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STATISTICS FOR ECONOMICS

CLASS: XI

Unit I

Chapter 1: INTRODUCTION

IMPORTANT CONCEPTS:

1. Meaning of Statistics in plural sense – It is a collection of numerical facts.
2. Meaning of Statistics in Plural Sense – It deals with the collection, presentation, analysis and interpretation of quantitative information.
3. Definition of statistics in Plural Sense – It means aggregate of facts affected to a marked extent of multiplicity of causes numerically expressed, enumerated or estimated according to reasonable standard of accuracy, collected in a systematic manner for predetermined purpose and placed in relation to each other.
4. Consumer – A person who buys goods and services for the satisfaction of human wants.
5. Producer – A person who produces goods.
6. Service holder – A person who is working or in a job and gets paid for it.
7. Service Provider – A person who gives services to others for a payment.
8. Economic activity – Activities undertaken for monetary gain or to earn income.
9. Economics is divided into three parts:
 - a] Consumption
 - b] Production
 - c] Distribution
10. Consumption: In consumption, we study wants, their origin, nature and characteristics and the laws governing them.
11. Production: It refers to all activities which are undertaken to produce goods and services for generation of income and satisfaction of wants.
12. Distribution: Economic activity which studies how income generated from the production process is distributed among the factors of production.
13. Data: Economic facts in terms of numbers.
14. Importance of Statistics:

Statistics is widely used in many fields.

 - a] Importance to the Government – Statistics is used in administration and efficient functioning of departments. It collects data to fulfill its welfare objectives.
 - b] Importance of Statistics in Economics:
 - 1] Statistics helps in making economic laws like law of demand and concept of elasticity.
 - 2] It helps in understanding and solving economic problem.
 - 3] It helps in studying market structure.

4] It helps in finding mathematical relations between variables.

1 mark question:

1. Define statistics in plural form.
2. What is economic activity?
3. Who is a service provider?
4. Who is a consumer?
5. What is meant by production?

3 marks question (FAQ)

1. Define statistics in singular sense.
2. How is statistics important in Economics?
3. How is statistics important to the Government?

Chapter 2: COLLECTION OF DATA

Points to remember:

1. Collection of data is the first important aspect of statistical survey.
2. Data – Information which can be expressed in numbers.
3. Two sources of data – Primary & Secondary Primary data – data collected by investigator himself secondary data – data collected by someone and used by the investigator.
4. **Difference between Primary and Secondary Data**
 - a] Primary data is original data collected by the investigator while secondary data is already existing and not original.
 - b] Primary data is always collected for a specific purpose while secondary data has already been collected for some other purpose.
 - c] Primary is costlier or is more expensive whereas secondary data is less expensive.
5. **Methods / Sources of Collection of Primary Data :**
 - a] Direct Personal Interview – Data is personally collected by the interviewer.
 - b] Indirect Oral Investigation – Data is collected from third parties who have information about subject of enquiry.
 - c] Information from correspondents – Data is collected from agents appointed in the area of investigation.
 - d] Mailed questionnaire – Data is collected through questionnaire [list of questions] mailed to the informant.
 - e] Questionnaire filled by enumerators – Data is collected by trained enumerators who fill questionnaires.
 - f] Telephonic interviews – Data is collected through an interview over the telephone with the interviewer.

Questionnaire – A list of questions with space for answers.
6. Pilot Survey – Try-out of the questionnaire on a small group to find its short comings.
7. Qualities of a good questionnaire :
 - a] A covering letter with objectives and scope of survey.
 - b] Minimum number of questions.
 - c] Avoid personal questions.
 - d] Questions should be clear and simple.
 - e] Questions should be logically arranged.
8. Difference between census method and sampling method.

Census Method	Sampling Method
1) Every unit of population studied	Few units of population are studied
2) Reliable and accurate results	Less Reliable and accurate results
3) Expensive method	Less expensive method
4) Suitable when population is of homogenous nature	Suitable when population is of heterogeneous nature

9. **Personal Interview Method :**

Advantages	Disadvantages
1) Highest response rate	Most expensive
2) Allows all types of questions	Informants can be influenced
3) Allows clearing doubts regarding questions	Takes more time

Mailed Questionnaire Method:

Advantages	Disadvantages
1) Least expensive	Long response time
2) Only method to reach remote areas	Cannot be used by illiterates.
3) Informants can be influenced	Doubts cannot be cleared regarding questions

Telephonic Interview Method:

Advantages	Disadvantages
1) Relatively low cost	Limited use
2) Relatively high response rate	Reactions cannot be watched
3) Less influence on informants	Respondents can be influenced

- Census Method – Data collected from each and every unit of population.
- Sample Method – Data is collected from few units of the population and result is applied to the whole group.
- Universe or population in statistics – Total items under study.
- Sample is a section of population from which information is to be obtained.

Sources of Secondary Data:

1. Published Source – Government publications, Semi-government publications etc.
2. Unpublished Source – Census of India [They are collected by the organizations for their own record]

Sampling Methods: 1] Random sampling 2] Non-random sampling

1. Random Sampling – It is a sampling method in which all the items have equal chance of being selected and the individuals who are selected are just like the ones who are not selected.
2. Non-random sampling – It is a sampling method in which all the items do not have an equal chance of being selected and judgment of the investigator plays an important role.

Types of Statistical errors:

- 1] Sampling errors
- 2] Non-sampling errors

Sampling Error: It is the difference between sample value and actual value of a characteristic of a population.

Non-sampling errors: Errors that accurate the stage of collecting data.

Types of non-sampling errors:

- a] Errors of measurement due to incorrect response.
- b] Errors of non-response of some units of the sample selected.
- c] Sampling bias occurs when sample does not include some members of the target population.

Census of India – It provides complete and continuous demographic record of population.

National Sample Survey Organization – It conducts national surveys on socio-economic issues.

Sarvekshana – Quarterly journal published by NSSO.

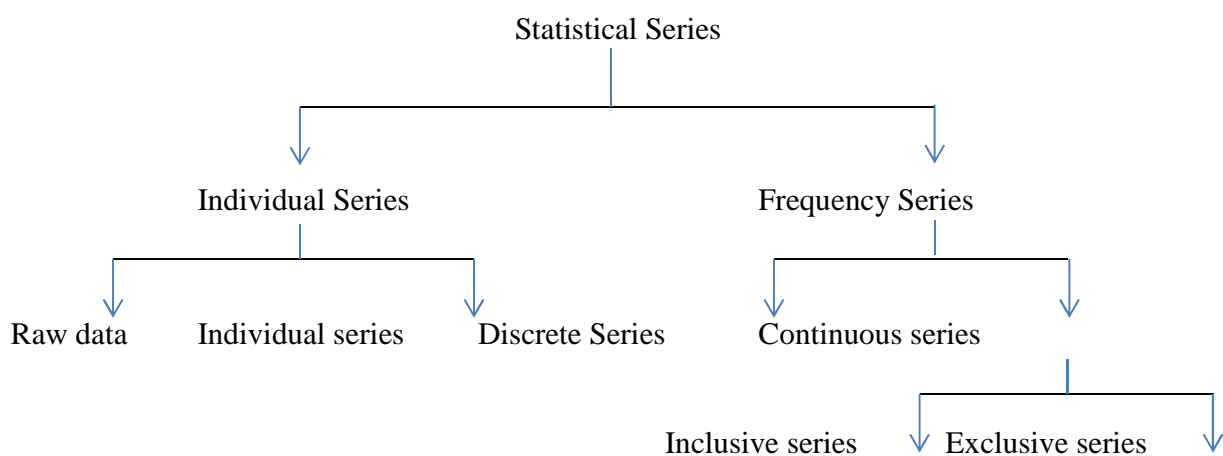
1 mark question:

1. What are the main sources of data?
2. Which of the two types of data are collected for a definite purpose?
3. Which type of data involves less time and is less expensive?
4. Name 2 sources of errors in data collection.
5. Name 2 agencies at national level that deals with the collection, tabulation of statistical data.
6. What is pilot survey?
7. Define sampling error.
8. Name 2 examples of secondary data.
9. Which method is used for estimation of population?
10. Name the journal published by NSSO.

3 mark questions:

Chapter 3: Organization of Data

1. Classification of Data: The process of grouping data according to their characteristics is known as classification of data.
2. Objectives of Classification:
 - a] To simplify complex data
 - b] To facilitate understanding
 - c] To facilitate comparison
 - d] To make analysis and interpretation easy.
 - e] To arrange and put the data according to their common characteristics.
3. Statistical Series: Systematic arrangement of statistical data



I. Can be on the basis of individual units :

The data can be individually presented in two forms:

- i] Raw data: Data collected in original form.
- ii] Individual Series: The arrangement of raw data individually. It can be expressed in two ways.
 - a] Alphabetical arrangement : Alphabetical order
 - b] Array: Ascending or descending order.

II. Can be on the basis of Frequency Distribution:

Frequency distribution refers to a table in which observed values of a variable are classified according to their numerical magnitude.

1. Discrete Series: A variable is called discrete if the variable can take only some particular values.
2. Continuous Series: A variable is called continuous if it can take any value in a given range. In constructing continuous series we come across terms like:
 - a] Class : Each given interval is called a class e.g., 0-5, 5-10.
 - b] Class limit: There are two limits upper limit and lower limit.

- c] Class interval: Difference between upper limit and lower limit.
- d] Range: Difference between upper limit and lower limit.
- e] Mid-point or Mid Value: $\frac{\text{Upper limit} - \text{Lower limit}}{2}$
- f] Frequency: Number of items [observations] falling within a particular class.

- i] Exclusive Series: Excluding the upper limit of these classes, all the items of the class are included in the class itself. E.g., :

Marks	0-10	10-20	20-30	30-40
Number of Students	2	5	2	1

- ii] Inclusive Series: Upper class limits of classes are included in the respective classes. E.g.,

Marks	0-9	10-19	20-29
Number of Students	2	5	2

Open End Classes : The lower limit of the first class and upper limit of the last class are not given. E.g.,

Marks	Below 20	20-30	30-40	40-50	50 and above
Number of Students	7	6	12	5	3

- iii] Cumulative Frequency Series: It is obtained by successively adding the frequencies of the values of the classes according to a certain law.

- a] 'Less than' Cumulative Frequency Distribution :

The frequencies of each class-internal are added successively.

- b] 'More than' Cumulative Frequency Distribution:

The more than cumulative frequency is obtained by finding the cumulative totals of frequencies starting from the highest value of the variable to the lowest value.

E.g., :

Marks	No. of Students
0-10	2
10-20	5
20-30	10
30-40	12
40-50	17
50-60	4

Marks	No. of Students
Less than 10	2
Less than 20	7
Less than 30	17
Less than 40	29
Less than 50	46
Less than 60	50

Marks	No. of Students
More than 0	50
More than 10	48
More than 20	43
More than 30	33
More than 40	21
More than 50	4

1 mark questions :

1. What is meant by classification of data?
2. What is meant by discrete series?
3. What is meant by inclusive series?

3 mark questions:

1. Distinguish between Exclusive series and inclusive series.
2. Distinguish between discrete series and continuous series.

4 mark questions:

1. Construct a frequency distribution table for the following marks of 30 students in the form of a 4 continuous series according to exclusive method.

12	33	23	25	18	35	37	49	54	51
37	15	37	15	33	42	45	47	55	69
65	63	46	29	18	37	46	59	29	35
45	27								

Chapter 4: PRESENTATION OF DATA

Important terms and concepts:

1. Tabulation – Orderly arrangement of data in rows and columns.
2. Objectives of Tabulation:
 - a] Helps in understanding and interpreting the data easily.
 - b] It helps in comparing data.
 - c] It saves space and time.
 - d] Tabulated data can be easily presented in the form of diagrams and graphs.
3. Main parts of a table.
 - a] Title of the table – It is a brief explanation of contents of the table.
 - b] Table number – It is given to be used for reference.
 - c] Captions – A word or phrase which explains the content of a column of a table.
 - d] Stubs – Stubs explain contents of row of a table.
 - e] Body of the table: Most important part of table as it contains data.
 - f] Head note: Head note is inserted to convey complete information of title.
 - g] Source note refers to the source from which information has been taken.
 - h] Foot note: It is used for pointing exceptions to the data.

FORMAT OF TABLE

Table Number:

Title:

[Head note]

Stub	Caption				Total [Rows]
	Sub-head				
	Column Head	Column Head	Column Head	Column Head	
Stub entries	←	↑ BODY ↓	→		
Total [columns]					

Source Note:

Foot Note :

Types of Table:

1. Simple Table – data are presented according to one characteristic only.

2. Double Table – data are presented about two interrelated characteristics of a particular variable.
3. Three way table – This table gives information regarding three interrelated characteristics of a particular variable.
4. Manifold table – This table explains more than three characteristics of the data.

Diagrammatic Presentation of Data

Utility or uses of diagrammatic presentation:

1. Makes complex data simple.
2. Diagrams are attractive.
3. Diagrams save time when compared to other methods.
4. Diagrams create a lasting impression on the minds of observers.

Limitations of diagrammatic presentation:

1. They do not provide detailed information.
2. Diagrams can be easily misinterpreted.
3. Diagrams can take much time and labour.
4. Exact measurement is not possible in diagrams.

Kinds of diagrams:

- I. Line diagrams – Lines are drawn vertically to show large number of items.
- II. Bar diagram
 1. Simple Bar diagrams – These diagrams represent only one particular type of data.
 2. Multiple Bar diagrams – These diagrams represent more than one type of data at a time.
 3. Subdivided Bar diagram or Component Bar diagram – These diagrams present total values and parts in a set of a data.
- III. Pie diagrams – Circle may be divided into various sectors representing various components.

GRAPHIC PRESENTATION OF DATA

Advantages of Graphic Presentation:

1. Graphs represent complex data in a simple form.
2. Values of median, mode can be found through graphs.
3. Graphs create long lasting effect on people's mind.

Disadvantages of graphic Presentation:

1. Graphs do not show precise values.
2. Only experts can interpret graphs.
3. Graphs may suggest wrong conclusions.

Rules of Constructing graph:

1. The heading of the graph should be simple, clear and self explanatory.
2. Graphs should always be drawn with reference to some scale.
3. False baselines should be drawn if the difference between zero and the smallest value is high.
4. Index should be made if different lines are drawn as in time series graphs.

Types of Graphs:

1. Line frequency graphs – Such graphs are used to represent discrete series.
2. Histogram – A two dimensional diagram whose length shows frequency and the breadth shows size of class interval.

Frequency Polygon: A histogram becomes frequency polygon when a line is drawn joining midpoints of tops of all rectangles in a histogram.

Frequency Curve: Smooth curve joining the points corresponding to the frequency and provides frequency curve of the data.

Ogive : A curve obtained by plotting frequency data on the graph paper.

1 mark questions:

1. Give the meaning of tabulation.
2. What is the heading of rows called?
3. When should false base line be used?
4. Which graph can be used to find value of median? [Hint: ogives]
5. What is histogram?
6. What is double table?

3 mark questions:

1. State three rules of drawing a table.
2. Represent the following data with Histogram

Wages	0-10	10-20	20-30	30-40	40-50	50-60
No. of Workers	5	12	8	30	15	8

3. Construct histogram from the following:

Midpoints	5	15	25	35	45	55
Frequencies	6	12	23	30	16	8

4. Prepare a blank table to show
 - 1] Year : 2004, 2005
 - 2] Faculty : Arts, Science, Commerce
 - 3] Gender : Male, Female
5. Represent the following using pie diagram

Items of Expenditure	Amount spent
Food	40
Clothing	20
Fuel and lighting	50
House Rent	70
Miscellaneous	20

6 marks questions :

1. Construct less than and more than ogive :

X	20-40	40-60	60-80	80-100
f	3	7	11	9

2. Draw less than and more than ogive :

Profits	10-20	20-30	30-40	40-50	50-60	60-70
No. of companies	4	7	10	20	17	2

3. Make histogram and frequency polygon from :

Class	0-20	20-40	40-60	60-80	80-100
Frequency	10	4	6	14	16

4. Distinguish between frequency polygon and frequency curve through an example.
5. Discuss the difference between simple table and complex table. Use example.

Chapter 5: Measures of Central Tendency

Important Term and Concepts:

1. Average: It is a value which is typical or representative of a set of data.
Averages are also called Measures of Central Tendency.
2. Functions of Average:
 - i] Presents complex data in a simple form.
 - ii] Facilitates comparison.
 - iii] Helps government to form policies.
 - iv] Useful in Economic analysis.
3. Essentials of a good Average:
 - i. Simple to calculate.
 - ii. It should be easy to understand.
 - iii. Rigidly defined.
 - iv. Based on all items of observation.
 - v. Least affected by extreme values.
 - vi. Capable of further algebraic treatment.
 - vii. Least affected by sampling fluctuation.
 - viii. Graphic measurement possible.
4. Types of Averages:
 - i. Arithmetic Mean
 - ii. Median
 - iii. Mode
 - iv. Quartiles
5. Arithmetic Mean (X)
It is the most common type of measures of central tendency.
It is obtained by dividing the sum of all observation in a series by the total number of observation.
6. Calculation of Arithmetic Mean:

	Individual Series	Continuous Series
Direct Method	$X = \frac{\sum X}{N}$	$X = \frac{\sum fx}{\sum f}$
Assumed Mean Method	$X = A + \frac{\sum X}{N}$	$X = A + \frac{\sum fd}{\sum f}$
Step Deviation Method	$X = A + \frac{\sum d^i}{N} \times i$	$X = A + \frac{\sum fd^i}{\sum f} \times i$
7. Merits of Arithmetic Mean:

- 1] Easy to calculate
- 2] Simple to understand
- 3] Based on all observations
- 4] Capable of further mathematical calculations.

Demerits :

- 1] Affected by extreme values.
- 2] Cannot be calculated in open-end series.
- 3] Cannot be graphically ascertained.
- 4] Sometimes misleading or absurd result.

8. Weighted Arithmetic Mean:

Values to be arranged are given varying importance.

$$\bar{X}_W = \frac{\sum WX}{\sum W}$$

Where \bar{X}_W = Weighted Arithmetic Mean
 W = Weight
 X = Values of the variables

9. Median (M)

It is defined as the middle value of the series, when the data is arranged in ascending or descending order.

Calculation of Median

For Individual & Discrete Series

$M = \text{Size of } \frac{(N+1)}{2}^{\text{th}} \text{ item}$

Continuous series

Median Item = size of $(N/2)^{\text{th}}$ item.

$$M = L_1 + \frac{N/2 - c.f}{f} \times i$$

Merits

1. Easy to understand and easy to compute.
2. Not underly affected by extreme observation.
3. It can be located graphically.
4. Appropriate average in case of open end classes.

Demerits:

1. Not based on all observations.
2. It requires arrangement of data.
3. Not capable o further algebraic treatment.

10. Quartiles:

It divides the data into four equal parts.

There are three Quartiles – Q_1 , Q_2 , Q_3

Q_2 is called Median.

Calculation of Quartiles:

Individual and Discrete Series

$$Q_1 = \text{size of } \frac{(n+1)}{4}^{\text{th}} \text{ item}$$

$$Q_3 = \text{size of } 3 \frac{(n+1)}{4}^{\text{th}} \text{ item}$$

Continuous Series:

Q_1 , item = size of $(N/4)^{\text{th}}$ item

$$Q_1 = L_1 + \frac{N/4 - \text{c.f.}}{f} \times i$$

Q_3 item = size of $3(n/4)^{\text{th}}$ item

$$Q_3 = L_1 + \frac{3(N/4) - \text{c.f.}}{f} \times i$$

11. Mode (Z)

It is the value which occurs the most frequently in a series.

Calculation of Mode

- i. Individual Series :
- ii. By observation identify the value that occurs most frequently in a series.
- iii. By conversion into discrete series and then identify the value corresponding to which there is highest frequency.

Discrete Series:

- i. By Inspection Method.
- ii. Grouping Method: By preparing Grouping Table and then preparing Analysis table.

Continuous Series:

- i. Determination of Modal class by Inspection Method or Grouping table and Analysis table.
- ii. Applying the formula

$$Z = L_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$$

OR

$$Z = L_1 + \frac{D_1}{D_1 + D_2} \times i$$

Merits of Mode

- i. It is easy to understand and simple to calculate.
- ii. Not affected by extreme values.
- iii. Can be located graphically.
- iv. Easily calculated in case of open-end classes.

Demerits of Mode

- i. Not rigidly defined.
- ii. If mode is ill defined, mathematical calculation is complicated.
- iii. Not based on all items.
- iv. Not suited to algebraic treatment.

12. Relationship between Mean Median and Mode

- i. In case of symmetrical distribution

$$\text{Mean} = \text{Median} = \text{Mode}$$

- ii. In case of asymmetrical distribution

$$\text{Mode} = 3 \text{ Median} - 2 \text{ Mean}$$

1 mark questions:

1. Define an average.
2. Define mode.
3. Age of 5 students is 22, 24, 26, 21, 20. Find the modal age.
4. What is the relationship of Mean, Median and Mode in an asymmetrical distribution?

3 marks questions:

1. Calculate the Mean & Median from the following data :

Marks	10-20	20-30	30-40	40-50	50-60	60-70
No. of Students	5	5	5	20	10	5

2. Calculate Mode from the following data.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of Students	2	5	8	10	8	5	2

4 mark questions:

1. Mention any 2 Merits and Demerits each of Arithmetic Mean.
2. What are the requisites of a good average?

Chapter 6: Measures of Dispersion

1. Dispersion refers to the variation of the items around an average.
2. Objectives of Dispersion
 - a) To determine the reliability of an average.
 - b) To compare the variability of two or more series.
 - c) It serves the basis of other statistical measures such as correlation etc.
 - d) It serves the basis of statistical quality control.

Properties of good measure of Dispersion

- a) It should be easy to understand.
- b) Easy to calculate.
- c) Rigidly defined
- d) Based on all observations.
- e) Should not be unduly affected by extreme values.

Measures of Dispersion may be either absolute measures or relative measure.

Absolute Measures of Dispersion are

- a) Range
- b) Quartile Deviation
- c) Mean Deviation
- d) Standard Deviation

Relative Measures of Dispersion are

- a) Coefficient of Range
- b) Coefficient of Quartile Deviation
- c) Coefficient of Mean Deviation
- d) Coefficient of Variation

Graphical method of dispersion

Lorenz Curve

Range

It is the difference between the largest and smallest value of distribution.

Computation of Range

Range = L – S

$$\text{Coefficient of Range} = \frac{L - S}{L + S}$$

Merits of Range

1. It is simple to understand and easy to calculate.
2. It is widely used in statistical quality control.

Demerits of Range

1. It is affected by extreme values in the series.
2. It cannot be calculated in case of open end series.
3. It is not based on all items.

Inter quartile range and quartile deviation

Inter quartile range is the difference between Upper Quartile (Q_3) and Lower Quartile Q_1 .

Quartile deviation is half of inter quartile range.

Computation of Inter quartile range and quartile deviation

Inter quartile Range = $Q_3 - Q_1$

$$\text{Quartile Deviation Q.D} = \frac{Q_3 - Q_1}{2}$$

$$\text{Coefficient of Q.D} = \frac{Q_3 - Q_1}{Q_3 + Q_1}$$

Merits of Q.D

1. Easy to compute
2. Less affected by extreme values.
3. Can be computed in open ended series.

Demerits of Q.D

1. Not based on all observations
2. It is influenced by change in sample and suffers from instability.

Mean Deviation

Mean Deviation is defined as the arithmetic average of the absolute deviations [ignoring signs] of various items from Mean or Median.

Computation of Mean Deviation

Individual Series

$$\text{M.D} = \frac{\sum |D|}{N}$$

Discrete/Continuous Series

$$\text{M.D} = \frac{\sum f |D|}{\sum f}$$

$$\text{Coefficient of M.D} = \frac{\text{M.D}}{\bar{X} \text{ or Median}}$$

Merits of Mean Deviation

1. Based on all observations.
2. It is less affected by extreme values.
3. Simple to understand and easy to calculate.

Demerits of Mean Deviation

1. It ignores \pm signs in deviations.
2. It is difficult to compute when deviations comes in fractions.

Standard Deviation: (σ)

It is defined as the root mean square deviation.

Features of Standard Deviation:

1. Value of its deviation is taken from Arithmetic Mean.
2. + and – signs of deviations taken from mean are not ignored.

Related Measures of Standard Deviation

Standard deviation = σ

Coefficient of standard deviation: $\frac{\sigma}{\bar{X}}$

Variance = σ^2

Coefficient of variation = $\frac{\sigma}{\bar{X}} \times 100$

Computation of σ Individual Series

1. $\sigma = \sqrt{\frac{\sum x^2}{N}}$ Actual Mean Method

$$x = X - \bar{X}$$

2. $\sigma = \sqrt{\frac{\sum d^2}{N} - \left(\frac{\sum d}{N}\right)^2}$ Assumed Mean Method

Discrete / Continuous Series:

i. $\sigma = \sqrt{\frac{\sum fx^2}{\sum f}}$ Actual Mean Method

$$x = X - \bar{X}$$

ii. $\sigma = \sqrt{\frac{\sum fd^2}{\sum f} - \left(\frac{\sum fd}{\sum f}\right)^2}$ Assumed Mean Method

iii. $\sigma = \sqrt{\frac{\sum fd^{12}}{\sum f} - \left(\frac{\sum fd^1}{\sum f}\right)^2}$ Step Deviation Method

Merits of Standard Deviation

- i. Rigidly defined
- ii. Based on all observations
- iii. Takes Algebraic signs in consideration

iv. Amenable to further Algebraic treatment

Demerits

- i. Difficult to understand and compute.
- ii. Affected by extreme items.

Lorenz Curve

It is a graphical method of studying dispersion.

Lorenz curve is a cumulative percentage curve in which the percentage of frequency is combined with percentage of other items such as profit, income etc.

1 mark questions

- 1. What is range?
- 2. What is coefficient of variation?
- 3. What is Lorenz curve?

3 marks question

- 1. Mention any two merit and demerits each of Mean Deviation.

4 marks questions

- 1. Find out range and coefficient of range of the following series.

Size	5-10	10-15	15-20	20-25	25-30
Frequency	4	9	15	8	5

- 2. Find out Standard deviation (6) from the following data:

Class Interval	0-10	10-20	20-30	30-40	40-50
Frequency	10	03	02	01	04

Chapter 7: CORRELATION

Important terms and concepts

Correlation studies the relationship between two variables in which change in the value of one variable causes change in the other variable. It is denoted by letter 'r'.

Kinds of correlation:-

1. Positive and Negative correlation.
2. Linear and non – linear correlation.
3. Simple and multiple correlations.

Positive correlation: When both variables move in the same direction. If one increases, other also increases and vice-versa.

Negative correlation: - When two variables move in the opposite direction, they are negatively correlated.

Linear Correlation: - When two variables change in a constant proportion.

Non- linear correlation: - When two variables do not change in the same proportion.

Simple correlation – Relationship between two variables are studied.

Multiple Correction – Relationship between three or more than three variables are studied.

Degrees of Correlation:

1. **Perfect Correlation** - When values of both variables changes at a constant rate Types – (a)
Perfect positive correlation – when values of both variables changes at a constant ratio in the same direction correlation coefficient value (r) is + 1
(b) Perfect negative correlation – When values of both the variables change at a constant ratio in opposite direction. Value of coefficient of correlation is -1
2. **Absence of correlation** : When there is no relation between the variables $r = 0$
3. **Limited degree correlation** : The value of r varies between more than 0 and less than 1

Types - a) High : r lies between ± 0.7 & 0.999

b) Moderate = r lies between ± 0.5 and + 0.699

c) Low: $r < \pm 0.5$

Different methods of finding correlation

- a) Karl Pearson's coefficient method
- b) Rank method / Spearman's coefficient method
- c) Scatter Diagram

(A) Karl Pearson's Method

$$r = \frac{\Sigma xy}{N \sigma_x \sigma_y}$$

Where $X = X - \bar{X}$, $Y = Y - \bar{Y}$

N = number of observations

σ_x = Standard deviation of series X

σ_y = Standard deviation of series Y

OR

Actual Mean Method

$$R = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \times \Sigma y^2}}$$

Where $x = X - \bar{X}$, $y = Y - \bar{Y}$

Assumed Mean Method

$$r = \frac{\Sigma dxdy - \left(\frac{\Sigma dx \times \Sigma dy}{N} \right)}{\sqrt{\Sigma dx^2 - \frac{(\Sigma dx)^2}{N}} \sqrt{\Sigma dy^2 - \frac{(\Sigma dy)^2}{N}}}$$

Where $dx = X - A$
 $dy = Y - A$
 A = assumed mean

Merits of Karl Pearson's Method

1. Helps to find direction of correlation
2. Most widely used method

Demerits of Karl Pearson's method

1. Based on large number of assumptions
2. Affected by extreme values

(B) Spearman's Rank Correlation Method

Formula

In case of non repeated ranks :-

$$r_s = 1 - \frac{6 \Sigma D^2}{N^3 - N}$$

r_s = Spearman's rank correlation

ΣD^2 = Sum of squares of difference of ranks

N = Number of observation

In case of repeated ranks:-

$$r_s = 1 - \frac{6\sum D^2 + \frac{1}{12}(m^3 - m) + \frac{1}{12}(m^3 - m)}{N^3 - N}$$

M = number of items with repeated ranks.

Merits of Spearman's Rank Correlation

1. Simple and easy to calculate
2. Not affected by extreme values

Demerits of Spearman's Rank Correlation

1. Not Suitable for grouped data
 2. Not based on original values of observations.
- (C) Scatter Diagram – Given data are plotted on a graph paper. By looking at the scatter of points on the graph, degree and direction of two variables can be found.

Merits of Scatter Diagram

1. Most simplest method.
2. Not affected by size of extreme values.

Demerits

1. Exact degree of correlation cannot be found.

1 Mark questions

1. Give the meaning of correlation.
2. What is absence of correlation?
3. What is scatter diagram?
4. What does it mean if the correlation between two variables is + 1?
5. What is positive correlation?

4 Mark questions

1. Calculate Karl Pearson's coefficient of correlation from the following:-

X: 12 9 8 10 11 13 7

Y: 14 8 6 9 11 12 3

2. Calculate Karl Pearson's coefficient of correlation from the following :-

Marks in Accountancy: 48 35 17 23 47

Marks in stratified: 45 20 40 25 45

3. Calculate Karl Pearson's coefficient by actual mean method

X :	8	4	10	2	6
Y:	9	11	5	8	7

4. Obtain rank correlation from the following

X:	88	70	75	60	95	81	50	80
Y:	134	115	120	110	150	142	100	140

5. Calculate rank correlation

Price of tea:	55	50	75	55	60	65	50	65	70	50
Price of Coffee:	140	110	160	110	115	115	125	120	115	130

Chapter 8: Index numbers

1. **Meaning:** Index numbers is a statistical tool for measuring relative change in a group of related variables over two or more different times.

2. **Features of an Index Number**

- They are expressed in percentages.
- They are special types of averages.
- They measure the effect of change over a period of time.

3. **Problems in construction of Index Numbers**

- Defining the purpose of index numbers
- Selection of items
- Selection of base period
- Selection of prices
- Selection of weights
- Choice of an average
- Choice of the formulae

4. **Price index are of two types**

- Simple Index Number
- Weighted price Index numbers

5. **Construction of simple Index Numbers:-**

There are two methods

- Simple aggregate Method

$$P_{01} = \frac{\sum P_1}{\sum P_0} \times 100$$

- Simple Average of price relative method

$$P_{01} = \frac{\sum (P_1 / P_0 \times 100)}{N}$$

6. **Weighted Index Numbers**

There are two methods:-

- Weighted Aggregate method:- In this method commodities are assigned weights on the basis of quantities purchased.

$$P_{01} = \frac{\sum P_1 Q_0}{\sum P_0 Q_0} \quad (\text{Base year quantities as weight})$$

- Weighted Average of Price Relative Method:-

Under this method commodities are assigned weight on the basis of base's year value ($W = P_0 Q_0$) or fixed weights (W) are used.

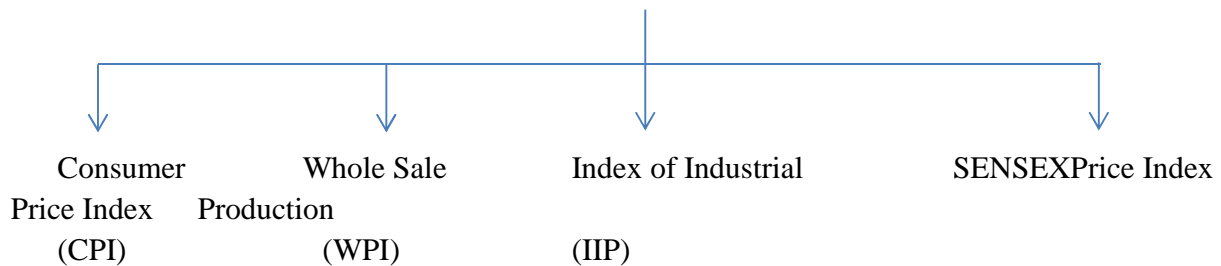
$$P_{01} = \frac{\sum RW}{\sum W}$$

$$\text{Where } R = \frac{P_1}{P_0} \times 100$$

$$W = \text{value in the base year } (P_0 Q_0) \text{ or fixed weights}$$

7.

Types of Index Numbers



a. **Consumer Price Index:- (CPI)** The methods of constructing CPI are

- **Aggregate Expenditure Method**
$$P_{01} = \frac{\sum P_1 Q_0}{\sum P_0 Q_0} \times 100$$

- **Family Budget Method**
$$P_{01} = \frac{\sum RW}{\sum W} \times 100$$

Where $R = \frac{P_1}{P_0}$

$$W = P_0 Q_0 \text{ or fixed weights}$$

8. **Uses of Consumer Price Index:- (CPI)**

- It is used in calculating purchasing power of money
- It is used for grant of Dearness Allowance.
- It is used by government for framing wage policy, price policy etc.
- CPI is used as price deflator of income
- CPI is used as indicator of price movements in retail market.

9. **Wholesale Price Index (WPI):-**

- It measures the relative change in the price of commodities traded in wholesale market.
- It indicates the change in the general price level.
- It does not include services

Uses of WPI

- Basis of Dearness Allowance
- Indicator of changes in economy
- Measures the rate of inflation

10. **Index Number of Industrial Production (IIP)**

It indicates the changes in level of Industrial production or a percentage change in physical volume of output of commodities in following industries

- Mining
- Quarrying
- Manufacturing
- Electricity etc.,

$$\text{Formula IIP} = \sum (q_1 / q_0) \cdot W$$

$$\frac{\sum W}{\sum W}$$

W = relative importance of different output.

q₀ = Base year quantity.

q₁ = Current Year Quantity.

11. Uses of Index Numbers.

- Helps us to measure changes in price level
- Help us to know changes in cost of living
- Help government in adjustment of salaries and allowances
- Useful to Business Community
- Information to Politicians
- Information regarding foreign trade

12. SENSEX

SENSEX is the short form of Stock Exchange Sensitive Index with 1978-79 as base. It is a useful guide for the investors in the stock market. It deals with 30 stocks represented by 13 sectors of the economy.

Questions:-

- What is an Index Number?
- What is a Base Year?
- What is SENSEX?
- Mention any three problems in the construction of Index Numbers
- Calculate weighted average of price relative index from the following data

Items	Weight in % (Rs.)	Base year price (Rs.)	Current year Price (Rs.)
A	40	2	4
B	30	5	6
C	20	4	5
D	10	2	3

Chapter 9: Developing Projects in Economics

Gist of the Chapter:

Meaning of Project: A project can be defined as a well thought out plan of action made to achieve specific objective.

Steps for developing a project:

1. Objective: The required data has to be collected with a clear objective of the project.
2. Population: To develop a project, the target population should be determined.
3. Collection of data: Data regarding project report should be collected using primary or secondary data. Secondary data must be used with great care.
4. Organization and presentation of data – Report can be presented using statistical tables, graphs or diagrams.
5. Analysis of data – statistical measures like measures of central tendency and dispersion can be used for analyzing the data.
6. Interpretation & Conclusion – Data collected and analyzed should be correctly interpreted.
7. Consumer Awareness – It means product awareness among the consumers.

1 mark questions:

1. What is a project?
2. What is consumer awareness?

4 marks questions:

1. How is a project report developed ?
2. Explain the various steps involved in preparing a project.

Part B: Indian Economic Development

Chapter 10: Indian Economy at the time of Independence

Learning objectives

- 1 Introduction
- 2 Low level of economic development under the colonial rule
- 3 Agricultural Sectors
- 4 Industrial sectors
- 5 Foreign sectors
- 6 Demographic conditions
- 7 Occupational Structures
- 8 Infrastructures
- 9 State of Indian economy on the eve of independence
- 10 Positive contribution of British rule

1. What was the condition of agriculture sector at the time of Independence?

Ans : 1) Low level of agricultural productivity :-

Agricultural productivity became very low and this stagnation in agriculture sector was mainly due to systems of land settlement that were introduced by the British Government. The Zamindari system, the profit accruing out of the agriculture sector went to Zamindaris instead of the cultivators. This led to discouragement amongst the cultivators to produce less.

2. High dependence on Monsoon :-

Agriculture sector was mainly dependent on monsoon. No effort was ever made under the British rule to develop permanent means of irrigation.

3. Lack of Proper Input:-

Low level of technology, lack of irrigation facility and negligible use of fertilizers, added to aggravate the plight of the farmers and contributed to the dismal level of agricultural productivity.

Q.2 What was the condition of Industrial sector at the time of Independence?

Ans :- 1) Discriminatory Tariff Policy :-

The British Government allowed tariff free export of raw materials from India and tariff free import of British industrial products into India. But a heavy duty on the export of Indian handicrafts products. It led to decay of handicrafts industry in India.

(ii) **Competition from machine** :-

Industrial revolution in Britain gave a stiff competition to the handicraft industries in India. Due to low cost and better quality product produced by machine forced the Indian craftsmen to shut down the handicraft Industry in India.

(iii) New Patterns of Demand :-

Owing to British rule in India, a new class of people emerged in India. This changed the pattern of demand in India against the Indian products and in favour of British products. As a result, the Indian Industry tended to Perish

(iv) More market for British Goods :-

An introduction of railways facilitated the transportation of the British products to different parts of the country. As a result, the size of the market for the low cost British product expanded while it started shrinking for the high cost Indian products. This lead to decay of Industry in India.

Q3. What was the condition of foreign trade under the British rule ?

Ans 1) Due to discriminative tariff policy adopted by the British Government, India became net exporter of raw materials and primary products.

On the other hand, it became net importer of finished goods reproduced by the British Industry.

(ii) Composition of exports and imports showed the backwardness of Indian economy. Exports and imports were largely restricted to Britain only due to monopoly control of India's foreign trade.

(iii) Surplus profit made and account of foreign trade during the British rule was distributed on administrative and as well as on war expenses. It was only used to increase the pursuits of the British Government.

Q 4 Mention the demographic profile during the British rule.

Ans : 1) High birth and High death rate implied low survival rate, which was nearly 8 per thousand per annum.

2) Life expectancy was as low as 32 years which shows the lack of health care facilities, lack of awareness as well as lack of means for health care.

3) Literacy rate was as low as 16 percent, which reflects the social and economic backwardness of the country.

Q5. Mention the condition of occupation structure at the time Independence.

Ans:- (i) Agriculture was the principal source of occupation and about 72.7 percent of working population was engaged in agriculture.

- (ii) Only 10.1% of the working population were engaged in the manufacturing sector, which showed the backwardness of Indian Industry at the time of Independence.
- (iii) only 17.2 percent of the working population were engaged in the service sector, which also proved the slow growth of tertiary sector at the time of Independence.
- (iv) There was an unbalanced growth of Indian economy at the time of Independence

Q6 What was the condition of Infrastructure at the time of Independence.

Ans : 1) There was some infrastructural development during the British in the area of transport and communication.

2) Introduction of railways, was a major break through followed by the development of some ports and the construction of some roads.

3) But the main motive of the British government was to foster the interest of the British Government rather than to accelerate the growth of Indian economy.

4) There was transition from barter system of exchange to monetary system of exchange, which facilitated division of labour & large scale production.

Chapter-11: Development Policies and Experience (1950-1990)

Learning objectives

1 Meaning of economic planning

2 Objectives of planning

3 Agricultural sectors

4 Industrial sectors

5 Foreign trades

1. What is Economic Planning?

Ans :- It means utilization of country's resources into different development. Activities in accordance with the national priorities.

2. When was planning commission set up ?

Ans :- It was set up in 1950.

3. When was National development council set up?

Ans:- It was set up in 1952

4. Mention the objectives or goals of planning in India. Briefly explain it.

Ans :- The goals or objectives of planning in India are as follows:

i) Growth: -

It refers to increase in the country's capacity to produce the output of goods and services within the country. It implies either a large stock of productive capital or an increase in the efficiency of productive capital and services like transport, banking & communication etc. In other words, it means steady increase in the gross domestic product (GDP). It is necessary to produce more goods and services if the country need to achieve higher growth level.

(ii) Modernization:-

It is necessary to adopt new technology in order to increase production of goods & services. Adoption of new technology is called modernization.

However, modernization does not refer only to the use of new technology but also to change in social outlook such as women empowerment . A modern society makes use of the talents of women in the work place so that the society will be more civilized and prosperous

(iii) Self reliance:-

It refers to utilization of country's resources in order to promote economic growth and modernization without using the resources imported from other countries. It means avoiding imports of those goods which could be produced in India itself.

It is necessary in order to reduce our dependence on foreign countries in order to safeguard the sovereignty of our country and unnecessary foreign interference in our polices.

(iv) Equity:-

It means equal distribution of income and wealth among the societies. It is important to ensure that the benefits of economic development should reach the poor sections of the society as well instead of being enjoyed by the rich. It is necessary that every people of a country should be able to meet their basic needs such as food, education, health facilities in order to reduce the inequality

5. Mention the development of Agriculture sector between 1950-1990

Ans : (i) Land reforms :

Land reforms were initiated in order to bring equity in ownership of landholdings. It was decided to establish intermediaries and to make the tillers of the owners of land. It gives the tillers the incentives to invest in making improvements in land provided sufficient capital was made available to them.

(ii) Land Ceiling :-

It refers to fixing the maximum size of land which could be owned by an individual. The purpose of land ceiling was to reduce the concentration of land ownership in a few hands and to promote equality in the agricultural sector.

(iii) Green Revolution:-

It refers to large increase in production of food grains resulting from the use of High yielding variety (HYV) seeds. The use of fertilizers, pesticides, irrigation facilities is important along with HYV seeds in order to increase agricultural productivity & production. The farmers should be provided adequate financial resources in order to purchase agricultural inputs.

Q6 Mention the development of Industrial sector between 1950-1990

Ans : 1) Public enterprises were played a central role in the process of Industrialization

2) Private enterprises were to play only a secondary role in the process of industrialization. It means private sector were to obtain a license for their industrial establishments and to produce goods within the prescribed limits of production capacity.

3) Major thrust was given to import substitution. It means production of such goods were to be accorded high priority which were imported from abroad. It was necessary to achieve the objective of growth with self reliance.

4) Domestic industries were given protection from foreign competition and it was done through

(i) Heavy duty in imports (ii) Large – scale industry was to be developed with a view to build an infrastructural base in country.

Q7. Mention the development of foreign trade between 1950-1990

Ans :- Inward looking trade strategy was adopted as foreign trade policy . This strategy is called import substitution. It aims at replacing or substituting imports with domestic production.

Domestic industry is offered protection from foreign competition through import duties.

Its main objective was to save foreign exchange by encouraging domestic production of such goods which could be imported from rest of the world. The Government protected the domestic industries from competition through tariffs and quotas. Through imposition of tariffs and quotas, the government restricted the imports of goods and thereby protecting the domestic firms from foreign competition.

Q.8 what is marketed Surplus?

The excess portion of agriculture produce which is sold into the market by the farmers is called marketed surplus.

Chapter-12: Economic Reforms Since 1991

Learning objectives

- 1 Meaning of new economic policy
- 2 Need for economic reforms
- 3 Features of new economic policy
 - (i) Liberalization and its measure
 - (ii) Privatization and its measure
 - (iii) Globalization and its measure
- 4 Positive impact of LPG
- 5 Negative impact of LPG

Q1.What is economic reforms?

Ans. The new economic policy started by the government since 1991 in order solve the Economic crisis and to accelerate the rate of economic growth is called Economic Reforms. It is also known as new economic policy which consists of Liberalization, Privatization and Globalization (LPG).

Q2.Why there was need for economic reforms?

Ans. 1. **Mounting fiscal deficit :**

Fiscal deficit of the government had been mounting year after year on continuous increase in non-development expenditure. Due to persistent rise in fiscal deficit there was corresponding rise in public debt and interest payment liability there was possibility that the economy might lead to debt-trap situation. Thus it becomes essential for the government to reduce its non-development expenditure and restore fiscal discipline in the economy.

2. Adverse balance of payment : When receipts of foreign exchange fall short of their payments, the problem of adverse balance of payment arises. Despite the restrictive policy adopted by the government till 1990 import substitution and export promotion the desired result could not be meet. Our export could not compete in terms of price and quality in the international market. As a result there was slow growth of export and rapid increase in imports. Accordingly the burden of foreign debt services increased tremendously and leading to depletion of foreign exchange reserves.

3.Gulf Crises: On account of Iraq war in 1990-91 prices of petrol shot-up . Besides india used to receive huge amount of remittances from gulf countries in terms of foreign exchange.

4. Poor performances of PSU's:

Due to poor performances of public sector undertakings degenerated in to a liability. Most of public sector undertakings were incurring loss and their performance was quiet satisfactory. On account of these factors, it becomes imperative for the government to adopt new economic policy or to initiate economic reforms.

5 .Rise in price:Due to rise in prices of food grains there was pressure of inflation Prior to 1991. Which deepen the economic crisis from bad to worse.

6 .Fall in foreign exchange reserves: In 1990-91 India's foreign exchange reserves fall to such a low level that there was not enough to pay for an import bill of even 10 days. In such situation the government had to helplessly resort to policy of liberalization as suggested by the World Bank.

Q3 what is New Economic Policy? Briefly explain it.

Ans. New Economic Policy refers to adoption of Liberalisation, Privatisation and Globalization (LPG) which aims at the rendering the economy more efficient, competitive and developed.

ELEMENTS OF NEW ECONOMIC POLICY

1. **Liberalization:** It means to free the economy from the direct and physical control imposed by the government.

Measures adopted for Liberalization:

- (i) Abolition of industrial licensing.
- (ii) DE reservation of production areas
- (iii) Expansion of production capacity
- (iv) Freedom to import capital goods

2. **Privation:** It refers to general process of involving the private sector in the ownership or management of state owned enterprises. It imply partial or full ownership and management of public sector enterprises by the private sector.

Measures adopted for Privatization:

- (i) Contraction of public sector
- (ii) Disinvestment of public sector undertaking
- (iii) Selling of shares of public enterprises

3. **Globalization:** It men's integrating the economy of a country with the economies of other countries under condition of free flow trade and capital and movement of persons across borders.

Measures adopted for Globalization:

- (i) Increase in equity limit of foreign investment
- (ii) Partial convertibility of Indian rupees
- (iii) Long –term trade policy
- (iv) Reduction in tariffs.

Q4. Mention the positive impact of LPG polices

1. a vibrant Economy
2. Stimulant to Industrial production
3. Check on fiscal deficit
4. Check on inflation

5. Improvement in consumers sovereignty
6. A substantial increase in foreign exchange reserves.
7. Flow of private foreign investment.
8. India as an emerging economic power
9. Shift from monopoly market to competitive market

Q5. . Mention the negative impact of LPG polices.

1. Neglect of agriculture
2. Urban concentration of growth process
3. Economic colonialism
4. Spread of consumerism
5. Lopsided growth process
6. Cultural erosion

Chapter 13: Poverty

Learning Objectives

- Introduction
- Meaning of Poverty
- Who are poor?
 - Poor in Urban & Rural Areas.
 - Common characteristics of poor people.
- Measures of poverty: relative & Absolute
 - Relative poverty
 - Absolute poverty
- Concept of poverty line.
- Magnitude of poverty.
- Causes of poverty.
- Measures to remove poverty.
- Government approach to remove poverty.
- Poverty alleviation programs (PAP) in India.
- Critical evaluation of poverty Alleviation programs (PAP)

1 Mark questions

1. Define poverty?

Ans. poverty refers to a state in which an individual is unable to fulfill even the basic necessities of life.

2. Name two measures to determine the extent of poverty?

Ans. The two measures to determine the extent of poverty are:

- I. Relative poverty
- II. Absolute poverty

3. What is the minimum calorie intake estimated for rural & urban areas?

Ans. The minimum calorie intake estimated in rural areas is 2400 & in urban areas 2100 calorie.

4. Why has higher calorie intake fixed for rural areas?

Ans. Higher calorie intake has been fixed for rural areas because the rural worker has to do greater physical work as compared to urban worker

5. How can creation of income earning assets address the problem of poverty?

Ans. If poor people are provided with high income earning assets, then they will be assured of minimum income. It would help them in coming above the poverty line.

6. What is meant by absolute poverty?

Ans. Absolute poverty refers to the total number of people living below poverty line.

7. The poverty has shifted from overall to urban areas. Why?

Ans. The poverty has shifted from overall to urban areas because of the migration of the rural people to urban areas in search of alternative employment & livelihood.

8. Name the program initiated by government to help the elderly people & poor & destitute women?

Ans. National social assistance program (NSAP)

9. What is meant by head count ratio?

Ans. When the number of poor is estimated as the proportion of people below the poverty line, it is known as "Head Count Ratio"

10. What is the amount of consumption expenditure to determine poverty line in India?

Ans. Rs. 328 per month in rural areas & Rs. 454 per month in urban areas at 1990-00 prices.

11. Which Organization collects data on poverty in India?

Ans. National Sample Survey Organization (NSSO)

12. Distinguish between absolute and relative poverty.

Ans. Absolute poverty refers to the total number of people living below poverty line, whereas relative poverty refers to poverty of people in comparison to other people, regions or nations.

13. Where do you think the incidence of poverty is greater? Rural areas or urban areas?

Ans. Rural areas.

14. What percentage of population was below the poverty line in the year 2004-05?

Ans. 21.8 per cent.

Meaning of poverty

Poverty refers to a state in which an individual is unable to fulfill even the basic necessities of life. The minimum requirement includes food, clothing, shelter & health facilities.

3 & 4 Marks questions

15. What are the characters of poor people?

- i. Hunger, starvation & malnutrition:- Hunger & starvation are the basic problems of the poorest households. Malnutrition is alarming high among the poor.
- ii. Poor health:- they are generally physically weak due to ill health disability or serious illness. Their children are less likely to survive or be born healthy.
- iii. Limited economic opportunities:- they have very Limited economic opportunities due to lack of literacy and skills.
- iv. Debt trap:- they borrow from money landless who charge high rate of interest.
- v. Lack of facilities of electricity & water:- most poor household do not have access to electricity. Their primary cooking fuel is fire wood & cow dung cake.

- vi. Bigger families:- the poor families are bigger in size, which make their economic condition worse.

16. Explain the measures of poverty – relative & absolute.

- a. Relative poverty:- when we compare the incomes of different people, & we find that some people are poorer than other, it is called relative poverty.
- Relative poverty does not consider, how poor the poor persons are or whether he is deprived of the basis minimum requirement of life or not.
 - It compares the inequality of income & assets ownership. It helps in understanding the relative position of different segment of the populations.
 - The defect in the relative measure of poverty is that it only reflect the relative position of different segment of the population in the income hierarchy.
- b. Absolute poverty:-It refers to the total number of people living below poverty line. In poverty line a standard is fixed in terms of minimum level of consumption.
- Absolute poverty refers to a situation when a person fails to reach this minimum consumption.

How to measure absolute poverty?

- Poverty line is used as a measure.
- The people below poverty line are absolutely poor.

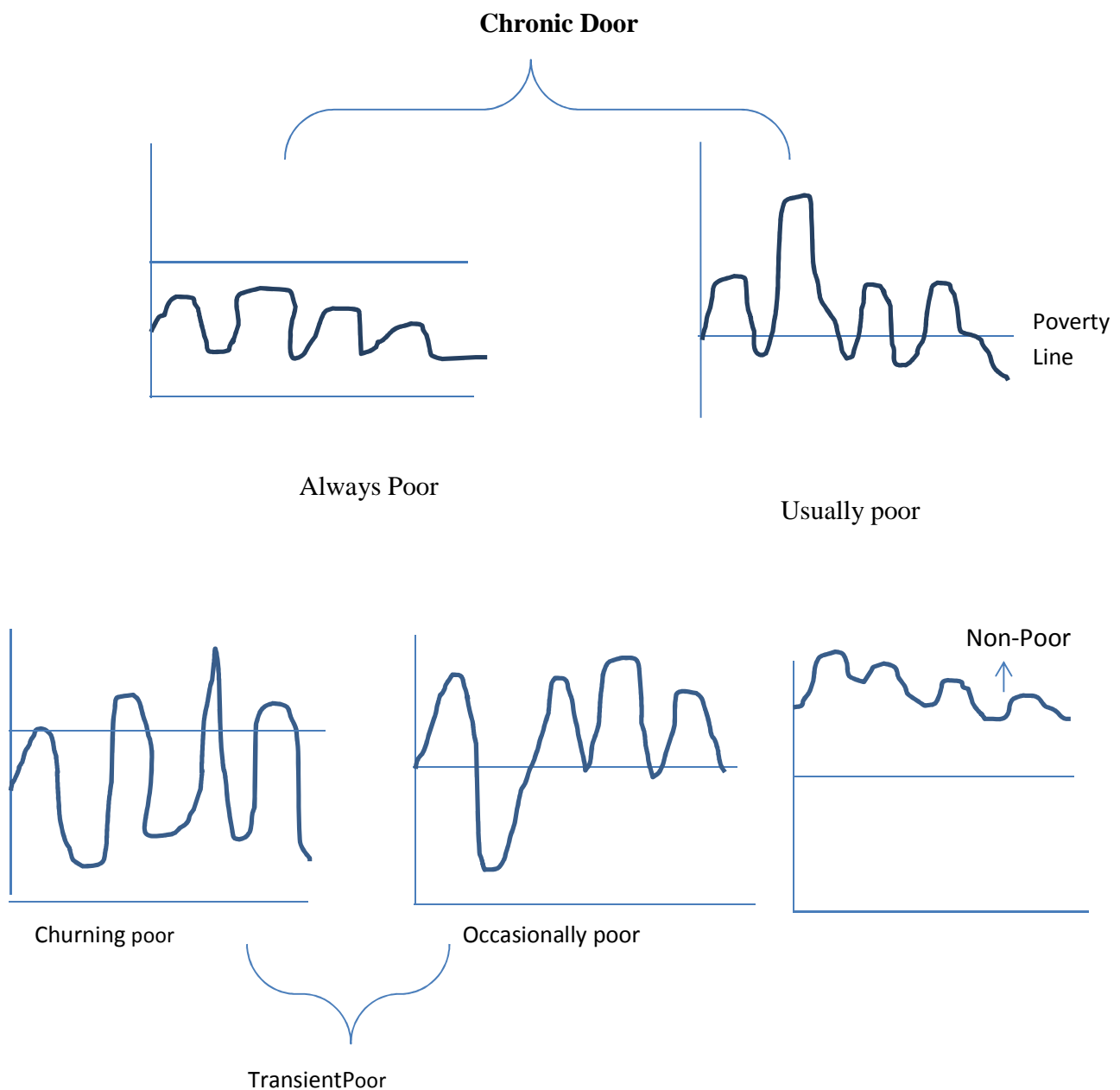
17. Explain the concept of poverty line?

- Poverty line is a cutoff point on the line of distribution, which usually divides the population of the country as poor & non poor.
- People having income below the poverty line are called poor & people with income above poverty line are called non poor.
- The planning commission has defined poverty line on the basis of recommended nutritional requirement of 2400 calories per person in rural areas and 2100 for a person in urban areas.
- While fixing the poverty line, consumption of food is considered as the most important criteria.
- The consumption worth of Rs. 328 per person a month in rural area and for urban area it was Rs. 454 also considered for poverty line.

Categorizing poverty

Chronic poor's:- transient poor may be classified as churning poor (who regularly move in & out of poverty, like small farmer) & occasionally poor (who are rich most of the time & poor sometimes)

Non-poor:- they are never poor



Criticism of the poverty line.

- This method does not differentiate between the very poor and the other poor.
- There are many factors, other than income & assets, which are associated with poverty, like accessibility to basic education, health care drinking water etc which have been ignored.
- This method does not consider social factors that generate & are responsible for poverty, like illiteracy, ill health, lack of access to resources discrimination or lack of resources discrimination or lack of civil & political freedom.

18. How to measure number of poor? (tools to measure poverty)

Ans. The simplest method to determine number of poor is the head count ratio (HCR). Head count ratio is calculated by dividing the number of people below the poverty line by the total population.

- Amartyasen a Noble Laureate developed Sen Index to measure poverty.
- Other tools to measure poverty are Gap Index and squared poverty gap.
- Official data of poverty is collected by NSSO.

Causes of poverty

Underdevelopment of the Indian economy:- the root cause of poverty is the under development of the Indian economy. The underdevelopment is manifested by the relative backwardness of agriculture & industrial sector. Widespread infrastructural bottle necks are presented & as a result of slow pace of development nearly 20% of the population is still living below the poverty line.

Population explosion:- Rapid growth of population, particularly among the poor, is responsible for the problem of poverty in the country.

High level of un-employment:- poverty is caused by unemployment or unemployment coupled with a low rates of wages. More than six decades economic planning has failed to generate adequate employment opportunities in the industrial & service sector & employment is stagnant sector. Employment & unemployment have resulted in low levels of income & a large share of population lies below the minimum subsistence levels.

Inequalities of income:- (an important cause of poverty in India is the existence of large inequalities in distribution of national income & concentration of economic power, both in rural & urban sectors of the economics) efforts to reduce inequalities have been ineffective. The benefits of growth have been appropriated by the rich section & have not reached the poorest of the poor. So the rich become richer as their income rise & assets expanded.

Social factors:- Joint family system, laws of inheritance, strong belief in destiny & fate are some social factors that have presented individuals from taking initiative & risk.

In short narrow & pessimist attitude is responsible for inertia, lack of imitative & dynamism. People believe that their present state is due to their destiny & it keeps the individual in a vicious circle of poverty.

Political factors:- Before Independence, India was exploited under the British rule. After Independence other political factors have adversely affected economic progress. Economic policies are formulated to promote the interest of the richer section of the society & poor people are suffers in the process.

Inflation:- The steep & continuous rise in price, particularly of essential commodities has added to the miseries of the poor.

High illiteracy rate:- lower education result in lower income as there is a positive correlation between the two.

Poor state of agriculture:- Labour & land productivity continue to be low in India. Consequently, most of the farmers live in a state of poverty.

Underutilization of resource:-Due to the un exploitation natural resources of the country, poverty spreads throughout the country.

19. How to remove poverty?

- **Acceleration of economic growth**:- the first & foremost measure needed to remove poverty is accelerating the rate of economic growth.
- **Reducing inequalities of income**:-if the high growth rate is accompanied with increased inequalities of income, then fruits of economic development will accrue only to rich section, whereas the poor will grow in numbers. Thus in equalities must be reduced if development is to benefit the poor.
- **Population control**:-High growth rate of population especially among the poor is one of the causes. So (in order to remove poverty, it is very essential that population growth rate be checked) poverty can be removed to a greater extent, if we intensify family planning campaign & reduce the increasing population among the poor.
- **Agricultural development**:- eradication of mass poverty in rural areas is possible only when due emphasis is given for agricultural development. so (there is a serious need to enhance the agriculture production & productivity) government should take steps to make provision for financial assistance to small & marginal farmers, high yielding varieties of seeds, irrigation facilities, fertilizers etc.
- **More employment opportunities**:-poverty can be eliminated by providing more employment opportunities. So that people are able to meet their basic needs.
- **Land reforms**:-by the imposition of ceilings on land holdings & their effective implementation a good amount of land can be acquired to be distributed among the landless laborer. On obtaining land, the landless laborers will be able to employ themselves & will produce subsistence for them.

Three Dimensional Approach to remove Poverty

Growth oriented approach:-this approach is based on an expectation that effects of economic growth (rapid increase in GDP & per capital income) would speed to all sections of the society & will trickle down to the poor section also) it was felt that rapid industrial development & transformation of agriculture through green revolution in selected regions & more backward sections of the community.

Poverty alleviation programmer:- This is the second approach has been initiated from the third five year plan & progressively enlarged since then(the government has introduced a variety of programmers for education of poverty)

Poverty alleviation programmers (PAP) in India:-

1. **Prime minister's Rozgar Yojana(PMRY)** :- This program aims at creating self-employment opportunities in rural areas & small towns. Under this program, educated unemployed from low-income families in rural & urban areas can get financial assistance in the form of bank loans, to set up any kind of enterprise that generates employment. It attempted to generate employment by setting up seven lakh micro-enterprises during the eighth plan [1992-97]. By 2003-04, 3 million people got employment under the scheme of PMRY.

2. **Swarna Jayanthi Shahri Rozgar Yojana (SJSRY):-** (Urban self-employment program & the urban wage employment programs are two special schemes of SJSRY, initiated in December 1997) which replaced various programmes operated earlier, for urban poverty alleviation. SJRY mainly aims at creating employment opportunities for both self-employment & wage-employment in urban areas.
3. **Swarna Jayanthi Gram Swarozgar Yojana (SGSY):-** SGSY is a self-employment program, launched with effect from April 1 199 as a result of restructuring & combining the earlier poverty eradication programmes like Integrated rural development programme (IRDP), development of women & children in rural areas (DWCRA), etc. It aims at promoting micro enterprises & to bring the assisted poor families (Swarozgaris) above the poverty line, by organizing them into Self-Help Groups (SHGs). Under this programme, people who wish to benefit from this scheme are encouraged to form self-help groups (SHG). Initially they are encouraged to save some money & land among themselves as small loans. Later, through banks, the govt. provides partial financial assistance to SHGs which then decide whom the loan is to be given for self-employment activities.
4. **Sampoorna Grameen Rozgar Yojana (SGRY):-** The scheme was launched with effect from September 2001. The schemes of Jawahar Gram Samridhi Yojana (JGSY) & employment assurance scheme (EAS) has been fully integrated with SGRY. The scheme aims at providing wage employment in rural areas & food security, along with the creation of durable community social & economic assets. The centre & the state on the cost sharing ratio of 87.5 : 12.5 [Including food grains components].
5. **National Rural Employment Guarantee Act 2005:-** The act was passed in 2005 & the scheme, i.e. National rural employment guarantee schemes or NREGS was launched in February 2006. The aim of the act is to provide guaranteed wages employment to every households. Under this programme, volunteer adults will be provided unskilled manual work for a minimum of 100 days in a year. Those cannot be employed employers under this scheme were given wages for those 100 days.
6. **Pradhan Mantri Gramodaya Yojana (PMGY):-** This programme was introduced in 2000-01, with the objective of focusing on village level development in five critical areas:-
 - i. Health
 - ii. Primary Education
 - iii. Drinking water
 - iv. Housing & rural roads
 - v. Improving quality of life of people in rural areas.

PMGY includes these projects:-

- a. Pradhan Mantri Gram Sadak (PMGSY)
 - b. Pradhan Mantri gramodaya yojna [Gramin awas]
 - c. Pradhan Mantri gramodaya yojna- Rural drinking water project.
7. **National Social Assistance Programme (NSAP):-** NSAP was introduced on 15th August 1995 for social assistance benefit to poor house hold affected by old age, death, primary bread earner & maternity care. The programme has three components
 - i. National old age pension scheme (NOAPS)
 - ii. National family benefits scheme (NFBS)
 - iii. National benefit scheme (NMBS).

Minimum Needs programmers:- The third approach is to provide minimum basic amenities to the people. India was among the pioneers that it would visualize that through public expenditures on social consumption needs. (Food grains at subsidized rates, education, health, water supply & sanitation) people's living standard could be improved. Programmers under this approach are expected to supplement the consumption of the poor. Create employments in health & education. 3 major programs that aims at improving the food & nutritional status of poor are:-

- i. Public distribution system
- ii. integrated child development scheme
- iii. midday meal scheme

Chapter 14: RURAL DEVELOPMENT

Learning Objectives

- Introduction
- Meaning of Rural Development
- Process of Rural Development
- Rural Credit
- Need for Rural Credit or Agricultural finance
 - On the basis of time
 - On the basis of purpose
- Sources of Rural Credit
 - Non Institutional Sources
 - Institutional Sources
- Critical Appraisal of Rural Banking
- Agricultural Market system
 - Measures to improve agricultural marketing
 - Defects of Agricultural marketing in India
 - Remedial measures for Improvement of Agricultural marketing
 - Emerging Alternate Marketing Channels
- Diversification of Agricultural activities
 - Diversification of Crop production
 - Diversification of productive of activities
- Sustainable Development and Organic Farming
 - Meaning of Organic Farming
 - Benefits of Organic Farming
 - Challenges before Organic farming
- Evaluation of Rural Development

1 Mark Question

1 Q) What do you mean by Rural Development?

Ans: Rural Development is a continuous comprehensive socio-economic process, attempting to improve all aspects of rural life.

2 Q) What is agricultural diversification essential for sustainable livelihood?

Ans: Agricultural diversification is essential for rural people to generate supplementary gainful employment and realizing higher level of income.

3 Q) What is cooperative marketing?

Ans: Cooperative marketing refers to a system in which marketing societies are formed by farmers to sell the output collectively and to take advantage of collective bargaining

4 Q) What do you mean by agricultural marketing?

Ans: Agricultural marketing is a process that involves the assembling, storage, processing, transportation, packaging, grading and distribution of different agricultural commodities across the country.

5 Q) What are the 2 aspects of diversification of activities?

Ans: Diversification includes 2 aspects

- i. Diversification of crop production
- ii. Diversification of productive activities (Shift of workplace from agricultural to other allied activities and non-agricultural sector)

6 Q) Classify rural credit on base of time

Ans: On the basis time, rural credit can be classified as: short-term credit, medium-term credit and long-term credit

7 Q) Which is the apex institution in rural financing?

Ans: National Bank for Agricultural and Rural Development (NABARD), established in 1982.

8 Q) Name three institutional sources of agricultural credit

Ans: 3 institutional sources of agricultural credit are:

- i. Cooperative Credit Societies
- ii. Commercial Banks
- iii. Regional Rural Banks

9 Q) What is distress Sale?

Ans: It refers to a sale in which farmers are forced to sell their surplus produce to the money lenders or traders at lower price.

10 Q) What is organic farming?

Ans: Organic farming is a production system that sustains the health of soils, ecosystem and people. It relies on ecological processes bio diversity and cycles adapted to a local conditions, rather than the use of inputs with adverse effects.

11 Q) What is Micro-finance?

Ans: Micro finance is a credit scheme extended to the poor through Self Help Groups (SGHs)

12 Q) Why have Self Help Groups (SGHs) been set up?

Ans: The Self-Help Groups (SGHs) have been set up to promote thrift in small proportions by a minimum contribution from each member. From the pooled money, credit is given to the needy numbers to be repayable in small installments at reasonable interest rates.

13 Q) What is meant by Operation flood?

Ans: Operation flood is a system, whereby all the farmers can pool their milk produce according to different grading and the same is processed and marketed to urban centers through cooperatives.

14 Q) Give any one limitation of Organic farming?

Ans: Yields from Organic farming are less than modern farming.

15 Q) Why is minimum support price (MSP) fixed by the government?

Ans: Minimum support price is fixed by the govt. to safe guard the interest of farmers.

16 Q) Why do people seek employment in non-farm sectors?

Ans: People seek employment in non-farm sectors as agriculture is already over-crowded and cannot offer additional employment.

17 Q) What is the share of total fish production in the total GDP in the year 2005-06?

Ans: 1.4 percent

18 Q) State one advantage of organic farming

Ans: Organic farming requires cheaper agricultural inputs

19 Q) Why is the period of 1991-2003 is known as period of Golden Revolution?

Ans: The period of 1991-2003 is known as Golden Revolution because during this period, the planned investment in horticulture became highly productive and the sector emerged as a sustainable livelihood option.

20 Q) What is the main function of co-operative marketing societies.

Ans: The main function is to improve agricultural marketing.

21 Q) What is Rural Development?

Ans: 1. Rural Development is a continuous and comprehensive Socio Economic process, attempting to improve all aspects of rural life.

2. It aims at improving the economic & Social Conditions of the people living in villages.

3. The rural development includes development in human resource, infrastructure and reforms, removal of poverty and development of productive resources to improve employment.

Rural Credit

1. Rural Credit means provision of loans specially in production for agriculture and non-agricultural sectors.

2. Credit facilities in the rural areas have contributed a large increase in agricultural productivity and employment facilities in non-agricultural sectors.

3. The loans have provided in rural areas to the farmers in order to purchase machineries agricultural implements etc.
4. The government had also provided long term loans which can be repaid in 15 to 20 years for improvement of the land, digging tubewells purchase of tractors etc.
5. There are some loans which are provided to farmers to celebrate religious ceremonies, marriages for settlements of old loans and to support the family in case of a crop failure. These loans are called as unproductive loans.

Sources of Rural Credit

Rural Credit availability can be broadly classified into 2 categories:

1. **Non-institution Sources:** - These are the traditional sources of agricultural credit in India. They include money lenders, relatives, traders, commission agents and land lords.
2. **Institutional Sources:** - They are cooperative credit, land development banks, commercial banks, regional rural banks, govt., national bank for agricultural and rural development (NABARD) and also self-help groups.

Agricultural Marketing System

Agricultural marketing is a process which involves assembling, storage, processing, transportation, packaging, grading and distribution of different agricultural commodities across the country.

Measures to Improve Agricultural Marketing

After Independent govt. has adopted various measures to improve of the system of agricultural marketing in the country.

It has brought about following measures in order to regulate the markets:-

1. **Regulated Markets:-** The first measure was regulation of markets, to create orderly and transparent marketing condition. This is organized in order to protect farmers from malpractices of sellers and brokers.
2. **Cooperative Marketing:-** Marketing societies are formed by farmers to sell the output collectively and to take advantages of collective bargaining, for obtaining a better price. Cooperatives are not functioning properly in a recent past due to inadequate coverage of farmer members and processing cooperatives and also inefficient management.
3. **Infrastructural facilities:-** Govt. had also provided infrastructural facilities like roads, railways, warehousing, cold storage and processing units.
4. **Standardization and Grading:-** Grading And quality control helps farmers to get good price for quality products produced by them.
5. **Minimum Support Price:-** To safeguard the Interest of the farmers government fixes the minimum support price for agricultural products like wheat, rice, maize, cotton, sugarcane, pulses etc. the government willingly will buy any amount of grains from the farmers at a price

higher than the market price in order to help them recover their loss. This is normally done by good cooperation of India & the Government in turn will supply these products in public distribution system against BPL & APL card.

Defects of Agricultural Market in India

The existing system of Agricultural marketing has no. of defects the following are some of the defects due to which the marketing system is not properly organized.

1. Lack of storage facility for food grain and crops has damaged the products either by rats or insects or due to rain.
2. Distress Sale: Most Indian farmers are poor and they have no capacity to wait for better price. They sell the commodities at whatever the price available immediately. As a result they go for distress sale of their output, to the village money lenders or traders for poor price.
3. Lack of transportation as a result farmer cannot reach nearly mandhis to sell their produce at a fair price.
4. Long chain of middleman or intermediaries between the cultivator and the consumer will also reduce the profit of the producer.
5. There are also other defects like lack of institutional finance, lack of guiding etc.. This makes Indian marketing system disorganized.

Remedial measures for improvement of agricultural marketing

Following are some of the measures to improve the system agricultural marketing in the country.

1. Extension of storage facilities at the farm level and storage and warehousing facilities in the markets and consumption centers.
2. Establishments of regulated markets.
3. Improvement of transport facilities between the village and the mandhis.
4. Establishment of cooperation marketing societies.
5. Provision of cheap credit, especially from institutional sources.
6. Provision for grading of the produce to ensure good quality to the consumers and better prices for the producers.
7. Prompt supply of marketing information.

Diversification of Agricultural Activity

1. This means the excess of people in agriculture can be given gainful employment in some other allied activities in agriculture and non-farm activities. This is done in order to overcome poverty, improve employment and make rural agricultural people fully employed.
2. Diversification includes 2 aspects.
 - a. **Diversification of crop production:-** This involves shift from single cropping system to multiple cropping system. This also involves shifting cropping pattern

from food grains to cash crops. The main aim is to promote shift from subsistence farming to commercial farming.

- b. **Diversification of Productive Activities:-** As agriculture is already overcrowded the major portion of the increasing labour force needs to find alternate employment opportunities in other non-farm sectors. This will provide alternate sustainable livelihood and would raise the level of income.

Some of the non-form activities are:-

Animal husbandry and dairy farming, fisheries, horticulture, agro processing industries, food processing industries, leather industry, tourism etc. these sectors which have the potential but they lack infrastructure and other financial support.

Q2. Explain the increasing role of IT Industries in the development of agriculture?

1. Information Technology has revolutionized many sectors in Indian economy. There is a broad agreement that IT will play a critical role in achieving sustainable development and food security in the 20th century.
2. Through proper information and software tools, govt has been able to predict areas of food insecurity and vulnerability to prevent or reduce the livelihood of an emergency.
3. It also has a positive impact on the agricultural sector as it circulates information regarding technologies and its application prices, weather and soil condition for growing different crops.
4. This has increased the knowledge about agriculture.
5. The aim for increasing the role of information technology is to make every village a knowledge Centre, where IT provides a sustainable option of employment and livelihood.

Sustainable Development

Meaning:- It is the development which aims to develop the present generation without affecting the quality of life of future generation.

Sustainable development does not prohibit the use of any resources, but aims to restrict their use in such a way it is left for the future generation.

Meaning of Organic Farming

1. Organic farming is the process of producing food naturally.
2. This method avoids the use of synthetic chemical fertilizers and genetically modified organisms.
3. It is very eco-friendly and very essential for sustainable development. It has a zero impact on environment.

Advantages of Organic Farming

1. It substitutes costlier agricultural inputs such as HYV seed, Chemical fertilizers, pesticides etc. locally produced organic inputs, which are cheaper and thereby generate good returns on Investments.
2. It generates income through export as the demand, for organically grown crops are on the raise.
3. It provides healthy food as organically grown food has more nutritional value than food grown through chemical farming.
4. It can provide more employment opportunities in India as it requires more labourers for production than chemically produced goods.
5. Organic food is a pesticide free and is produced in an environmentally sustainable way.

Disadvantages of Organic Farming

A Demerits or challenges before organic farming

1. Organic farming needs to be popularized by creating awareness and willingness on the part of the farmers for adoption of new methods.
2. There is no proper infrastructure and marketing facilities for these products alone. An appropriate agricultural policy should be brought in for organic farming.
3. The fields from organic farming are less than modern agricultural farming in the initial years. Therefore small and marginal farmers may find it difficult to adapt to large scale production.

Chapter 15: HUMAN CAPITAL FORMATION

Learning Objectives:

- Introduction
- Physical Capital & Human Capital
- Meaning of human capital formation
- Sources of human capital formation
- Importance/Role of human capital formation
- Reasons for poor human capital formation in India
- Human capital and Human Development
- Growth of Education sector in India
- Weaknesses of the Educational sector

1 MARKS QUESTIONS

- 1) What is meant by physical capital?
Ans: Physical capital refers to all those inputs which are required for further production, like plant and machinery, factory, buildings, raw materials, etc.
- 2) What are the two major sources of human capital in a country?
Ans: The two major sources of human capital are
 - 1) Investment in Education
 - 2) Investment in health
- 3) What are the various forms of health expenditure?
Ans: Preventive medicine, curative medicine, social medicine, provision of clean drinking water and good sanitation are the various forms of health expenditure.
- 4) Give the meaning of human capital.
Ans: Human capital refers to the stock of skill, ability, expertise, education and knowledge involved in the people.
- 5) Why do we observe regional differences in Educational attainment in India?
Ans: Regional differences in educational attainment in India can be due to regional inequality in incomes and expenditure of government on development of educational facilities.
- 6) Why has India not been able to achieve 100% literacy even till today?
Ans: India has not been able to achieve 100% literacy because of its failure to provide free & compulsory education for all children up to the age of 14 years.
- 7) What is meant by human capital formation?
Ans: Human Capital formation implies the development of abilities and skills among the population of the country.
- 8) Why do we need to invest in human capital?
Ans: We need to invest in human capital to make effective use of physical capital and to increase productive capacity of the country.
- 9) Mention two government organizations each, that regulate the health and education sectors.

Ans: Indian Council for Medical Research (ICMR) and National AIDS control Organization regulates health. National Council of Educational Research and Training (NCERT) and University Grants Commission (UGC)

10) Why there is a need to promote women's education in India.

Ans: Women's Education need to be promoted because:

- a) They can become economically independent
- b) Women education makes favorable impact on fertility rate & health care of women and children.

11) Why do people migrate?

Ans: people migrate from one place to another in search of jobs that fetch them higher salaries.

12) Why there is need for acquiring information relating to health & education expenditure from the effective utilization of human resources.

Ans: Such information helps in making decision regarding investments in human capital as well as for effective utilization of acquired human capital stock.

13) How is on-the-job training a source of human Capital formation?

Ans: It is a source of human capital formation as it increases the skill & efficiency of the workers & leads to an increase in production & productivity.

14) Why are workers required to work for a certain period after the on-the-job training?

Ans: Workers are required to work for a certain period after the on-the-job training so that firm can recover the benefits of the enhanced productivity owing to the training.

15) What do the differences in male & female literacy rates indicate?

Ans: The differences in male & female

HUMAN CAPITAL FORMATION

Comparison between 'Physical capital' and 'Human Capital'.

Physical Capital	Human Capital
a) Physical capital is tangible and can be easily sold in the market.	a) Human capital is intangible and cannot be sold in the market.
b) It depreciates with the passage of time.	b) Depreciation in human capital (due to again) can be reduced by making continuous investment in education & health.
c) It is more mobile between countries	c) Human capital is less mobile between countries as compared to physical capital.
d) Physical capital (like machinery) separated from its owners.	d) Human capital (like skills of a person) cannot be separated from the own.
e) Physical capital is the outcome of the conscious decision of the owner and is mainly an economic and technical process.	e) Formation of human capital is partly a social process by partly a conscious decision of the possessor of the human capital.
f) It can be fault through inspects.	f) Human capital formation is to be done through conscious policy formulations.

Meaning of Human Capital formation: Human capital formation means the development of abilities and skills among the population of the country.

Sources of Human Capital Formation:

- 1) **Expenditure on education:** (It is one of the most important sources of human capital formation) proper utility of man power depends on the system of education, training and industrial experience of the people. Spending on education by individuals is similar to spending on capital goods by companies with the objective of increasing future profits once a period of time. This increase the income of the people and their standard of living. Investment in education is not only highly productive but also it yields increasing return and accelerates economic growth of all the resources education receives most importance because it gives maximum contribution to the development of the country.
- 2) **Expenditure on Health:** Health is an important input for a development of a nation. Expenditure on health is needed in the following areas.
 - a. A preventive medicine known as vaccination curative medicines, i.e., medical intervention during the time of illness is very important.
 - b. Provision of clean drinking water and good sanitation is very important for improvement of health. Health expenditure directly increases the physical capacity of human being and it raises the supply of healthy labor force.
 - c. On the job training: productivity of physical capital is substantially increased with the improvement in human capital. Due to this reason many firms provide on the job training to their workers. Such training has the advantage that it can be provided fast and without much cost. It increases the skill and efficiency of the workers and leads to an increase in production by productivity. Expenditure regarding on the job training is the source of human capital formation because it increase labor productivity than its cost.
 - d. Expenditure on migration: - people migrate to one place to another that gives them higher salaries. Unemployment people from rural migrate to urban areas technically qualified people migrate to other countries for higher salaries. Though it results in cost of migration and higher cost of living due to migration in migrated place it enhances earning that their cost of migration. Hence it is a source of human capital formation.
 - e. Expenditure on Information:- Expenditure is incurred to acquire information relating to labour market and other market. It involves amount spent on seeking information about educational institutions, education standard their educational needs and cost of education. This information is necessary to make decisions regarding investment in human capital as well as for efficient utilization of the acquired human capital stock.

Importance of Human capital formation

1. Human Capital formation is very important for the growth of an economy.
 - (i) Effective use of physical capital: Its growth and productivity depends on human capital formation.
 - (ii) Human capital formation raises the productivity and production as knowledgeable and skilled worker makes the better (use of the resources). Increase in productivity and quality production depends on technical skill of the people which can be acquired only by education or training and maintaining health of the people.
2. Inventions, innovations and technological improvement are all due to the extra knowledge acquired during education which provides lot of innovations and inventions.
3. The knowledgeable, skilled and physically fit people help in the human capital formation.
4. Increases life expectancy: Formation of human capital raises life expectancy of the people. Health facilities and availability of nutritive food enable people to live a healthy and long life. This in turn, adds to the quality of life.
5. Improves Quality of life: The quality of population depends upon the level of education health of a person and skill formation acquired by the people. Human capital formation not only makes people productive and creative but also transforms the lives of the people.
6. Control of population growth: It has been observed that educated persons have smaller families as compared to illiterate families, So, spread of education is necessary to control the population growth rate.

Reasons for poor Human Capital formations are:

- 1) **Insufficient Resources:-** The resources allocated to the formation of human capital have been much less than the resources required for meeting the educational & health needs of the country. Due to this reason, the facilities for the formation of human capital have remained grossly inadequate.
- 2) **Serious Inefficiencies:** There are a lot of wastages of society's resources as capabilities of educated people are either not made use of (in case of unemployment or are underutilized in case of unemployment). Massive literacy, non-education of many children, poor health facilities are other inefficiencies, which have not been attended to adequately & properly.
- 3) **High Growth of population:** The continuous rise in population has adversely affected the quality of human capital.
- 4) **Lack of proper manpower planning:** There is an imbalance between the demands for the supply of human resources of various categories, especially in case of highly skilled personnel. The absence of such balancing has resulted in the wastage of resources.

Human Capital & Human Development

S.No	Human Capital	Human Development
1.	Human Capital consider education & health as a means to increase labour productivity	Human Development is based on the Idea that education & health are integral to human well being
2.	In Human capital, investment in education and health is considered to be unproductive, if it does not increase output of goods & services	In case of human development, investments in education and health is taken to be productive, even if it does not leads to higher output
3.	Human capital treats human beings as a means to an end; the end being the increase in productivity	In the human development perspective, human welfare should be increased through investment in education & health as every individual & health as every individual has a right to be literate & lead a healthy life

Growth of Education Sector in India

There has been considered growth in the field of Education. The number of schools increased from 230.7 thousands (1950-51) to 1,215.8 thousands (2005-06). The no. of teachers in the same period increased from 751 thousand to 6010 thousands & no of students from 23,800 thousands to 2, 22,700 thousands.

Gross Environment Ratio

Gross Enrollment Ratio (GER) is the total enrolment of pupil in grade or cycle or level of education, regardless of age, expressed as percentage of the corresponding eligible official age group population in a given school year. GER in elementary education increased steadily from 82% in 1950-51 to 94.85% in 2005-06.

Literacy Rate

The literacy rate has increased from 18.33% to in 1951 to 64.84% in 2001

Elementary Education in India

Elementary Education in India means eight years of schooling from the age of six i.e., primary & middle school education together, is called Elementary Education. Elementary Education, therefore is the foundation on which the development of every citizens and the nation as a whole hinges. The government has made elementary education compulsory and free. But, the goal of universal elementary education in India has been very difficult to achieve till now.

In December 2002, the government of India made free and compulsory education, a fundamental right of all children in the age group of 6-14 years.

Primary Education Schemes

Government has made number of schemes to make “Education for all”

The following are the few schemes

Sarva Shiksha Abhiyan (SSA)

It was launched in 2001 to universalize & improve the quality of Elementary Education in India through community ownership of Elementary Education. The SSA is being implemented in partnership with states to address the needs of children in age group of 6-14 years. The achievements under SSA up to September 30, 2007, include constructions of 7, 13,179 additional classrooms, 1, 72,381 drinking water facilities, construction of 2, 18,075 toilets. Supply of free textbooks of 6.64 crore children & appointment of 8.10 lakh teacher’s besides opening of 1, 86,985 (till 31.3.07) new schools.

National Programme for Education of Girls at Elementary Education (NPEGEL):

The programme is aimed at enhancing girl’s education by providing additional support for development of a model girl child friendly school. In every cluster with more intense community mobilization and supervision of girls enrolment in schools. Under NPEGEL, 35,252 models schools have been opened. In addition to supporting 25,537 Early Childhood Care & Education (ECCE) centers. Besides, 24,837 additional classrooms have been constructed and 18.75 lakh teachers have been given training on gender sensitization.

Kasturba Gandhi Balika Vidyalaya (KGBV)

The Kasturba Gandhi Balika Vidyalaya (KGBV) scheme was launched in July 2004 for setting up residential schools at upper primary level, for girls belonging predominantly to the SC, ST, OBC & minority community. The scheme ran as separate scheme for two years but was merged with Sarva Siksha Abhiyan w.e.f April 1, 2007.

Secondary Education

Secondary Education, which starts with classes IX and X leads to senior secondary classes XI and XII aims to in cooperate basic skills & analytical abilities. It provides a stepping stone to higher professional and technical education.

Higher Education

The Higher Education System comprises both general and technical education. The higher education has undergone a manifold expansion since Independence. The no. of universities in the country has increased from 27 in 1950-51 to 350 in 2005-06

University Grants Commission (UGC) takes measures for promotion and coordination of university education and determination and maintenance of standards in teaching, examination and research in universities and allocation and disbursement of grants to them.

Technical Education

Technical Education plays a vital role in human resources development of the country by creating skilled manpower, enhancing Industrial productivity and improving the quality of life. Since independence, there has been a phenomenal expansion of Technical Education Sector in the country. With 43 diploma level polytechnic at the time of independence, the no. increased to 1,231 in 2000-01. Similarly, the no. of degree level engineering institutions rose from 38 in 1947 to 1265 in 2001-02. All India Council for Technical Education (AICTE) is the apex body in the field of Technical Education.

Weakness of the Education Sector

1. **High Illiteracy:** According to 2001 census, the literacy rate of 64.8 percent is still far off the 100 percent mark.
2. **Gender Bias:** Education in India is gender biased. The enrolment of girls in both primary and upper primary classes is much below the boys.
3. **Low Quality Education:** The quality of the education is fairly low.
4. **Lack of Vocational and Technical Training:** Too much emphasis on general education neglecting the Vocational and Technical Education.
5. **Low Level of Government Expenditure:** Actual level of expenditure is only 3.46% compared to the desired level of 6%

Chapter 16: Employment growth, Information and Other issues

Learning Objectives:-

1. Introduction
2. Basic Concepts
 - a. Meaning of worker
 - b. Labour force and work force
 - c. Meaning of employment
 - d. Wage employment
 - e. Regular workers(Regular Salaried employees)
 - f. Casual Workers
3. Participation of people in employment
 - a. Worker-population ratio on the basis of region
 - b. Distribution of employment by gender
 - c. Distributions of employment by region
 - d. Distributions of employment in different sectors
 - e. Distributions of rural-urban employment in different sectors
4. Growth of employment and Gross Domestic Product(GDP)
5. Changing structure of employment
 - a. Casualization of work force.
6. Informalisation of Indian workforce
 - a. Formal or Organized sector.
 - b. Informal or unorganized sector.

Worker: A worker is an individual who is involved in some productive activities to earn a living.

Who and all included in workers?

It is not only people those who are paid workers also includes self-employed people like shopkeepers, barbers, cobblers etc.. Workers include all those people who are engaged in work whether for others (paid workers or self-employed)

Difference between labour force and work force?

Labour Force: All persons, who are working (who have a job) and though not working, are seeking and are available for work, are said to be in the labour force.

1 Mark Questions:-

Q 1) Who is worker?

A 1) A worker is an individual, who is involved in some productive activity, to earn a living.

Q 2) Why do people work?

A 2) People work for earning a living which helps them and their families to survive.

Q 3) Who all are included in labour force?

A 3) All persons, who are working (have job) and though not working, are seeking and are available for work, are deemed to be in the labour force.

Q 4) Give the meaning of work force.

A 4) The number of persons, who are actually employed at a particular time are known as work force.

Q 5) Define worker – population ratio.

A 5) Worker- population ratio is the percentage of total population engaged in work.

Q 6) what is meant by labour force participation rate?

A 6) The ratio of labour force to total participation is called labour force participation rate.

Q 7) What is information of workforce?

A 7) Informalisation of workforce refers to a situation whereby the proportion of workforce in the informal sector to total workforce increases.

Q 8) Are the following workers- a beggar, a thief, a smuggler, a gambler? Why?

A 8) No, They are not workers because they are not doing any productive activity.

Q 9) Compared to urban women, more rural women are found working. Why?

A 9) More rural women are found working because of their poor economic condition as compared to urban women.

Q 10) Why does rural work force migrate to urban areas during some part of the year?

A 10) people in rural areas are engaged mostly in agriculture, which is a seasonal activity. So, rural workforce migrates to urban areas during some part of the year.

Q 11) why are regular salaried employees more in urban areas than in rural areas?

A 11) Regular salaried employees are more in urban areas as considerable section of urban people are able to study in various educational institution and it enables them to look for an appropriate job to suit their qualifications and skills. However, in rural areas, most of the people are illiterate and lack skills, which are needed for regular Employment.

Q 12) What is meant by Employment?

A 12) Employment is an activity which enables a person to earn means of living.

Q 13) Who is a Casual Wage Labourer?

A 13) Workers who are not hired by their Employers on a regular or permanent basis (i.e. do not have job security) and do not get social security benefits, are termed as casual wage labour.

Q 14) Define jobless growth?

A 14) Jobless growth refers to a situation when the Economy is able to produce more goods and service without a proportionate increase in Employment opportunities.

Q 15) Who are regular workers?

A 15) Workers who are hired by their employers on a permanent basis and also get social security benefits (like pension, provident fund, etc.) are higher in regular workers.

Q 16) Why is the Self – Employed work force higher in rural areas?

A 16) In case of rural areas, Self Employed Workers are greater as majority of rural people are engaged in farming on their own plots of land.

Q 17) What is meant by Casualisation of work force?

A 17) The process of moving from Self- Employment and regular salaried employment to casual wage work is known as Casualisation of Workforce.

Q 18) Name the two kinds of urban unemployment.

A 18) 1. Industrial unemployment
2. Educated unemployment.

19) What do you mean by industrial unemployment?

A 19) It refers to the unemployment among the illiterates who wish to work in industrial establishment

Q 20) Give the meaning of educated unemployment.

A 20) Educated unemployment refers to the unemployment among the Educated people.

Q 21) What is meant by wage employment?

A 21) An arrangement in which a worker sells his labour and earns wages in return.

Q 22) Men are found in greater proportion than women in regular salaried employment. Why?

A 22) Rural unemployment is of two types:-

1. Disguised unemployment
2. Seasonal unemployment

Q 23) What is meant by seasonal unemployment?

A 23) Unemployment that occurs at certain seasons of the year is known as Seasonal unemployment.

Q 24) Give the meaning of disguised unemployment.

A 24) Disguised unemployment refers to a state in which more people are engaged in work than are really needed.

Q 25) What do you mean by full employment?

A 25) Full employment refers to a situation in which all the workers who are capable of working and willing to work get an Employment in prevailing wage rates.

Q 26) Why do we differentiate between Economic activity and production activity?

A 26) We differentiate between Economic activity and production activity to calculate the number of workers. People engaged only in production Economic activities are to be included in the category of workers.

Q 27) Give the meaning of self-employment.

A 27) An arrangement in which a worker used his own resources, to make a living is known as self-employment.

Q 28) What do you mean by formal sector establishment?

A 28) All the public enterprises and private establishments, which employ 10 or more hired workers are called formal sector establishments.

Q 29) What do you mean by Informal sector Establishment?

A 29) All those private enterprises which hire less than 10 workers are called Informal sectors. Eg: Workers who work in farms, owners of Small Enterprises, Agriculture labourers. Here they do not get regular income. No protection or regulation by government can be dismissed at any time. Live in slums, use outdated technology, do not maintain accounts.

Q 30) What is meant by frictional unemployment?

A 30) Temporary unemployment, which exists during the period, wherein. Workers leave one role and join some other, are called frictional unemployment.

People those who are not working and are neither seeking nor available for work are considered to be outside the labour force.

Labour force = Person's working + Persons seeking & available for work.

After 66 years & below 15 years not included labour force. A handicapped person not included. People those who are not interested not included. People are not available not included.

Work forces: The number persons who are actually employed at a particular time are known as work force.

- What is the labour force participation rate?

The ratio of labour force to total population is called labour force participation rate.

- How can we calculate number of unemployed people?

Unemployed people = labour force – Work force.

Meaning of Employment

Employment is an activity which enables a person to earn his means of living.

Full employment

Full employment is a situation in which all the workers who are capable of working and willing to work get an employment at a prevailing wage rate.

Self-employment

When the worker uses his own resources to work and make a living then we call it as Self Employment.

Q.31) What is worker population ratio? How do we calculate Worker population ratio? What is its use?

Ans: WPR refers to participation of people in the employment. It is measured by calculating

$$\text{WPR} = \frac{\text{Total number of workers in India}}{\text{No. of work population In India}} \times 100$$

It helps in knowing the proportion of population that is actively contributing to the production of goods and services of a country.

Chapter 17: Inflation: Problem and Policies

Meaning: Inflation refers to a situation of increase in the general price level over a period of time. It is a part of business cycles.

Indicators of Inflation

There are three standard indicators of inflation:

1. Wholesale Price Index (WPI)
2. Consumer Price Index (CPI)
3. Gross Domestic Product (GDP) Deflator

Causes of Inflation

1. Increase in Money Supply
2. Deficit Financing
3. Rise in Population
4. Fall in Production
5. Increase in Wages
6. Administrated Prices
7. Inflation Across the Border's
8. Indirect Tax
9. Credit Expansion
10. Black Money

Effect of Inflation or Problems related to inflation

1. Inflation Hinders the process of growth
2. Adverse effect on the people with fixed Income
3. Increase in the cost of Projects
4. Adverse Impact on Balance of Payments
5. Wage-Price spiral
6. Inequality
7. Economic Stagnation
8. Impact on FDI
9. Speculation and Hoarding

Government Policies to check Inflation

Price Policy

1. Price Control of Essential Goods.
2. Procurement Price and Support Price

Monetary Policy

1. A Check on the supply of Money
2. Increase in rate of Interest

3. Decrease in the supply of Credit

Fiscal Policy

1. A check on public Expenditure
2. Public Debt
3. Increase in Taxes
4. Surplus Budget Policy

Some General Suggestions to Control Inflation

1. Check on Supply of Money
2. Check on Deficit Financing
3. Increase in agricultural Output
4. Tax on Agricultural Income
5. Distribution through fair Price Shops
6. Check on Hoarding

Chapter 18: Infrastructure

Learning objectives

1. Meaning of infrastructure
2. Economic infrastructure
3. Social infrastructure
4. Importance of infrastructure
5. Energy-sources of energy.
6. Challenges of power generation in India.
7. Health-its importance.
8. Development of health services after Independence.
9. Emerging challenges of health services in India.

Q1. What is infrastructure?

Ans. It refers to such core elements of economic & social change which serve as a support system to production activity in the economy.

Q2. What is economic infrastructure?

Ans. It refers to all such elements of economic change like- power, transport, communication etc. which serve as a support system to the process of economic growth.
It fosters economic growth which results in increase in the standards of living of the people.

Q3. What is social infrastructure?

Ans. It refers to core elements of social change like- schools, colleges, hospitals, banking etc. which serve as a support system to the process of social development of a country.
social infrastructure focuses on human resource development, implying the development of skilled personal as well as healthy & efficient human beings.
It accelerate the process of human development.

Q4. Mention the importance of infrastructure in economic development.

- i. Infrastructure enhances productivity
- ii. Infrastructure induces investment.
- iii. Infrastructure generates linkages in production.
- iv. Infrastructure enhances size of the market
- v. Infrastructure enhances ability to work.
- vi. Infrastructure facilitates out sourcing.
- vii. Infrastructure induces FDI.
- viii.

Q5. What is energy? Mention the sources of energy.

Ans. Energy is the life line of entire production activity. Infact any type of production activity cannot take place without energy.

There are mainly two sources of energy:-

- i. Conventional sources of energy:- these are those energy which are known to us & which are popularly in use since a very long time.
For eg. Coal, petroleum, natural gas & electricity.
- ii. Non-conventional sources of energy:- these are those energy which have been discovered or explored in the recent past & which are yet to gain popularity for their use.

For eg. Solar energy, wind energy, bio-mass etc.

Q6. Mention the emerging challenges of power generation in India.

Ans.

- inadequate generation of electricity
- Less capacity utilization
- Losses of electricity boards.

Q7. Mention the measures undertaken to meet the challenges of power Generation in India.

Ans. i. Increase in production capacity.

ii. Improvement in plant load factor.

iii. Minimization of transmission & distribution losses.

iii. Improve the supply of inputs to power plants

iv. Participation of private sector & encouragement to FDI in power generation.

Q8. What is health? Mention the development of health services in india after independence.

Ans. It is a state of complete physical, mental & social well-being. A persons ability to work depends largely on his good health. It enhances the quality of life.

Development of Health services in India after Independence:-

- i. Decline in death rate from 27.4 per thousand in 1951 to 7.4 per thousand in 2006-07.
- ii. Reduction in Infant mortality rate from 146 per thousand in 1951 to 55 per thousand in 2007.
- iii. Rise in expectancy of life from 50 years in 1951 to 63.5 years in 2006-07.
- iv. Deadly diseases like malaria, TB, cholera & small pox have been brought under control.
- v. Reduction in child mortality rate from 57 per thousand in 1951 to 17 per thousand in 2006.

Q9. Mention the emerging challenges of health services in India.

Ans:

- Unequal distribution of health services.
- Control of communicable diseases.
- Poor management of health care.
- Privatization of health care services.
- Poor upkeep & maintenance.
- Poor sanitation level.

Chapter 19: Environment and Sustainable Economic Development

Learning Objectives

- Introduction
 - Meaning of Environment
 - Functions of the Environment
 - Reasons for Environmental Crisis
- Pollution
 - Air Pollution
 - Water Pollution
 - Noise Pollution
- Global Warming and Ozone depletion
 - Global warming
 - Ozone depletion
- Environmental Degradation
 - Degradation of forest or Deforestation
 - Land Degradation
 - Causes of Environment Degradation
 - Measures to Control Environmental Degradation
- Sustainable development
 - Strategies for Sustainable Development

1 Mark Questions

Q 1) What is meant by Environment?

A) Environment is defined as the total planetary inheritance and the totality of all resources.

Q 2) What does Environment Includes?

A 2) Environment includes all the biotic and abiotic factors that influence each other.

Q 3) What do you mean by biotic elements?

A 3) All living elements like birds, animals and plants, forests, fisheries etc. are biotic elements.

Q 4) Give the meaning of Renewable Resources?

A) These are those resources which can be used without the possibility of being exhausted, such as trees, fishes etc.

Q 5) What do you mean by non-renewable resources?

A 5) These are those resources which get exhausted with extraction and use such as coal, gas etc.

Q 6) What is included under abiotic elements?

A 6) It includes non-living elements like air, water, land etc.

Q 7) What happens when the rate of resource extraction exceeds that of their re-generation?

A 7) When the rate of resources extraction exceeds that of their re-generation then environment fails to perform its vital function of life substance and it lead to the situation of Environmental Crisis.

Q 8) What do you mean by the Carrying capacity of environment?

A 8) Carrying capacity of the environment implies that the resources extraction is not above the rate of regeneration of the resources and the wastes generated are within the assimilating capacity of the environment.

Q 9) How the opportunity cost negative Environmental impact are high?

A 9) Increased financial commitments of the Government due to Global warming and Ozone depletion and rise in expenditure on health due to decline in air and water quality shows that opportunity cost of the negative environment impact on high.

Q 10) What do you mean by Pollution?

A 10) Pollution is the Introduction of contaminates into an environment, that causes instability, disorder, harm or discomfort to the ecosystem.

Q 11) What is Global warming?

A 11) Global warming is the observed and projected increase in the average temperature of earth's atmosphere and oceans.

Q 12) What has caused Global Warming?

A 12) The Global warming is due to increase in the Green-house gas concentrations, like water vapour, carbon-dioxide, methane and ozone in the atmosphere.

Q 13) Give the meaning of air pollution.

A 13) Air pollution is the presence of materials in air such concentration, which are harmful to man and his environment.

Q 14) Mention any 1 measure to control air pollution in vehicles.

A 14) Promotion of cleaner fuels, like use of CNG instead of petrol or diesel.

Q 15) What is Sustainable development?

A 15) It is the development, which will allow all future generations to have a potential average quality of life, that is at least as high, which is being enjoyed by the current generation.

Q 16) What is meant by Bio diversity?

A 16) Bio diversity is defined as the variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystem and the ecological complexes of which they are a part.

Q 17) What do you mean by ozone depletion?

A 17) It refers to destruction of ozone in the ozone layer, due to presence of chlorine from manmade chlorofluorocarbons and other forces.

Q 18) What has lead to depletion of ozone layer?

A 18) The problem of ozone depletion is cost by high levels of chlorine and bromine compounds in the stratosphere.

Q 19) Why have some resources become extinct?

A 19) Some resources have become extinct because their extinction has been above the rate of regeneration.

Q 20) How has the supply – demand relationship lead to degradation of environment?

A 20) The demand for resources has gone beyond the rate of regeneration (supply). It has increased the pressure on the absorption capacity of the environment and such several of the supply – demand relationship has lead to degradation of the environment.

Q 21) What has lead to the Air pollution in urban areas?

A 21) Increasing number of motor vehicles and concentration of industries in urban areas and has lead to air pollution in urban areas.

Q 22) State the 2 major environmental issues that the world is facing today?

A 22) (i) Depletion of natural resources (ii) Environmental degradation

Functions of Environment

1. It provides resources for production:- Resources such as renewable and non- renewable are supplied by the environment.
2. Environment assimilates wastes.
3. It sustains life by providing essential elements like sun, soil, air, water etc.
4. It provides aesthetic services: - It includes land, forest, water bodies, rainfall, mountain etc. , with this people enjoy the beauty of hill station and to improve the quality of life.

Carrying Capacity

Carrying capacity means 2 things.

1. Resources extraction should remain below the rate of resource generations.
2. Generation of wastes should remain within the absorption capacity of the environment.

If these two conditions are not fulfilled, then environment fails to perform its vital functions of life sustenance and it leads to the situations of environmental crises.

Reason for Environmental Crises

- Population explosion and Industrial revolution has increased the demand for environmental resources, but their supply is limited due to misuse and overuse.
- The intensive and extensive extraction of both renewable and non-renewable resources has exhausted some of the vital resources.
- Extinction of many resources and continuous rising population has also resulted in environmental crisis.
- Due to affluent consumption and production standard of developed world, the waste generated is beyond the absorptive capacity of the environment.
- The development process has polluted environment, water and atmosphere and there is decline in air and water quality. It has resulted in increased incidence of respiratory and water borne diseases.

- The expenditure on health is also rising. Global environmental issues such as global warming. Ozone depletion also contributes to the increased financial commitments of government.

Pollution

Pollution is the introduction of contaminants into an Environment that causes instability, disorder, harm and or discomfort in the ecosystem.

Pollution is substances, chemicals or factors which cause adverse effect on natural quality of any constituent of environment.

6 Marks Questions

Strategies for Sustainable development

The following strategies should be adhered to, for sustainable development.

1. **Use of Non-conventional source of Energy** – India is mostly dependent on thermal and hydropower plants which have adverse environmental impact. Non-conventional sources like wind and solar says are cleaner and greener technologies, which can be effectively used to replace thermal and hydropower.
2. **Use of Cleaner fuels** – Use of Compressed Natural Gas (CNG) is being promoted to be used as fuel. In Delhi, the use of CNG as fuel in public transport system has lowered air pollution and the air has become cleaner. The use of LPG and Gobar Gas is being promoted which reduces air pollution.
3. **Establishment of Mini-Hydel plants** – Mountain regions and streams are used to generate electricity through mini Hydel plants. These are environment friendly.
4. **Traditional Knowledge and Practices** – Traditionally all practices relating to agriculture system, health care system, housing, transport etc. used to be environment friendly. The shift from the traditional system has caused large scale damage to the environment as our social heritage.
5. **Use of Bio-Compost** – The use of chemical fertilizers to increase the Agricultural production has not only adversely affected the large areas of productive land but also contaminate the water bodies. Increases in demand for organic food demand for dung are in increased use which is an important fertilizer and soil conditioner.
6. **Control of Bio pest**
7. **Change in unsustainable patterns of consumption and production** – India has taken large number of steps for sustainable development.

Chapter 20: Development Experience Of India Pakistan And China- A Comparative Study

Learning Objectives:

INTRODUCTION : *China *Pakistan

COMPARITIVE STUDY: INDIA, CHINA AND PAKISTAN

- Demographic Indicators
- Growth Indicators
- Human development Indicators.
- Appraisal of Development Strategies (China and Pakistan)

Q1. Compare between India, China,& Pakistan in terms of GDP growthrate.

Ans: After the Independence in 1947, India & Pakistan adopted planned development programmes which relied on public sector to spearhead the process of growth and development.

- China adopted more rigorous model of growth in 1949 and it decided to bring all critical areas of production activity under government control.
- The great leap forward (GLF) campaign was launched in 1958, focusing on widespread Industrialization of the Economy. People were encouraged to launch household Industry in the country yards.
- China adopted Commune system of agricultural production which was a system of collective cultivation.
- Great Proletarian Cultural revolution launched in 1965 and making it mandatory for the students and professionals to go to the country side to work and learn from the countryside.
- Chinas Export driven manufacturing is the key parameter of its success story in economic growth.
- Till about 1980, the economies of India, china, & Pakistan did not show much divergence in the GDP growth rate and it was around 4% annually.
- It was around early 1980s in China, mid 80's in Pakistan, 90's in India that the breakthrough in GDP Growth rate was recorded.
- In 2005, India & Pakistan both recorded GDP growth of 6 to 8 percent, where as china recorded GDP growth of about 10% per annum.

2. Compare the structure of growth between India, China, and Pakistan.

Sector	% Share in GDP			% share in employment		
	India	Pakistan	China	India	Pakistan	China
Primary	23	23	15	60	49	54
Secondary	26	23	53	16	18	27
Tertiary	51	54	32	24	33	19

China has succeeded in placing greater reliance on Industrial sector compared to India & Pakistan. It is due to (i) GLF , a campaign launched in China in 1958 focusing on widespread Industrialization of the Country .

(ii) Policy of reforms and opening up launched in 1978 which gave big push to china's manufacturing exports.

Q4. What is the important implication of the one child norm in China?

Ans : One child norm in China has successfully reduced the growth rate of population .

- After few decades in china there will be more elderly people in proportion to young people.
- This will force China to take steps to provide social security measures with fewer workers.

Q5. Compare the Demographic profile of India, China, and Pakistan.

Ans: One child policy in china adopted since 1979 has reduced the growth rate of population from 1.33 percent in 1979 to 0.64% in 2005.

(i) Growth rate of Population

Country	Growth rate of Population
China	0.64
India	1.33
Pakistan	2.5

Fertility rate is also very low in china as Compared to India & Pakistan.

ii) Low Density of Population

Country	Person per square kilometer
China	138
India	358
Pakistan	193

iii) Urbanization

Country	% of Population
China	36%
India	28%
Pakistan	34%

iv) Sex ratio

Country	Female per 1000 male
China	937
India	933
Pakistan	922

Q6. Compare between the parameter of Human development.

Ans. Human development

i) HDI Ranking

Country	Ranking in the world
China	81
India	128
Pakistan	136

ii) INFANT MORTALITY RATE

Country	Per thousand
China	30
India	63
Pakistan	81

iii) Maternal Mortality Rate

Country	Per Lack
China	56

India	540
Pakistan	500

iv) **Improved Sanitation**

Country	Of Population
China	44%
India	30%
Pakistan	54%

v) **Safe Drinking Water facility**

Country	Of Population
China	77%
India	86%
China	77%

vi) **Below Poverty Line**

Country	Of Population
China	16.6%
India	21.8%
Pakistan	13.4%

Q7. Mention the common success story of India & Pakistan.

- Ans;**
- i) A substantial rise in GDP per capita.
 - ii) Self-sufficiency in food production.
 - iii) Dualistic nature of the economy is gradually declining.
 - iv) Considerable increase in the incidence of poverty.

Q8. Mention the common failures of India and Pakistan.

- Ans.**
- 1) Relatively slow pace of GDP growth rate as Compared to China.
 - 2) Poor performance in HDI ranking.
 - 3) Poor fiscal management.
 - 4) Lack of political interest for social prosperity.

Q 9. Mention the areas where India has an edge over Pakistan.

- Ans.**
- i) Skilled manpower
 - ii) Investment in Education.
 - iii) Health facilities.

Q10. Mention the areas where Pakistan has an edge over India.

- Ans:**
- 1) Urbanization
 - 2) Less percentage of population below poverty line.
 - 3) More percentage of population having access to improved water sources.

Q11. Mention the areas where China has an edge over India.

- Ans.**
- 1) China has successfully focused on Pro-poor reforms.
 - 2) Agrarian reforms have been effectively carried out.
 - 3) Export driven manufacturing has significantly grown, adding to the pace of GDP growth.
 - 4) SEZ policy has proved to be a boon for FDI flow in India.