange rate stability by curbing competitive exchange depreciations.
- (iv)** To eliminate or reduce exchange controls imposed by member nations.
- (v)** To establish multilateral trade and payment system in respect of current transactions instead of bilateral trade agreements.
- (vi)** To promote the flow of capital from developed to developing nations.
- (vii)** To solve the problem of international liquidity.

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

[PTA-2, 5; QY-2019; Aug-2021]

- Ans. (i)** The World Bank performs the major role of providing loans for development works to member countries, especially to underdeveloped countries.
- (ii)** The World Bank provides long-term loans for various development projects.

**(1) Investment for productive purpose :**

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

**(2) Balanced growth of International Trade :**

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

**(3) Provision of Loans and Guarantees :**

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

**(4) Promotion of foreign private investment :**

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

CHAPTER

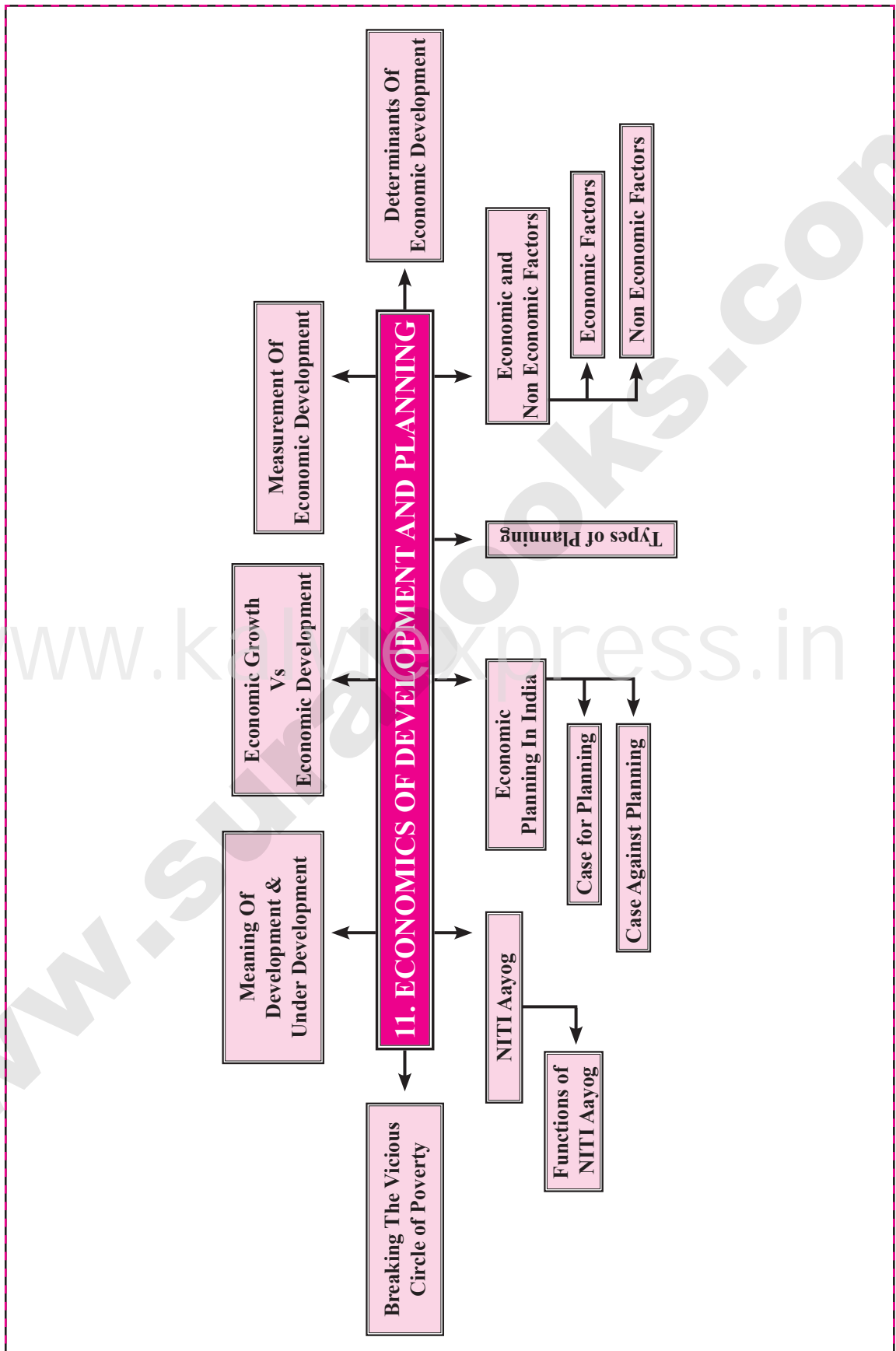
11

ECONOMICS OF  
DEVELOPMENT AND PLANNING

CHAPTER SNAPSHOT

- |   |   |
|---|---|
| 11.1 Meaning of Development and under development | 11.6 Vicious Circle of Poverty                |
| 11.2 Economic Growth Vs Economic Development      | 11.6.1 Breaking the Vicious Circle of Poverty |
| 11.3 Measurement of Economic Development          | 11.7 Planning                                 |
| 11.4 Determinants of Economic Development         | 11.7.1 Economic Planning in India             |
| 11.5 Economic and Non-Economic Factors            | 11.7.2 Case for Planning                      |
| 11.5.1 Economic Factors                           | 11.7.3 Case against Planning                  |
| 11.5.2 Non-Economic Factors                       | 11.8 Types of Planning                        |
|   | 11.9 NITI Aayog                               |
|   | 11.9.1 Functions of NITI Aayog                |

*Concept Map*



## Important Terms

<b>Meaning of Development</b>	: The concept “development” refers to the structural changes towards betterment
<b>Underdevelopment</b>	: The term ‘underdevelopment’ refers to that state of an economy where levels of living of masses are extremely low due to very low levels of Per capita income.
<b>Growth</b>	: Economic growth refers to an increase in real GDP, which means an increase in the value of national output.
<b>Capital accumulation</b>	: The process of addition to the existing stock of capital.
<b>Human capital formation</b>	: Human capital formation is the process of increasing knowledge, skills, and the productive capacity of people.
<b>Political freedom</b>	: The process of development is linked with the political freedom .
<b>Social Indicators</b>	: The basic needs for development such as health, education, sanitation, water, food etc.
<b>Financial planning</b>	: Techniques of planning in which resources are allocated in terms of money.
<b>Physical planning</b>	: Techniques of planning in which resources are allocated in terms of men, materials and machinery.
<b>Democratic planning</b>	: Democratic planning implies planning within democracy.
<b>Planning by inducement</b>	: The people are induced to act in a certain way through various monetary and fiscal measures.
<b>Medium term plans</b>	: The medium plan is made for the period of five years.
<b>Long term plan</b>	: Long term planning is considered for a time period over 10 years



## Definitions

- Economic development** : According to Michael P. Todaro "Development must, therefore, be conceived as a multidimensional process involving major changes in social structures, popular attitudes and national institutions as well as the acceleration of growth, the reduction of inequality and the eradication of absolute poverty".
- Development indicators** : Usually a numerical measure of quality of life in a country indicators are used to illustrate progress of a country in meeting a range of economic social and environmental goals.
- Vicious circle of poverty** : The vicious circles of poverty that tend to perpetuate the low level of development in less Developed Countries.
- Planning** : According to Dalton, "Economic planning in the widest sense is the deliberate direction by persons in charge of large resources of economic activity towards chosen end".
- Central planning** : The guidance of the economy by direct government control over a large portion of economic activity.
- Indication planning** : Indicative planning is co-ordinated information that guides the choices of separate state and private in a market or mixed economy.
- Rolling plan** : A plan which is designed to continue over a period of time and updating.

## MODEL QUESTIONS

### PART - A

#### MULTIPLE CHOICE QUESTIONS

1. "Redistribution with Growth" became popular slogan under which approach?

- (a) Traditional approach
- (b) New welfare oriented approach
- (c) Industrial approach
- (d) None of the above

[Ans. (b) New welfare oriented approach]

2. Which is not the feature of economic growth?

- (a) Concerned with developed nations
- (b) Gradual change
- (c) Concerned with quantitative aspect
- (d) Wider concept

[Ans. (d) Wider concept]

3. Which among the following is a characteristic of underdevelopment?

- (a) Vicious circle of poverty
- (b) Rising mass consumption
- (c) Growth of Industries
- (d) High rate of urbanization

[Ans. (a) Vicious circle of poverty]

4. The non-economic determinant of economic development

- (a) Natural resources
- (b) Human resource
- (c) Capital formation
- (d) Foreign trade

[Ans. (b) Human resource]

5. Economic growth measures the \_\_\_\_\_.

- (a) Growth of productivity [PTA-1]
- (b) Increase in nominal income
- (c) Increase in output
- (d) None of the above

[Ans. (c) Increase in output]

6. The supply side vicious circle of poverty suggests that poor nations remain poor because [PTA-4]  
(a) Saving remains low  
(b) Investment remains low  
(c) There is a lack of effective government  
(d) a and b above [Ans. (d) a and b above]
7. Which of the following plan has focused on the agriculture and rural economy?[Aug-2021]  
(a) People's Plan (b) Bombay Plan  
(c) Gandhian Plan  
(d) Vishveshwarya Plan  
[Ans. (c) Gandhian Plan]
8. Arrange following plans in correct chronological order  
(i) People's Plan [Govt. MQP - 2019; Sep-2020]  
(ii) Bombay Plan  
(iii) Jawaharlal Nehru Plan  
(iv) Vishveshwarya Plan  
**Answer choices**  
(a) (i) (ii) (iii) (iv) (b) (iv) (iii) (ii) (i)  
(c) (i) (ii) (iv) (iii) (d) (ii) (i) (iv) (iii)  
[Ans. (b) (iv) (iii) (ii) (i)]
9. M.N. Roy was associated with \_\_\_\_\_.  
(a) Congress Plan (b) People's Plan  
(c) Bombay Plan  
(d) None of the above [Ans. (b) People's Plan]
10. Which of the following country adopts indicative planning? [PTA-3; Aug-2021]  
(a) France (b) Germany  
(c) Italy (d) Russia  
[Ans. (a) France]
11. Short-term plan is also known as \_\_\_\_\_.  
(a) Controlling Plans [PTA-5; Mar-2020]  
(b) De-controlling Plans  
(c) Rolling Plans (d) De-rolling Plans  
[Ans. (a) Controlling Plans]
12. Long-term plan is also known as \_\_\_\_\_.  
(a) Progressive Plans  
(b) Non-progressive Plans  
(c) Perspective Plans  
(d) Non-perspective Plans  
[Ans. (c) Perspective Plans]
13. The basic philosophy behind long-term planning is to bring \_\_\_\_\_ changes in the economy? [PTA-3]  
(a) Financial (b) Agricultural  
(c) Industrial (d) Structural  
[Ans. (d) Structural]
14. Sarvodaya Plan was advocated by \_\_\_\_\_.  
(a) Mahatma Gandhi (b) J.P. Narayan  
(c) S. N Agarwal (d) M.N. Roy  
[Ans. (b) J.P. Narayan]
15. Planning Commission was set up in the year \_\_\_\_\_.  
[HY-2019; Mar-2020]  
(a) 1950 (b) 1951  
(c) 1947 (d) 1948  
(e) Gandhian Plan [Ans. (a) 1950]
16. Who wrote the book 'The Road to Serfdom'?  
(a) Friedrich Hayek (b) H.R. Hicks  
(c) David Ricardo  
(d) Thomas Robert Malthus  
[Ans. (a) Friedrich Hayek]
17. Perspective plan is also known as \_\_\_\_\_.  
(a) Short-term plan [PTA-6; HY-2019; Sep-2020]  
(b) Medium-term plan  
(c) Long-term plan  
(d) None of the above  
[Ans. (c) Long-term plan]
18. NITI Aayog is formed through \_\_\_\_\_.  
(a) Presidential Ordinance  
(b) Allocation of business rules by President of India  
(c) Cabinet resolution  
(d) None of the above  
[Ans. (c) Cabinet resolution]
19. Expansion of NITI Aayog [Mar-2020]  
(a) National Institute to Transform India  
(b) National Institute for Transforming India  
(c) National Institution to Transform India  
(d) National Institution for Transforming India  
[Ans. (d) National Institution for Transforming India]
20. The Chair Person of NITI Aayog is [PTA-1]  
(a) Prime Minister (b) President  
(c) Vice – President  
(d) Finance Minister [Ans. (a) Prime Minister]

## PART - B

### ANSWER THE FOLLOWING QUESTIONS IN

#### ONE OR TWO SENTENCES

21. Define economic development. [PTA-3]  
**Ans. (i)** Economic development refers to the problems of underdeveloped countries and economic growth to those of developed countries.  
**(ii)** Economic development deals with the problems of UDCs. Change is discontinuous and spontaneous.  
**(iii)** Economic development is not determined by any single factor. Economic development depends on Economic, Social Political and Religious factors.
22. Mention the indicators of development.  
**Ans.** Common indicators of development are  
**(i)** Gross Domestic product(GDP)  
**(ii)** Gross National product(GNP)  
**(iii)** GNP per capita  
**(iv)** The Human Development Index (HDI)

**23. Distinguish between economic growth and development** [PTA-1, 2]

**Ans.**

Economic Growth	Economic Development
Deals with the problems of developed countries	Deals with the problems of UDCs (Under Developed Countries)
Change is gradual and steady	Change is discontinuous and spontaneous
Means more output	Means not only more output but also its composition.
Concerns Quantitative aspects i.e. increase in per capita income	Quantitative as well as Qualitative
Narrow Concept	Wider Concept Development = Growth + Change

**24. What is GNP?**

**Ans. Gross National Product (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 (including income of those located abroad) minus income of non residents located in that country.

$$\begin{aligned} \text{GNP at Market Prices} \\ = \text{GDP at Market Prices} \\ + \\ \text{Net factor income from abroad} \end{aligned}$$

**25. Define economic planning.** [PTA-4; Aug-2021]

**Ans. (i)** According to Robbins, "Economic planning is collective control or suppression of private activities of production and exchange".

**(ii)** According to Dalton, "Economic planning in the widest sense is the deliberate direction by persons in-charge of large resources of economic activity towards chosen ends".

**26. What are the social indicators of economic development?** [Sep-2020]

**Ans. (i)** Social indicators are normally referred to as basic and collective needs of the people.

**(ii)** The direct provision of basic needs such as health, education, food, water, sanitation and housing facilities check social backwardness.

**27. Write a short note on NITI Aayog.** [HY-2019]

**Ans. (i)** NITI Aayog (National Institution for Transforming India) was formed on 1<sup>st</sup> January, 2015 through a union cabinet resolution.

**(ii)** NITI Aayog is a policy think-tank of the Government of India.

**(iii)** It replaced the Planning Commission from 13<sup>th</sup> August, 2014.

**(iv)** NITI Aayog is based on the 7 pillars of effective governance.

- (1) Pro-people
- (2) Pro-Activity
- (3) Participation
- (4) Empowering
- (5) Inclusion of all
- (6) Equality
- (7) Transparency

## PART - C

**ANSWER THE FOLLOWING QUESTIONS IN ONE PARAGRAPH**

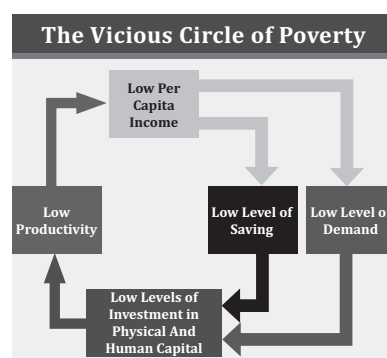
**28. Elucidate major causes of vicious circle of poverty with diagram.** [Sep-2020]

**Ans. (i)** 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).

**(ii)** 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.

**(iii)** For example, A poor man may not have enough to eat, being underfed etc.

### The Vicious Circle of Poverty.



CHAPTER  
**12**

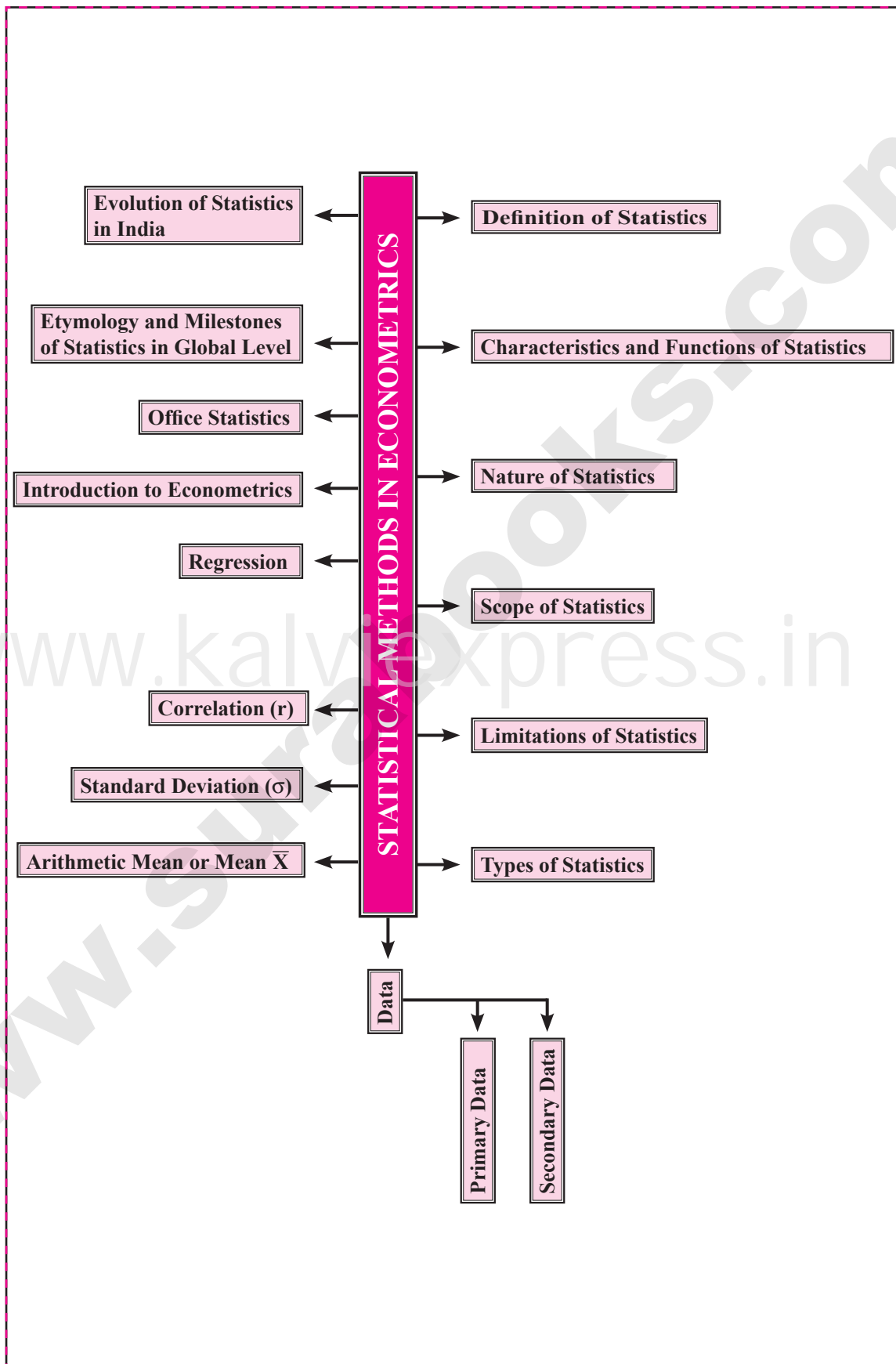
**INTRODUCTION TO STATISTICAL  
METHODS AND ECONOMETRICS**

**CHAPTER SNAPSHOT**

- |   |   |
|---|---|
| 12.1 Etymology and Milestones of Statistics in Global Level | 12.8 Types of Statistics                    |
| 12.2 Evolution of Statistics in India                       | 12.9 Data                                   |
| 12.3 Definitions of Statistics                              | 12.10 Arithmetic Mean or Mean ( $\bar{x}$ ) |
| 12.4 Characteristics and Functions of Statistics            | 12.11 Standard Deviation ( $\sigma$ )       |
| 12.5 Nature of Statistics                                   | 12.12 Correlation ( $Y$ )                   |
| 12.6 Scope of Statistics                                    | 12.13 Regression                            |
| 12.7 Limitations of Statistics                              | 12.14 Introduction to Econometrics          |
|   | 12.15 Official Statistics                   |



*Concept Map*



## Important Terms

- Descriptive statistics** : The branch of statistics devoted to the summarization and description of data is called Descriptive statistics.
- Inferential statistics** : The branch of statistics concerned with using sample data to make an inference about a population of data is called inferential statistics.
- Data** : Data are the basic raw materials of statistics
- Arithmetic mean or mean** : Central value is called a measure of central tendency or an average or a measure of locations.
- Primary data** : Those data which does not exist in any form and thus have to be collected for the first time from the primary source.
- Secondary data** : They already exist in some form published or unpublished in an identifiable secondary source.
- Standard Deviation** : Standard Deviation is one of the method of absolute measure of dispersion.
- Correlation** : Correlation is a statistical device that help to analyse the covariation of two or more variables.
- Positive Correlation** : The Correlation is said to be positive if the values of two variables move in the same direction
- Negative Correlation** : The Correlation is said to be negative when the values of variables move in the opposite directions.
- Simple Correlation** : If only two variables are taken for study then it is said to be Simple correlation
- Partial Correlation** : If there are more than two variables but only two variables are considered keeping the other variables constant, then it is said to be Partial correlation.
- Multiple Correlation** : If three or more than three variables are studied simultaneously, then it is termed as Multiple correlation.
- Linear Correlation** : Correlation is said to be linear when the amount of change in one variable tends to bear a constant ratio to the amount of change in the other.  
**Eg** :  $Y = a + bx$ .
- Non Linear** : The Correlation would be non-linear if the amount of change in one variable does not bear a constant ratio to the amount of change in the other variables.

## Definitions

- Statistics** : According to Karl Pearson “Statistics is the grammar of science”.
- Regression** : According to Francis Galton “The literal meaning of the word “regression” is stepping back towards the average”.
- Econometrics** : In the words of Arthur S. Golberger “Econometrics may be defined as the social science in which the tools of economic theory mathematics and statistical inference are applied to the analysis of economic phenomena.
- Econometrics** : “According to Gerhard Tinbergen, 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”.
- Econometrics** : According to H. Theil, “Econometric is concerned with the empirical determination of economic laws”.

## Formulae

**1. Direct Method**

$$\bar{X} = \frac{\sum X}{n}$$

**2. Formula finding mean**

$$\bar{X} = A + \frac{\sum d}{n}$$

**Individual Series**

**3. Standard Deviation ( $\sigma$ )** = 
$$\sqrt{\frac{\sum (X - \bar{X})^2}{n}}$$

**4. Assumed Mean ( $\sigma$ )** = 
$$\sqrt{\frac{\sum d^2}{n} - \frac{(\sum d)^2}{(n)}}$$

**5. Karl Pearson co-efficient of Correlation**

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X)^2} \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

**6. Direct Method ( $r$ )** = 
$$\frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

**7. Assumed Mean ( $r$ )**

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

**8. Regression Equation X on Y**

$$(X - \bar{X}) = r \times \frac{\sigma_x}{\sigma_y} \times (Y - \bar{Y})$$

**9. Regression Equation Y on X**

$$(Y - \bar{Y}) = r \times \frac{\sigma_x}{\sigma_y} \times (X - \bar{X})$$

## MODEL QUESTIONS

### PART - A

#### MULTIPLE CHOICE QUESTIONS

- The word 'statistics' is used as \_\_\_\_\_.  
 (a) Singular (b) Plural  
 (c) Singular and Plural (d) None of above  
**[Ans. (c) Singular and Plural]**
- Who stated that statistics as a science of estimates and probabilities. [PTA-6]  
 (a) Horace Secrist. (b) R.A Fisher.  
 (c) Ya-Lun-Chou (d) Boddington  
**[Ans. (d) Boddington]**
- Sources of secondary data are \_\_\_\_\_. [PTA-1]  
 (a) Published sources.  
 (b) Unpublished sources.  
 (c) Neither published nor unpublished sources.  
 (d) Both (a) and (b)  
**[Ans. (d) Both (a) and (b)]**
- The data collected by questionnaires are \_\_\_\_\_. [PTA-4; Mar-2020]  
 (a) Primary data. (b) Secondary data.  
 (c) Published data. (d) Grouped data.  
**[Ans. (a) Primary data.]**
- A measure of the strength of the linear relationship that exists between two variables is called:  
 (a) Slope  
 (b) Intercept  
 (c) Correlation coefficient  
 (d) Regression equation  
**[Ans. (c) Correlation coefficient]**
- If both variables X and Y increase or decrease simultaneously, then the coefficient of correlation will be: [Govt. MQP - 2019]  
 (a) Positive (b) Negative  
 (c) Zero (d) One  
**[Ans. (a) Positive]**
- If the points on the scatter diagram indicate that as one variable increases the other variable tends to decrease the value of r will be:  
 (a) Perfect positive (b) Perfect negative  
 (c) Negative (d) Zero  
**[Ans. (c) Negative]**
- The value of the coefficient of correlation r lies between: [PTA-2]  
 (a) 0 and 1 (b) -1 and 0  
 (c) -1 and +1 (d) -0.5 and +0.5  
**[Ans. (c) -1 and +1]**
- The term regression was used by: [PTA-5]  
 (a) Newton (b) Pearson  
 (c) Spearman (d) Galton  
**[Ans. (d) Galton]**
- The purpose of simple linear regression analysis is to:  
 (a) Predict one variable from another variable  
 (b) Replace points on a scatter diagram by a straight-line  
 (c) Measure the degree to which two variables are linearly associated  
 (d) Obtain the expected value of the independent random variable for a given value of the dependent variable  
**[Ans. (a) Predict one variable from another variable]**
- A process by which we estimate the value of dependent variable on the basis of one or more independent variables is called:  
 (a) Correlation (b) Regression  
 (c) Residual (d) Slope  
**[Ans. (b) Regression]**
- If  $Y = 2 - 0.2X$ , then the value of Y intercept is equal to [PTA-4]  
 (a) -0.2 (b) 2  
 (c) 0.2X (d) All of the above  
**[Ans. (b) 2]**
- In the regression equation  $Y = \beta_0 + \beta_1 X$ , the Y is called:  
 (a) Independent variable  
 (b) Dependent variable  
 (c) Continuous variable  
 (d) None of the above  
**[Ans. (b) Dependent variable]**
- In the regression equation  $X = \beta_0 + \beta_1 X$ , the X is called:  
 (a) Independent variable  
 (b) Dependent variable  
 (c) Continuous variable  
 (d) None of the above  
**[Ans. (a) Independent variable]**
- Econometrics is the integration of [PTA-2]  
 (a) Economics and Statistics  
 (b) Economics and Mathematics  
 (c) Economics, Mathematics and Statistics  
 (d) None of the above  
**[Ans. (c) Economics, Mathematics and Statistics]**





16. Econometric is the word coined by [Aug-2021]

- (a) Francis Galton
- (b) Ragnar Frish
- (c) Karl Person
- (d) Spearsman

[Ans. (b) Ragnar Frish]

17. The raw materials of Econometrics are:

- (a) Data
- (b) Goods [PTA-3]
- (c) Statistics
- (d) Mathematics

[Ans. (a) Data]

18. The term Uin regression equation is

- (a) Residuals
- (b) Standard error
- (c) Stochastic error term
- (d) None [Ans. (c) Stochastic error term]

19. The term Uis introduced for the representation of

- (a) Omitted Variable
- (b) Standard error
- (c) Bias
- (d) Discrete Variable

[Ans. (a) Omitted Variable]

20. Econometrics is the amalgamation of

- (a) 3 subjects
- (b) 4 subjects
- (c) 2 subjects
- (d) 5 subjects

[Ans. (a) 3 subjects]

### PART - B

ANSWER THE FOLLOWING IN ONE OR TWO SENTENCES

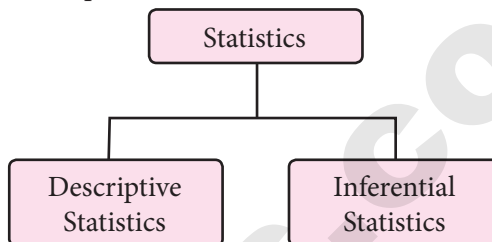
21. What is Statistics?

Ans. (i) Statistics as a science of estimates and probabilities.

(ii) Statistics may be defined as the collection, organisations, presentation, analysis and interpretation of numerical data.

22. What are the kinds of Statistics? [PTA-3]

Ans. 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

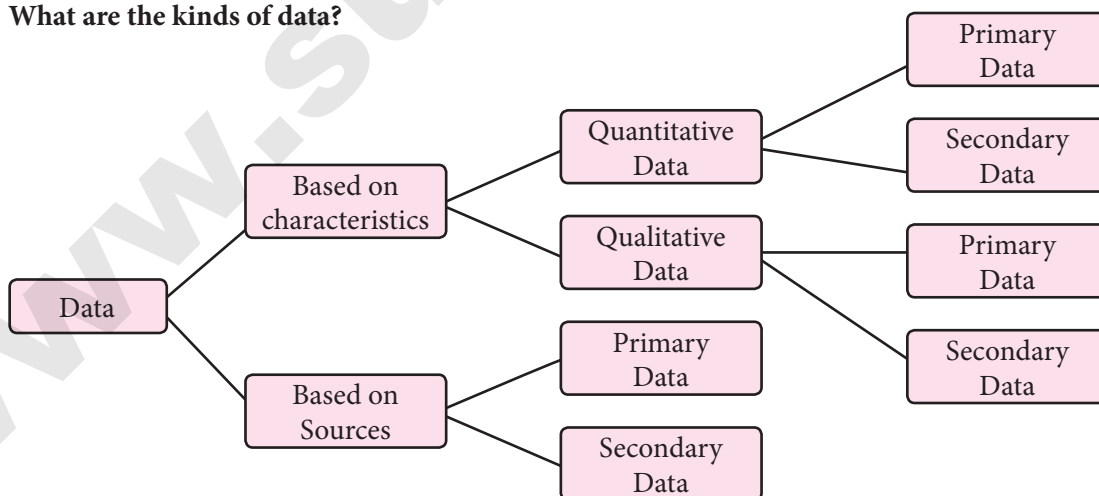
(ii) **Inferential statistics** : The branch of statistics concerned with using sample data to make an inference about a population of data is called Inferential Statistics.

23. What do you mean by Inferential Statistics?

Ans. 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?

Ans.



25. Define Correlation.

[PTA-1; Aug-2021]

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

**26. Define Regression.** [Govt. MQP - 2019; PTA-5]

- Ans. (i)** The term 'Regression' was first coined and used in 1877 by Francis Galton while studying the relationship between the height of fathers and sons.
- (ii)** Galton's law of universal regression was confirmed by his friend Karl Pearson, who collected more than a thousand records of heights of members of family groups. The literal meaning of the word "regression" is "Stepping back towards the average".

**27. What is Econometrics?**

- Ans. (i)** Econometrics may be considered as the integration of economics, statistics and mathematics.
- (ii)** Econometrics means economics measurement econometrics deals with the measurement of economic relationships.

### PART - C

**ANSWER THE FOLLOWING QUESTIONS IN ONE PARAGRAPH**

**28. What are the functions of Statistics?** [PTA-3]

- Ans. (i)** Statistics presents facts in a definite form.
- (ii)** It simplifies mass of figures.
- (iii)** It facilitates comparison.
- (iv)** It helps in formulating and testing.
- (v)** It helps in prediction.
- (vi)** It helps in the formulation of suitable policies.

**29. Find the Standard Deviation of the following data :** [PTA-1; Mar-2020]

14, 22, 9, 15, 20, 17, 12, 11

**Ans.**

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

$$\bar{X} = \frac{\sum X}{n}$$

$$n = 8$$

$$\bar{X} = \frac{120}{8} = 15$$

$$\sigma = \sqrt{\frac{\sum(X - \bar{X})^2}{n}} = \sqrt{\frac{140}{8}} = \sqrt{17.5}$$

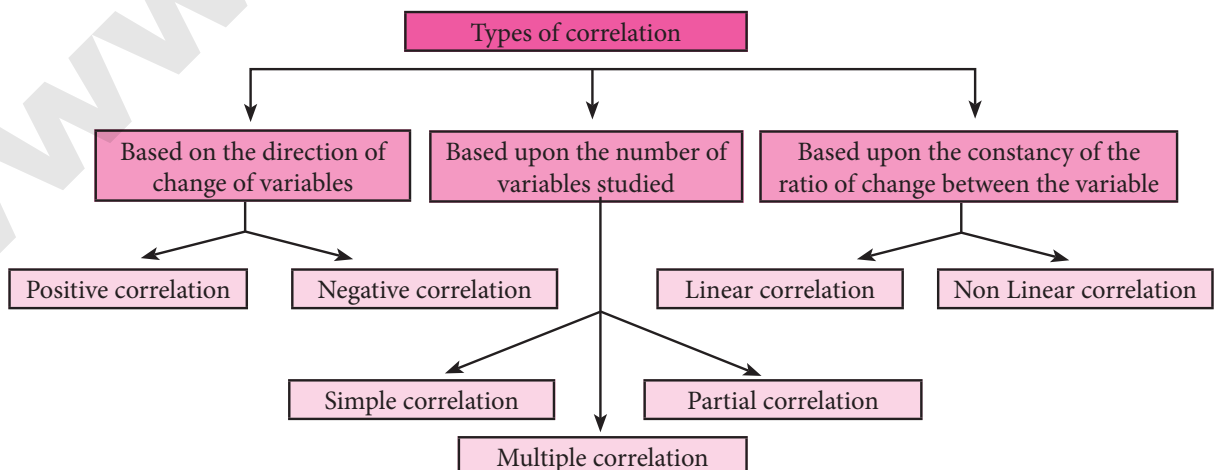
$$\therefore \sigma = 4.18$$

**Answer :** The standard deviation of the given data is  $\sigma = 4.18$

**30. State and explain the different kinds of Correlation.**

[HY-2019]

**Ans.**





**Type - I : Based on the direction of change of variables :**

- (i) **Positive Correlation :** The correlation is said to be positive if the values of two variables move in the same direction.  
e.g.  $Y = a + bx$
- (ii) **Negative Correlation :** The correlation is said to be negative when the values of variables move in the opposite directions.  
e.g.  $Y = a - bx$

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

- (i) **Simple correlation :** If only two variables are taken for study then it is said to be simple correlation. e.g.  $Y = a + bx$ .
- (ii) **Multiple Correlations :** If three or more than three variables are studied simultaneously then it is termed as multiple correlation.  $Q_d = f(P, P_c, P_s, t, y)$
- (iii) **Partial Correlation :** If there are more than two variables but only two variables are considered keeping the other variables constant, then the correlation is said to be partial correlation.

**Type - III : Based upon the constancy of the ratio of change between the variables.**

- (i) **Linear Correlation :**
  - (1) Correlation is divided into two types of linear correlation and non-linear correlation based upon the constancy of the ratio of change between the variables.
  - (2) Correlation is said to be linear when the amount of change in one variable tends to bear a constant ratio to the amount of change in the other.  
e.g.  $Y = a + bx$
- (ii) **Non-Linear Correlation :**  
The correlation would be non-linear if the amount of change in one variable does not bear a constant ratio to the amount of change in the other variables.  
e.g.  $Y = a + bx^2$

**31. Mention the uses of Regression Analysis.**

[PTA-5]

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

- (iii) Regression coefficient is an absolute figure. If we know the value of the independent variable, we can find the value of the dependent variable.
- (iv) It has wider application, as it studies linear and nonlinear relationship between the variables.
- (v) It is widely used for further mathematical treatment.

**32. Specify the objectives of econometrics.**

[PTA-1,2; Aug-2021]

**Ans.** The specific objectives are as follows.

- (i) It helps to explain the behaviour of a forthcoming period that is forecasting economic phenomena.
- (ii) It helps to prove the old and established relationships among the variables.
- (iii) It helps to establish new theories and new relationships.
- (iv) It helps to test the hypotheses and estimation of the parameter.

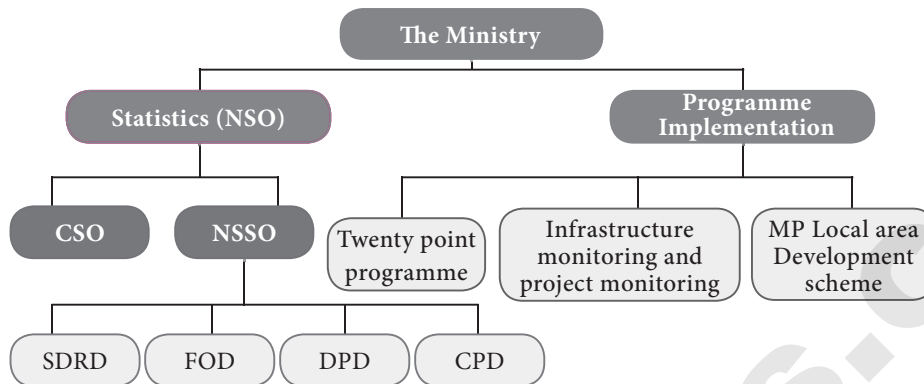
**33. Differentiate the economic model with econometric model.**

**Ans.**

S. No.	Economic Model	Econometric Model
1.	Economic model is the theoretical construct that represents the complex economic process.	Econometric model is the statistical concept that represents the numerical estimate of the variables involved in economic process.
2.	Economic model is based on mathematical modeling.	Econometric model is based on statistical modeling.
3.	Economic model is focused on establishing the logical relationships between the variables in the model	Econometric model is focused on estimating the magnitude and direction of relationship between the variables.
4.	Economic model is applied in stating the theoretical relationship into mathematical equations.	Econometric model is applied in stating the empirical extent of the economic model.

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

**Ans.** The Ministry Of Statistics and Programme Implementation (MOSPI) has two wings, statistics and programme implementation.



The statistics wing called the National Statistical Office (NSO) consists of the Central Statistical Office (CSO), the Computer centre and the National Sample Survey Office (NSSO).

**(i) Central Statistical Office (CSO) :**

It is responsible for co-ordination of statistical activities in the country and for evolving and maintaining statistical standards.

**(ii) National Sample Survey Organisation (NSSO) :**

The National Sample Survey Organisation, now known as National Sample Survey Office, is an organization under the Ministry of Statistics of the Government of India.

**(iii) The programme implementation wing has three divisions, namely,**

- (1) Twenty point programme.
- (2) Infrastructure monitoring and project monitoring.
- (3) Member of Parliament - Local Area Development Scheme.

**(iv) Should be capable of being used as a technique for drawing comparison.**

**(a) Nature of Statistics :**

- (1) Different Statisticians and Economists differ in views about the nature of statistics.
- (2) Some call it a science and some say it as an art.

**(b) 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.,

**(c) Statistics and Economics :**

Statistical data and techniques are immensely useful in solving many economic problems such as fluctuation in wages, prices, etc.,

**(d) Statistics and Firms :**

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

**(e) Statistics and Commerce :**

Statistics are life blood of successful commerce.

**(f) Statistics and Education :**

Statistics is necessary for the formulation of policies to start new course, according to the changing environment.

**(g) Statistics and Planning :**

- (1) Statistics is indispensable in planning. In the modern 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.

**PART - D**

**ANSWER THE FOLLOWING QUESTIONS.**

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

[PTA-3, 4, 5; HY-2019; Mar-2020]

**Ans.** According to Croxton & Cowden, [Sep-2020]

"Statistics may be defined as the collection, organisation, presentation, analysis and interpretation of numerical data".

**Characteristics and Functions of Statistics :**

- (i) Statistics are an aggregate of facts.
- (ii) Statistics are numerically enumerated estimated and expressed.
- (iii) Statistical should be collected in a systematic manner for a predetermined purpose.



- (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,
- (h) **Statistics and Medicine :**
- (1) 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.

- (i) **Statistics and modern applications :**  
Recent development in the fields of computer and information technology have enable statistics to integrate their models and thus make statistics a part of decision making procedures of many organisations.

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

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

**Ans.**

[Govt. MQP-2019; PTA-6; Mar-2020]

S. No.	Demand of Product X	Sale of Product Y	dx (A = 31) X - A (X - 31)	dy (B = 26) Y - B (Y - 26)	dx <sup>2</sup>	dy <sup>2</sup>	dxdy
1	23	18	-8	-8	64	64	64
2	27	22	-4	-4	16	16	16
3	28	23	-3	-3	9	9	9
4	29	24	-2	-2	4	4	4
5	30	25	-1	-1	1	1	1
6	31	26	0	0	0	0	0
7	33	28	2	2	4	4	4
8	35	29	4	3	16	9	12
9	36	30	5	4	25	16	20
10	39	32	8	6	64	36	48
	ΣX= 311	ΣY= 257	Σ(X-A) = 1	Σ(Y-B) = -3	Σdx <sup>2</sup> = 203	Σdy <sup>2</sup> = 159	Σdxdy = 178

$$\bar{X} = \frac{\sum X}{N} = \frac{311}{10} = 31\frac{1}{10} \text{ - Take the assumed values}$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{257}{10} = 25\frac{7}{10}$$

$$A = 31,$$

$$B = 26$$

$$X - A \Rightarrow 31,$$

$$Y - B \Rightarrow 26$$

$$N = 10,$$

$$\sum X = 311,$$

$$\sum Y = 257$$

$$\sum dx = (\sum X - A) = 1,$$

$$\sum dy = (\sum Y - B) = -3,$$

$$\sum dx^2 = 203$$

$$\sum dy^2 = 159,$$

$$\sum dxdy = 178$$

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

$$= \frac{10 \times 178 - (1)(-3)}{\sqrt{10 \times 203 - (1)^2} \sqrt{10 \times 159 - (-3)^2}} = \frac{1780 + 3}{\sqrt{2030 - 1} \sqrt{1590 - 9}}$$

**12<sup>th</sup>**  
**STD**

**GOVT. SUPPLEMENTARY EXAM - AUGUST 2021**  
**PART - III ECONOMICS**

TIME ALLOWED : 3.00 HOURS]

(with Answers)

[MAXIMUM MARKS : 90

**Instructions :**

- 1) Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.
- 2) Use **Blue** or **Black** ink to write and underline and pencil to draw diagrams

**PART - I**

**Note :** (i) Answer **all** the questions.

[20 × 1 = 20]

(ii) Choose the most appropriate answer from the given **four** alternatives and write the option code and the corresponding answer.

1. Who will act as the banker to the Government of India ?  
(a) ICICI (b) SBI (c) RBI (d) NABARD
2. Econometric is the word coined by :  
(a) Karl Pearson (b) Francis Galton (c) Spearman (d) Ragnar Frisch
3. The term MEC was introduced by \_\_\_\_\_  
(a) Ricardo (b) Adam Smith (c) Malthus (d) J.M. Keynes
4. Which of the following plan has focused on the agriculture and rural economy?  
(a) Gandhian plan (b) People's Plan  
(c) Vishveshwaraya Plan (d) Bombay plan
5. Aggregate supply is equal to \_\_\_\_\_  
(a)  $C+S+T+(X-M)$  (b)  $C+I+G$  (c)  $C+S+T+R_f$  (d)  $C+S+G+(X-M)$
6. Foreign direct investments not permitted in India .  
(a) Pharmaceutical (b) Banking (c) Insurance (d) Atomic energy
7. Which of the following country adopts indicative planning ?  
(a) Italy (b) France (c) Russia (d) Germany
8. The Country following Capitalism is \_\_\_\_\_.  
(a) India (b) Russia (c) China (d) America
9. The component of aggregate demand is \_\_\_\_\_  
(a) Only export (b) Personal demand  
(c) Only import (d) Government expenditure

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10. Trade between two countries is known as \_\_\_\_ Trade.  
(a) Inter-regional (b) External (c) Home (d) Internal
11. Inflation means :  
(a) Value of money is increasing (b) Prices are rising  
(c) Prices are remaining the same (d) Prices are falling
12. National Income is measured by using \_\_\_\_ methods.  
(a) Five (b) Two (c) Four (d) Three
13. Which of the following is main cause for deforestation?  
(a) Soil Stabilization (b) Timber harvesting industry  
(c) Climate Stabilization (d) Natural afforestation
14. The tax possesses the following Characteristics :  
(a) No quid pro quo (b) Failure to pay is offence  
(c) Compulsory (d) All the above
15. The 'Father of Socialism' :  
(a) Adam Smith (b) J. M. Keynes (c) Samuelson (d) Karl Marx
16. NABARD was set up in :  
(a) July 1982 (b) July 1962 (c) July 1992 (d) July 1972
17. The relationship between total spending on consumption and the total income is the \_\_\_\_  
(a) Investment function (b) Consumption function  
(c) Aggregate demand function (d) Savings function
18. MV stands for \_\_\_\_  
(a) Supply of bank money (b) Demand for money  
(c) Total supply of money (d) Supply of legal tender money
19. Per capital income is obtained by dividing the national income by \_\_\_\_  
(a) Expenditure (b) Production  
(c) GNP (d) Population of a Country
20. International Monetary Fund was an outcome of \_\_\_\_  
(a) BrettonWood Conference (b) Pandung Conference  
(c) Doha Conference (d) Dunkel Draft

**PART - II**

**Note :** Answer any seven questions. Question No. 30 is Compulsory.

7 × 2 = 14

21. Give short note on frictional unemployment.
22. Define Accelerator.
23. What is Cash Reserve Ratio (CRR)?
24. Define Central Bank .(RBI)

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