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Rationale

Economics is one of the social sciences, which has great influence on every human being. As economic life and the economy go through changes, the need to ground education in children’s own experience becomes essential. While doing so, it is imperative to provide them opportunities to acquire analytical skills to observe and understand the economic realities.

At senior secondary stage, the learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage, the learners are exposed to the rigour of the discipline of economics in a systematic way.

The economics courses are introduced in such a way that in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day life and also from issues, which are broader and invisible in nature. The academic skills that they learn in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

Objectives:

- Understanding of some basic economic concepts and development of economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.

- Realisation of learners’ role in nation building and sensitivity to the economic issues that the nation is facing today.

- Equipment with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond senior secondary stage.

- Development of understanding that there can be more than one view on any economic issue and necessary skills to argue logically with reasoning.

### ECONOMICS
**CLASS - XI (2015-16)**

**Paper 1**

<table>
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<tr>
<th>Units</th>
<th>Marks</th>
<th>Periods</th>
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</thead>
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<tr>
<td>Part A</td>
<td></td>
<td></td>
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<td>Statistics for Economics</td>
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<td>13</td>
<td>7</td>
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<td>2. Collection, Organisation and Presentation of Data</td>
<td>27</td>
<td>66</td>
</tr>
<tr>
<td>3. Statistical Tools and Interpretation</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

3 Hours
90 Marks
Part B  Indian Economic Development

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</thead>
<tbody>
<tr>
<td>5. Current Challenges facing Indian Economy</td>
<td>15</td>
<td>60</td>
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<td>6. Development Experience of India - A Comparison with Neighbours (OTBA)</td>
<td>10</td>
<td>14</td>
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<tr>
<td>Theory Paper (40+50 = 90 Marks)</td>
<td>50</td>
<td>108</td>
</tr>
</tbody>
</table>

Part C  Project Work

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<th></th>
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</thead>
<tbody>
<tr>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: The question paper will include a Section on Open Text Based Assessment (OTBA) of 10 marks from unit-6 of Part-B. From this unit, no other questions will be asked in the theory examination. The OTBA will be asked only during the annual examination to be held in the March 2016. The open text material on the identified unit will be supplied to students in advance. The OTBA is designed to test the analytical and higher order thinking skills of students.

Part A: Statistics for Economics

In this course, the learners are expected to acquire skills in collection, organisation and presentation of quantitative and qualitative information pertaining to various simple economic aspects systematically. It also intends to provide some basic statistical tools to analyse, and interpret any economic information and draw appropriate inferences. In this process, the learners are also expected to understand the behaviour of various economic data.

Unit 1: Introduction 07 Periods
What is Economics?
Meaning, scope and importance of statistics in Economics

Unit 2: Collection, Organisation and Presentation of data 27 Periods
Collection of data - sources of data - primary and secondary; how basic data is collected, with concepts of Sampling; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation.
Organisation of Data: Meaning and types of variables; Frequency Distribution.
Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data: (i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and ogive) and (iii) Arithmetic line graphs (time series graph).

Unit 3: Statistical Tools and Interpretation 66 Periods
(For all the numerical problems and solutions, the appropriate economic interpretation may be attempted. This means, the students need to solve the problems and provide interpretation for the results derived.)
Measures of Central Tendency - mean (simple and weighted), median and mode
Measures of Dispersion - absolute dispersion (range, quartile deviation, mean deviation and standard deviation); relative dispersion (co-efficient of range, co-efficient of quartile-deviation,
co-efficient of mean deviation, co-efficient of variation); Lorenz Curve: Meaning, construction and its application.

**Correlation** - meaning, scatter diagram; Measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation.

**Introduction to Index Numbers** - meaning, types - wholesale price index, consumer price index and index of industrial production, uses of index numbers; Inflation and index numbers.

**Part B: Indian Economic Development**

**Unit 4: Development Experience (1947-90) and Economic Reforms since 1991:** 18 Periods

A brief introduction of the state of Indian economy on the eve of independence. Common goals of Five Year Plans.

Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy, etc.), industry (industrial licensing, etc.) and foreign trade.

**Economic Reforms since 1991:** 16 Periods

Need and main features - liberalisation, globalisation and privatisation;

An appraisal of LPG policies

**Unit 5: Current challenges facing Indian Economy** 60 Periods

**Poverty** - absolute and relative; Main programmes for poverty alleviation: A critical assessment;

**Rural development:** Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming

**Human Capital Formation:** How people become resource; Role of human capital in economic development; Growth of Education Sector in India

**Employment:** Formal and informal, growth and other issues: Problems and policies.

**Inflation:** Problems and Policies

**Infrastructure:** Meaning and Types: Case Studies: Energy and Health: Problems and Policies- A critical assessment;

**Sustainable Economic Development:** Meaning, Effects of Economic Development on Resources and Environment, including global warming.

**Unit 6: Development Experience of India: (OTBA)** 14 Periods

A comparison with neighbours

India and Pakistan

India and China

Issues: growth, population, sectoral development and other developmental indicators.
Part C: Developing Projects in Economics 12 Periods

The students may be encouraged to develop projects, as per the suggested project guidelines. Case studies of a few organisations / outlets may also be encouraged. Under this the students will do only one comprehensive project using concepts from both part A and part B.

Some of the examples of the projects are as follows (they are not mandatory but suggestive):

(i) A report on demographic structure of your neighborhood.
(ii) Changing consumer awareness amongst households.
(iii) Dissemination of price information for growers and its impact on consumers.
(iv) Study of a cooperative institution: milk cooperatives, marketing cooperatives, etc.
(v) Case studies on public private partnership, outsourcing and outward Foreign Direct Investment.
(vi) Global warming.
(vii) Designing eco-friendly projects applicable in school such as paper and water recycle.

The idea behind introducing this unit is to enable the students to develop the ways and means by which a project can be developed using the skills learned in the course. This includes all the steps involved in designing a project starting from choosing a title, exploring the information relating to the title, collection of primary and secondary data, analysing the data, presentation of the project and using various statistical tools and their interpretation and conclusion.
**Suggested Question Paper Design**  
**Economics (Code No. 030)**  
**Class XI (2015-16)**  
**March 2016 Examination**

**Theory: 90 marks + Project: 10 Marks**  
**Duration: 3 hrs.**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Typology of Questions</th>
<th>Very Short Answer/ MCQ</th>
<th>Short Answer I 3 Marks</th>
<th>Short Answer II 4 Marks</th>
<th>Long Answer 6 Marks</th>
<th>OTBA 5 Marks</th>
<th>Marks</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Remembering- (Knowledge based Simple recall questions, to know meaning of specific facts, terms, concepts, principles, or theories; Identify information)</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>22</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Understanding- (Comprehension to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>High Order Thinking Skills- (Analysis &amp; Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>Evaluation- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)</td>
<td>0</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

**Total**  
5x1=5  9x3=27  3x4=12  6x6=36  2x5=10  Theory 90+10 project=100 marks  100

**Note:** The question paper will include a Section on Open Text Based Assessment (OTBA) of 10 marks from unit-6 of Part-B. From this unit, no other questions will be asked in the theory examination. The OTBA will be asked only during the annual examination to be held in the March 2016. The open text material on the identified unit will be supplied to students in advance. The OTBA is designed to test the analytical and higher order thinking skills of students.

There will be **Internal Choice** in questions of 3 marks, 4 marks and 6 marks in both sections (A and B). (Total 3 internal choices in section A and total 3 internal choices in section B).
Chapter 1: INTRODUCTION

IMPORTANT CONCEPTS:

1. Meaning of Statistics in plural sense – It is a collection of numerical facts.
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.
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.
MCQ/1 mark conceptual questions

1. Statistics in singular sense is
   (a.) Collection of data  (b.) Organization of data
   (c.) Presentation of data  (d.) All the Above

2. The term ‘Statistics’ was first used by
   (a.) Gottfried Achenwall  (b.) Paul A. Samuelson
   (c.) Lord Robbins  (d.) J.B. Say

Answers:
1. (d)  2. (a)

Conceptual Questions:

1. What is Economic Activity?

   Ans. An Economic activity means that activity which is related to the use of scarce resources for the satisfaction of unlimited human wants.

3/4 marks questions (FAQ)/VALUE BASED

1. Statistics prove that there is oil shortage in India. What values do you suggest to people to meet the growing demand for oil?

   Ans.
   ➔ There should be **optimum use** of oil, as it is scarce.
   ➔ We should **make people aware** of shortage of oil and encourage them to use public transport system, car pools etc.
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.

<table>
<thead>
<tr>
<th><strong>Census Method</strong></th>
<th><strong>Sampling Method</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Every unit of population studied</td>
<td>Few units of population are studied</td>
</tr>
<tr>
<td>2) Reliable and accurate results</td>
<td>Less Reliable and accurate results</td>
</tr>
</tbody>
</table>
9. Personal Interview Method:

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Highest response rate</td>
<td>Most expensive</td>
</tr>
<tr>
<td>2) Allows all types of questions</td>
<td>Informants can be influenced</td>
</tr>
<tr>
<td>3) Allows clearing doubts regarding questions</td>
<td>Takes more time</td>
</tr>
</tbody>
</table>

Mailed Questionnaire Method:

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Least expensive</td>
<td>Long response time</td>
</tr>
<tr>
<td>2) Only method to reach remote areas</td>
<td>Cannot be used by illiterates.</td>
</tr>
<tr>
<td>3) Informants can be influenced</td>
<td>Doubts cannot be cleared regarding questions</td>
</tr>
</tbody>
</table>

Telephonic Interview Method:

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Relatively low cost</td>
<td>Limited use</td>
</tr>
<tr>
<td>2) Relatively high response rate</td>
<td>Reactions cannot be watched</td>
</tr>
<tr>
<td>3) Less influence on informants</td>
<td>Respondents can be influenced</td>
</tr>
</tbody>
</table>

- 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.

**MCQ/1 mark conceptual questions**

1. _________ data are collected by the investigator himself.
   
   (a.) Secondary (b.) Primary (c.) both (a.) and (b.) above (d.) none of the above

2. A questionnaire is _________
   
   (a.) a list of answers (b.) Doubtful Conclusions
   
   (b.) inaccuracy (d.) all the above

3. This method involves study of each and every item of the universe
   
   (a.) Sample (b.) Census (c.) Random sampling

4. Under which method, chits are taken out to from a sample?
   
   (a.) Lottery method (b.)Tippet’s method (c.) Sample method
Answers

1. (b) 2. (c) 3. (b) 4. (c)

3/4 marks questions (FAQ)/VALUE BASED

1. A manager of a factory needs to study socio-economic condition of workers of the factory. The trade union leader of the factory has already conducted a similar study.

What values do you suggest to the manager of this factory to consider if he depends on the data collected by the trade union leader?

Ans. I suggest, the manager should consider that
- The trade union leader is honest, experienced and unbiased.
- Respect to workers’ views, truth, honesty etc. was maintained by the trade union leader.
- A class teacher had to select two representatives from the class for the school cabinet.

2. She followed lottery method to select two students from her class. In your opinion, has the teacher done justice to the selection process?

Ans. The method adopted by the class teacher gives equal chance to all the students of her class which is a fair method opted by her. If all the students bear same characteristics, then this would be the right method in my opinion, but if some students bear certain important characteristics which cannot be ignored and by using lottery method, students with specific characteristics might have been left out. Then in such a case, the teacher should adopt some other method like deliberate or stratified sampling.

HOTS questions

1. Give a specimen questionnaire designed by a production unit which produces goods for children.

Ans. Liliput limited, Madras.

2. What care should be taken to select method of data collection?

Ans. To conduct an investigation, the following points should be kept in mind:
(i) The size of population
(ii) The objective of the inquiry
(iii) The cost to be involved
(iv) The nature of inquiry
(v) The extent of accuracy required
(vi) The extent of reliability required
3. **What care should be taken to select method of data collection?**

**Ans.** To conduct an investigation, the following points should be kept in mind:

(vii) The size of population
(viii) The objective of the inquiry
(ix) The cost to be involved
(x) The nature of inquiry
(xi) The extent of accuracy required
(xii) The extent of reliability required
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

   Statistical Series
   → Individual Series
     → Raw data
   → Frequency Series
     → Discrete Series
       → Inclusive series
     → Continuous series
       → Exclusive series

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 internal 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.,

<table>
<thead>
<tr>
<th>Marks</th>
<th>0-10</th>
<th>10-20</th>
<th>20-30</th>
<th>30-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Marks</th>
<th>0-9</th>
<th>10-19</th>
<th>20-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Marks</th>
<th>Below 20</th>
<th>20-30</th>
<th>30-40</th>
<th>40-50</th>
<th>50 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>7</td>
<td>6</td>
<td>12</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

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.
MCQ/1 mark conceptual questions

1. There are ________ types of statistical series
   (a.) 8    (b.) 5    (c.) 3    (d.) 6

2. Frequency is the number of _________, an observation repeats in the Series.
   (a.) years    (b.) weeks    (c.) days    (d.) times

Answers:
   1. (c) 2. (d)

3/4 marks questions (FAQ)/VALUE BASED

1. There are two investigators who conduct surveys and analyse the data. One of them organizes data and the other one uses the raw data. Both of them are excellent in their work. Which out of the two methods gives more efficiency?

Ans. Through organization of data is concise and comprehensive, yet it does not present the details which are available in the raw data. Some information is lost while classifying and organizing the data. If both of them are excellent in their work (as given in the question) the nature of data used by them must be such that they both can do justice to their work.

HOTS questions

1. What are the important requisites of a good classification?

   Ans. Classification of data will be effective only if it possesses the following essentials:
   (i) It should be unambiguous i.e., it should be clearly understood.
   (ii) It should be flexible or elastic.
   (iii) It should be free from fluctuations.
   (iv) It should be clearly defined.
   (v) Qualitative classification of data should be expressed in such a way that all attributes are clearly mentioned.
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]

<table>
<thead>
<tr>
<th>Stub entries</th>
<th>Sub-head</th>
<th>Caption</th>
<th>Total [Rows]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Column Head</td>
<td>Column Head</td>
<td>Column Head</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BODY</td>
<td></td>
</tr>
</tbody>
</table>

Source Note:  
Foot Note:  

Page | 18
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 tables – 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.

MCQ/1 mark conceptual questions

1. Tabulation is, arranging data in ____________.
   (a.) Rows and Graphs (b.) rows and columns
   (c.) rows and diagrams (d.) diagrams and graphs

2. Caption is the title given to :
   (a.) column (b.) Rows (c.) head note (d.) stubs

Answers:
1. (b) 2. (a)

Conceptual Questions:

1. What are the main parts of a table?
   Ans. (i.) Table Number (ii) Title of the table
   (iii) Head Note (iv) Captions
   (v) Stubs (vi) Body or field of the table
   (vii) Footnote (viii) Source

3/4 marks questions (FAQ)/VALUE BASED

1. Which features should be the basis to exhibit data through tabular presentation on rural poverty?
   Ans. Since poverty in rural areas is due to their illiteracy, unemployment levels etc., the table which is more suitable to present the data would be the qualitative table which will classify the number of poor on the basis of various features such as literacy, illiteracy, educated, uneducated, access to education etc.
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.

MCQ/1 mark conceptual questions

1. Bar diagram is a
   (a.) Two dimensional diagram (b.) One dimensional diagram
   (c.) Three dimensional diagram (d.) None of the above

2. The diagram which represents information in a circle is
   (a.) Bar Diagram (b.) Pie diagram
   (c.) Multiple diagrams (d.) Sub-divided bar diagram
3. What will be the degree measure of an angle in the pie diagram if a household spends 80% of his income on a good?

(a.) 180  (b.) 288  (c.) 90  (d.) 72

**Answers:**
1. (b)  2. (b)  3. (b)

**Conceptual Questions:**
1. Define diagrammatic presentation of data
   **Ans.** It is a geometric technique of presenting statistical data through bar diagrams and pie diagrams.

2. Define multiple bar diagram
   **Ans.** It is the one which shows more than one set of data simultaneously.

3. Define Pie Chart.
   **Ans.** It is the form of presenting data in the percentage distribution of components of the data in a circle.

**3/4 marks questions (FAQ)/VALUE BASED**

1. **Government intends to spread awareness regarding harmful effects of global warming and ozone depletion on environment. Which technique of presentation would be more appropriate to exhibit the data? Which values from this presentation would be realized?**
   **Ans.** Diagrammatic presentation is more appropriate because it is more informative and easily understood. It will be able to realize the following values:
   - Global awareness
   - Need for sustainable development.
   - Need for Environment protection

**HOTS questions**

1. **If diagrams are easy and simple to understand, how are they different from tables?**
   **Ans.** Following points highlight the difference between tabulation and diagrammatic presentation of data:
   (i) Tables leave no long lasting impact on mind of the reader whereas diagrams do have this feature.
   (ii) Diagrams are more attractive than tables.
(iii) Diagrams have limited use than tables as tables have the capacity to give more detailed information than diagram.

(vi) Diagrams represent only approximation whereas tables do give precise information about the data.

To summarize, both the methods have their own merits and limitations. Statistician can adopt any method depending upon purpose and objective of this study. Tabulated data can be presented through diagrams which enables quicker comprehension of the facts.

**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.
MCQ/1 mark conceptual questions

1. Histogram represents ________ series.
   (a.) Individual series   (b.) Discrete series
   (c.) Continuous series   (d.) None of the above

2. Frequency polygon is obtained by joining ________.
   (a.) Mid points of tops of rectangles
   (b.) Two end points
   (c.) End Points of first class interval
   (d.) End points of last class interval

3. Ogive represents __________ on a graph.
   (a.) Individual frequencies   (b.) Cumulative frequencies
   (c.) Frequency polygon       (d.) Frequency curve

4. Less than ogive can be used to calculate __________.
   (a.) Range                 (b.) Arithmetic mean
   (c.) Mode                  (d.) Median

5. What is taken on X-axis while using time series graphs?
   (a.) Income                (b.) Exports
   (c.) Imports               (d.) Time

Answers:
1. (c)  2. (a)  3. (b)  4. (d)  5. (d)

3/4 marks questions (FAQ)/VALUE BASED

1. Just as a graph made by a company reflects its tendency of change in its profits, our behavior reflects on our thinking and personality. Comment.

Ans. Values are the mirror of inner self. Our behavior reflects the values inculcated in such as, discipline, respect, duty, concern for others, good manners etc.
HOTS questions

1. Differentiate between Bar diagram and Histogram.
   Ans

<table>
<thead>
<tr>
<th></th>
<th><strong>Bar Diagram</strong></th>
<th><strong>Histogram</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>It is one-dimensional in nature as it considers only the bar while presenting information.</td>
<td>It is two-dimensional in nature as it considers both length and the width of the bar while presenting the information.</td>
</tr>
<tr>
<td>2.</td>
<td>While preparing bar diagrams, there is spacing between two bars.</td>
<td>While preparing histograms the rectangles or bars are adjacent to each other without any spacing.</td>
</tr>
<tr>
<td>3.</td>
<td>These can be drawn both for discrete and continuous series.</td>
<td>These can be drawn only for continuous series.</td>
</tr>
</tbody>
</table>
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**:

<table>
<thead>
<tr>
<th>Direct Method</th>
<th>Individual Series</th>
<th>Continuous Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>X = ( \frac{\sum X}{N} )</td>
<td>X = ( \frac{\sum fx}{\sum f} )</td>
<td></td>
</tr>
<tr>
<td>Assumed Mean Method</td>
<td>X = A + ( \frac{\sum X}{N} )</td>
<td>X = A + ( \frac{\sum fd}{\sum f} )</td>
</tr>
<tr>
<td>Step Deviation Method</td>
<td>X = A + ( \frac{\sum dX}{N} ) i</td>
<td>X = A + ( \frac{\sum fdx}{\sum f} ) i</td>
</tr>
</tbody>
</table>
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.
   \[
   X_W = \frac{\sum W X}{\sum W}
   \]
   Where
   - \(X_W\) = 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
   \[
   M = \text{Size of } \left(\frac{N+1}{2}\right) \text{th item}
   \]

   Continuous series
   \[
   \text{Median Item} = \text{size of } \left(\frac{N}{2}\right) \text{th item. } M = L_1 + \frac{N/2 - c.f}{f} \times i
   \]

   **Merits**
   1. Easy to understand and easy to compute.
   2. Not underlay 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 of further algebraic treatment.
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  
\[ Z = L_1 + f_1 - f_0 \times i \]
\[ 2f_1 - f_0 - f_2 \]
OR  
\[ Z = L_1 + \left( \frac{D_1}{D_1 + D_2} \right) \times i \]

**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.

12. **Relationship between Mean Median and Mode**  
i. In case of symmetrical distribution  
Mean = Median = Mode

ii. In case of asymmetrical distribution  
Mode = 3 Median − 2 Mean
MCQ/1 mark conceptual questions

1. The single value which represents the entire universe is called
   (a.) Central tendency (b.) Range
   (c.) Index Number (d.) Histogram

2. In calculation of _____, all items are given equal importance.
   (a.) Simple arithmetic means (b.) Weighted arithmetic mean
   (c.) Median (d.) Mode

3. To calculate arithmetic mean by direct method in individual series, we use ___________ formula.
   (a.) $\Sigma X / N$ (b.) $\Sigma f X / N$
   (c.) $\Sigma fm / N$ (d.) $A + \Sigma fd / N$

4. Total of given variables is given by ________.
   (a.) $\Sigma f X$ (b.)$\Sigma X / N$ (c.) $\Sigma fd$ (d.) $\Sigma fm$

5. Which average is the most suitable in the case of calculating average Intelligence of students in a class?
   (a.) Mode (b.) Mean
   (c.) Median (d.) Median and Mode

6. Which average is affected by extreme values?
   (a.) Mean (b.) Mode
   (c.) Median (d.) None of the above

7. The values which has the greatest frequency in a series is called
   (a.) Quartile (b.) Median (c.) Mode (d.) Mean

8. The value which divides a series into 4 equal parts
   (a.) Median (b.) Quartile
   (c.) Decile (d.) Percentile
9. The following values can be located through graph:
   (a.) Mode  (b.) Mean
   (c.) Weighted mean  (d.) Combined mean

   **Answers:**
   1. (a)  2. (a)  3. (a)  4. (b)  5. (c)  6. (a)  7. (c)  8. (b)  9. (a)

   **Conceptual Questions:**
   1. Give the meaning of central tendency.
   **Ans.** It is the single value which represents the characteristics of the entire Universe.

   2. Define arithmetic mean.
   **Ans.** It is defined as the sum of the values of all observations divided by the number of observations.

   3. Name three most commonly used averages
   **Ans.** These are: Arithmetic mean, median and mode.

   4. Name two positional measures of central tendency.
   **Ans.** (a) Median (b) Mode

   5. Define median.
   **Ans.** It is the values which divides a series into more than two equal parts. The partition values are: quartiles, deciles and percentiles.

   6. Define quartiles, deciles and percentiles.
   **Ans.** Quartiles. These divide the series into 4 equal parts. There are three quartiles; Q1, Q2 and Q3. Q2 are same as median.

   Deciles. These divide the series into 10 equal parts. There are 9 deciles; D1, D2 and D9. D5 are same as median.

   Percentiles. These divide the series into 100 equal parts. There are 99 percentiles; P1, P2 and P99. P50 are same as median.

   7. Define mode.
   **Ans.** Mode is defined as that value which occurs most frequently in the distribution.

   8. What is the relationship between Mean, median and mode?
   **Ans.** Mode = 3Median – 2Median
3/4 marks questions (FAQ)/VALUE BASED

1. Two companies using arithmetic mean give their average profits as Rs. 3 Lakh for the same year. A statistical expert intends to rate their performance. Which qualitative values will help him in his task?

Ans. Though statistically correct, only qualitative data may not be sufficient to rate a company’s performance. Qualitative aspects such as honesty, cleverness, enterprising nature, business ethics etc. cannot be measured quantitatively using arithmetic mean. Hence he should also consider the above qualitative aspects as well as to rate the performance.

2. Following table give distribution of income in a factory:

<table>
<thead>
<tr>
<th>Income (Rs.)</th>
<th>0-1000</th>
<th>1000-2000</th>
<th>2000-3000</th>
<th>3000-4000</th>
<th>4000-5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of workers</td>
<td>10</td>
<td>20</td>
<td>45</td>
<td>22</td>
<td>3</td>
</tr>
</tbody>
</table>

Which average do you suggest to study the data given on income distribution? Which values does the average exhibit?

Ans. In such cases, where income distribution is unequal, middle value or median is the most trusted average. Median is the most representative figure as half the income earners must be earning at least the median income. Values which are exhibited by median are exhibited by median are justice, study of qualitative aspects like equality, inclusiveness etc.

HOTS questions

1. How is arithmetic mean calculated in specific cases?

Ans. Other than regular class – intervals (continuous series), there are specific cases in which arithmetic mean is calculated as discussed under:

1. When mid values are given. There is no need to convert the mid-values in continuous series. We will calculate arithmetic mean as usual.

2. When inclusive class intervals are given. We may/may not convert inclusive series into exclusive series, to calculate mean.(However it is advisable to convert into exclusive series, to be in practice).

3. When Cumulative series are given. When values of the variables are given in „Less than“ or „More than“ types, we need to convert these into a simple frequency series.
4. When unequal class-intervals are given. In such cases, arithmetic mean is calculated in the usual manner after finding mid-values of each class-interval.

5. When open-end class intervals are given. Mean can be calculated after finding missing class limits which are assumed after studying the pattern of class intervals.

2. What is the meaning of term “Central tendency”? How is it useful?

Ans. It is a value around which values of a variable concentrate. It is the value which is capable to represent the series. Central tendency is very useful in statistical analysis because:

1. It represents the entire group.
2. It can be used to facilitate statistical analysis.
3. It helps in comparing one set of data with another set of data.
4. It helps in decision making and formulating plans in various areas of business activities, economic planning etc.

Q-3 “Mode is the most commonly used measure” why?

Ans. Mode has practical utility. It is very useful to traders as it helps them in decision making regarding modal wage, size etc. When we need to use average income, average wages, average size of shoes, average per capita expenditure, we refer to most frequently used item i.e. mode. Now a days, modal output, imports, exports etc. are determined by mode. Mode is also used to forecast rainfall, temperature etc. That is why we say that mode is the most commonly used measure.
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

\[ \text{Range} = \text{L} - \text{S} \]

\[ \frac{\text{L} - \text{S}}{\text{L} + \text{S}} \]

Coefficient of Range = \[ \frac{\text{L} - \text{S}}{\text{L} + \text{S}} \]
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 = $Q_3 - Q_1$
Quartile Deviation $Q.D = \frac{Q_3 - Q_1}{2}$
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
$M.D = \frac{\sum |D|}{N}$

Discrete/Continuous Series
$M.D = \frac{\sum f|D|}{\Sigma f} = \overline{M.D}$

Coefficient of $M.D = \overline{X}$ or $\overline{Median}$

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 ± signs in deviations.
2. It is difficult to compute when deviations come in fractions. **Standard Deviation:** \( \sigma \)

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** = \( \sigma \)

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

**Variance** = \( \sigma^2 \)

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

**Computation of \( \sigma \)**

**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. \( \sigma = \sqrt{\frac{\sum f|d|^2}{\sum f} - \left(\frac{\sum fd}{\sum f}\right)^2} \)  
   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.

**MCQ/1 mark conceptual questions**

1. Variance is square of:
   (b.) Mean deviation
   (b.) Standard deviation
   (c.) Mode
   (d.) All the above

2. Inter-Quartile range is the difference between
   (a.) Median and Mode
   (b.) Mean and Mode
   (c.) Upper quartile and lower quartile
   (d.) None of the above

3. Graphic method to find dispersion is
   (a.) Mode
   (b.) Median
   (c.) Ogive
   (d.) Lorenze Curve

**Answers:**

1. (b) 2. (c) 3. (d)

**Conceptual Questions:**

1. What is dispersion? Why it is measured?

**Ans.** Dispersion measures the extent to which different items tend to disperse away from an average (measure of central tendency). The basic objective related to the measurement of dispersion is to know the variation between the actual values of the items and an average value of the items of a series.

2. Differentiate between absolute measures of dispersion and relative measures of dispersion.

**Ans.** Absolute measures of dispersion are measured in terms of the original units of a series whereas relative measures of dispersion are measured as a ratio or percentage of the average.
3/4 marks questions (FAQ)/VALUE BASED

1. A batsman is to be selected for a cricket team. The choice is between X And Y on the basis of their five previous scores, which are as follows:

<table>
<thead>
<tr>
<th></th>
<th>25</th>
<th>85</th>
<th>40</th>
<th>80</th>
<th>120</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>50</td>
<td>70</td>
<td>65</td>
<td>45</td>
<td>80</td>
</tr>
</tbody>
</table>

Which batsman should be selected if we want: (a) a higher run scorer (b) a more reliable batsman? Which value makes him reliable?

**Ans.** (Students can refer illustration 38 of chapter 11)

a. Batsman X is a higher run scorer as his average score is more that of Y.

b. Batsman Y is more reliable as his performance shows less variation. He is reliable because he is more consistent or focused.

**HOTS questions**

1. **Mention Characteristics of mean deviation**

   **Ans.** We should note the following characteristics of the mean deviation:

   (i.) It is rigidly defined.

   (ii.) It depends on the values of the variable.

   (iii.) It is based on absolute deviations from a central value

   (iv.) It is easy to understand.

   (v.) It involves harder calculations than the range and quartile deviation.

   (vi.) It is amenable to algebraic treatment.

   (vii.) The units of measurement of the mean deviation are the same as those of the variable (X).

2. **Mention characteristics of standard deviation**

   **Ans.** The characteristics of standard deviation are:

   (i.) It is rigidly defined

   (ii.) It is based on all observations of the series.

   (iii.) It is capable of further algebraic treatment.

   (iv.) It has sampling stability

   (v.) It gives more weightage to extreme values.
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 Correlation – 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 his between ±0.7 & 0.999

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

c) Low: r < ±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

\[ r = \frac{\sum xy}{N \sigma_x \sigma_y} \]

Where \( X = X - X, Y = Y - Y \)
\( N \) = number of observations
\( \sigma_X \) = Standard deviation of series \( X \)
\( \sigma_Y \) = Standard deviation of series \( Y \)

OR

Actual Mean Method

\[ R = \frac{\sum xy}{\sqrt{\sum x^2 \times \sum y^2}} \]

Where \( x = X - X, y = Y - Y \)

Assumed Mean Method

\[ r = \frac{\sum dx dy - \left( \frac{\sum dx \times \sum dy}{N} \right)}{\sqrt{\sum dx^2 - \left( \frac{\sum dx^2}{N} \right)} \sqrt{\sum dy^2 - \left( \frac{\sum dy^2}{N} \right)}} \]

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:

\[ r_s = 1 - \frac{6\sum D^2}{N(N^2 - 1)} \]

\( r_s \) = Spearman’s rank correlation
\( \sum D^2 \) = Sum of squares of difference of ranks
\( N \) = Number of observation
In case of repeated ranks:

\[ r_s = 1 - \frac{6\Sigma D^2 + \frac{1}{12} (m^3 - m) + \frac{1}{12} (m^3 - m)}{N^3 - N} \]

\( M = \) 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.

**MCQ/1 mark conceptual questions**

1. When we study correlation between only two variables, it is called:
   (c.) Partial (b.) Simple (c.) Multiple (d.) Double

2. The degree of perfect positive correlation is
   (a.) Zero (b.) +1 (c.) -1 (d.) 0 to 1

3. The range of simple correlation coefficient is
   (a.) 0 to infinity (b.) 0 to minus one
   (c.) Minus one to plus one (d.) Plus one to infinity
Answers:

1. (b) 2. (b) 3. (c)

Conceptual Questions:

1. What is correlation?
   
   Ans. Correlation analysis studies the relation between two variables.

2. Name the methods used to measure Correlation, also define them briefly

   Ans. There are three methods:

   (i.) Scatter diagrams: Scatter diagrams give a visual presentation of the nature of relationship between two variables.
   
   (ii.) Karl Pearson’s coefficient of correlation ($r$): It measures numerically only linear relationship between two variables. Coefficient of correlation ($r$) lies between -1 and +1.
   
   (iii.) Spearman’s rank correlation coefficient: When the variable cannot be measured precisely, this method can be used to measure the linear relationship numerically by assigning ranks to the values of the variables.

3/4 marks questions (FAQ)/VALUE BASED

1. An economist finds negative relation between price of petrol and its demand. Which value from such study is brought to front, which will guide the economy to find solution?

   Ans. If this study of correlation shows inverse relation between price and demand of petrol, it will reveal to the economist the connection by which the disturbance (-ve relation) happen and may guide him the path through which stabilizing forces may become effective so that the corrective measures can be taken.
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**
   a. They are expressed in percentages.
   b. They are special types of averages.
   c. They measure the effect of change over a period of time.

3. **Problems in construction of Index Numbers**
   a. Defining the purpose of index numbers
   b. Selection of items
   c. Selection of base period
   d. Selection of prices
   e. Selection of weights
   f. Choice of an average
   g. Choice of the formulae

4. **Price index are of two types**
   a. Simple Index Number
   b. Weighted price Index numbers

5. **Construction of simple Index Numbers**:–
   There are two methods
   a. Simple aggregate Method
      \[
      P_{01} = \frac{\sum P_1}{\sum P_0} \times 100
      \]
   b. 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:–
   a. Weighted Aggregate method:– In this method commodities are assigned weights on the basis of quantities purchased.
      \[
      P_{01} = \frac{\sum P_1 Q_0}{\sum P_0 Q_0} \quad \text{(Base year quantities as weight)}
      \]
   b. Weighted Average of Price Relative Method:–
      Under this method commodities are assigned weight or the basis of base”’s year value (W= P_0 Q_0) or fixed weights (W) are used.
      \[
      P_{01} = \frac{\sum RW}{\sum W}
      \]
      \[
      \text{Where } R = \frac{P_1 \times 100}{P_0}
      \]
\[ W = \text{value in the base year} \ (P_0 \ Q_0) \text{ or fixed weights} \]

7. **Types of Index Numbers**

\[ \]

- **Consumer Price Index (CPI)**
  - **Aggregate Expenditure Method**
    \[ P_{01} = \frac{\sum P_1 Q_0}{\sum P_0 Q_0} \times 100 \]
  - **Family Budget Method**
    \[ P_{01} = \frac{\sum RW}{\sum W} \]
    
    Where \( R = \frac{P_1 \times 100}{P_0} \)

8. **Uses of Consumer Price Index (CPI)**
   a. It is used in calculating purchasing power of money
   b. It is used for grant of Dearness Allowance.
   c. It is used by government for framing wage policy, price policy etc.
   d. CPI is used as price deflator of income
   e. CPI is used as indicator of price movements in retail market.

9. **Wholesale Price Index (WPI)**:
   a. It measures the relative change in the price of commodities traded in wholesale market.
   b. It indicates the change in the general price level.
   c. It does not include services

9. **Uses of WPI**
   a. Basis of Dearness Allowance
   b. Indicator of changes in economy
   c. 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
    a. Mining
    b. Quarrying
c. Manufacturing  
d. Electricity etc.,  
Formula IIP = \[ \frac{\sum (q_1 / q_0) \cdot W}{\sum W} \]

W = relative importance of different output. \( q_0 \) = Base year quantity. \( q_1 \) = Current Year Quantity.

11. Uses of Index Numbers.

a. Helps us to measure changes in price level  
b. Help us to know changes in cost of living  
c. Help government in adjustment of salaries and allowances  
d. Useful to Business Community  
e. Information to Politicians  
f. 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.

List of formulae and Abbreviations used in the Construction of Index Numbers:

List of Formulae

1.) Unweighted Index Numbers

a. Simple aggregative method
\[ P_{01} = \frac{\Sigma p_1}{\Sigma p_0} \times 100 \]

b. Simple average of Price Relatives Method
\[ P_{01} = \frac{\Sigma p_1}{100} / N \]

2.) Weighted Index Numbers

a. Weighted aggregative method
   i. Laspeyre’s Method \( p01 = \frac{\Sigma p_1 q_0}{\Sigma p_0 q_0} \times 100 \)
   ii. Paasche’s Method \( p01 = \frac{\Sigma p_1 q_1}{\Sigma p_0 q_1} \times 100 \)
   iii. Laspeyre’s Method \( p01 = \sqrt{\left(\frac{\Sigma p_1 q_0}{\Sigma p_0 q_0}\right) \times \left(\frac{\Sigma p_1 q_1}{\Sigma p_0 q_1}\right)} \times 100 \)

b. Weighted Average of Price Relatives Method
\[ p01 = \frac{\Sigma RW}{\Sigma W} \text{ Where } R = \frac{p_1}{p_0} \times 100 \]
3.) Consumer Price Index (CPI)  
   a. Aggregate Expenditure Method  
      \[ CPI = \left( \frac{\sum p_1 q_0}{\sum p_0 q_0} \right) \times 100 \]  
   b. Family Budget Method  
      \[ CPI = p_01 = \left( \frac{\sum RW}{\sum W} \right) \text{ Where } R = p_1/p_0 \times 100 \text{ and } W = p_0 q_0 \]  
4.) Index of Industrial Production  
   \[ \text{IIP}_01(\text{Index number of industrial production}) = \left( \frac{\sum W(q_1/q_0)}{\sum W} \right) \]  

**MCQ/1 mark conceptual questions**  

1. The technique of measuring relative changes in the variables Related to base year  
   (a.) Index Numbers (b.) Standard deviation (c.) Correlation (d.) Dispersion  

2. Consumer price index is also known as:  
   (a.) Family Budget (b.) Cost living index (c.) Wholesale price index (d.) Dispersion  

3. Index number is  
   (a.) expressed in percentage (b.) expressed in fractions (c.) expressed in decimals (d.) expressed in square  

**Answers:**  
1. (a) 2. (b) 3. (a)
Conceptual Questions:

1. Define Index number.

Ans. An index number is a statistical device for measuring relative change in a large number of items.

2. Name the widely used index numbers.

Ans. Widely used index numbers are:
   (i.) Wholesale price index
   (ii.) Consumer price index
   (iii.) Index of industrial production
   (iv.) Agricultural production index
   (v.) Sensex

3. Mention characteristics of index numbers

Ans. Widely used index numbers are:
   (i.) These are special averages
   (ii.) These are the measures of relative changes
   (iii.) These measure changes in composite and complex phenomenon
   (iv.) These form the basis for making comparisons

3/4 marks questions (FAQ)/VALUE BASED

1. A state government, while formulating policy for compensation to poor to help them bear the cost of inflation does not study Consumer Price Index. It announces compensation as a matter of routine functioning. Can this policy have meaningful implications?

Ans. No, CPI cannot be ignored.

It determines purchasing power of money and real wages. Without assessing CPI, compensation can’t be determined.
It will either be an extra **wasteful expenditure** for government or **injustice** to poor people.

**HOTS questions**

1. **Why is Fisher’s method considered as an ideal method?**
   
   **Ans.** Fisher’s method is an ideal method. It is because:
   
   (i.) The formula used in this method is based on geometric mean and mean is considered to be the best average to construct index numbers.
   
   (ii.) It is based on variable weights *i.e.*, it gives weightage to quantities of the base year and current year.
   
   (iii.) It satisfies time reversal test and factor reversal test.

2. “Index numbers are economic barometers”. Explain
   
   **Ans.** Barometers are used to measure atmospheric pressure. In same the way, index numbers are used to measure the level of economic activities.

   ➔ Consumer price index number shows the impact of change in the price level in cost of living of specific class of consumer.

   ➔ The index number of industrial production measures changes in the level of industrial production

   ➔ The index number of agricultural production measures changes in the level of industrial production.
PART B:

INDIAN ECONOMIC DEVELOPMENT

Chapter 1: INDIAN ECONOMY AT THE TIME OF INDEPENDENCE

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 lead 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 leads 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.

Q4 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 was 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 breakthrough 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.
Value Based Question

1. Under the colonial dispensation, the economic policies were the protection and promotion of British economic interests, yet we still follow certain values learnt from the British rule. Comment.

Ans.

1. Greater cultural affinity through spread of roadways and railways.
2. Spirit of Enquiry which changed the barter system into monetary system of exchange.
3. We also learnt a valuable system of organizational skills and efficient administrative set up.

HOTS

1. Evaluate Indian economy on the eve of independence.

Ans. The Economic policies pursued by the British government in the India were concerned with the promotion of their colonial interests. It was their exploitative policies that Indian economy was drastically backward. In the middle 18\textsuperscript{th} century India which was known as a golden bird and self reliant economy, transformed into a poor and stagnant economy.

By the time India won its independence, the impact of the two-century long British colonial rule was already showing on all aspects of the Indian economy. The agricultural sector was already saddled with the surplus labor and extremely low productivity. The industrial sector was crying for modernization, diversification, capacity building and increased public investment. Foreign trade was oriented to feed the Industrial Revolution in Britain. Infrastructure facilities, including the famed railway network, needed upgradation, expansion and public orientation. Prevalence of rampant poverty and unemployment required welfare of orientation of public economic policy. In a nutshell, the social and economic challenges before the country were enormous.
CHAPTER-2: DEVELOPMENT POLICIES AND EXPERIENCE
(1950-1990)

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 countries 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:-

If 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 reduction 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?

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

**Multiple Choice Questions**

1. ............ Refers to an arrangement by which central problems of an economy are solved.
   (a) Economic system   (b) Mixed economy   (c) Modernization   (d) Socialist

2. The planning commission was set up in __________.
   (a.) 1948   (b) 1950   (c) 1952   (d) 1961

**Conceptual question**

1. Name common goals of five year plans.

Ans. Growth, Modernisation, Self sufficiency and equity.

**Hots questions**

1. What are the objectives of industrial licensing?

Ans.

1. To utilize the scarce resources to the maximum.
2. To realize the objective of economic growth on the basis of priorities.
3. To generate more employment opportunities.
4. To achieve the objective of regional balanced growth.
5. To secure industrial efficiency.
6. To develop strong infrastructural base.
CHAPTER- 3: ECONOMIC REFORMS SINCE 1991

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 Globalisation (LPG) which aims at the rendering the economy more efficient, competitive and developed.
ELEMENTS OF NEW ECONOMIC POLICY

After independence we were giving public sector a major role in the overall development of the economy. We had taken a ‘u’ turn from these policies in 1991 which promoted public sector. The immediate reason was that we were not having foreign exchange for imports for even 15 days. For eradication of crises we approached world bank and IMF.

Reasons:-
Growth rates were not as high as expected.
Fiscal deficit was very high in the tune of 5.4% of GDP.
Inflation rates were in double digit.
Corruption was rampant.
Growth of Employment generation was less than 1%.

Suggestions:-
• Stabilisation measures :- maintain sufficient foreign exchange reserve and keep the rising prices under control
• Structural measures:-Introduce Liberalisation and privatization.
  1. **Liberalization:** It means to free the economy from the direct and physical control imposed by the government.
     • Removal of restrictions which were governing private sector.
     • And allowing private sector to produce in those areas which was earlier prohibited.

**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

Deregulation of industrial sector:-
• Abolition of licensing.
• Private sector was allowed in many industries.
• Earlier many goods were reserved for small scale industries now it has been de- reserved.
• Now market is allowed to determine prices.

FINANCIAL SECTOR REFORM
Financial sector is controlled through various rules and regulation of RBI. The major aim of this reform is to reduce the role of RBI from regulator to facilitator. Financial sector is allowed to take decisions on many matters without consulting RBI.

TAX REFORM
Tax reforms are concerned with fiscal policy. There are two types of taxes:
Direct tax and indirect tax

DIRECT TAX:
The taxes on individual’s income as well as on the profits earned by the business enterprise. The effect of whose cannot be shifted to other.

INDIRECT TAX
The effect of whose can be shifted to other.

FOREIGN EXCHANGE REFORM
It includes devaluation of Indian rupee in foreign markets so as our goods become cheaper in foreign market and Our Export may increase and imports may fall.
TRADE AND INVESTMENT POLICY REFORM
This policy aims at:
• Removal of quantitative restrictions on imports as well as on exports
• Reduction of tariff rates
• Removal of licensing procedure for imports
• Import licensing was abolished
• Export duties have been removed to increase competition

PRIVATISATION
Converting public companies into private companies by Withdrawal of government ownership or management
or
Outright sale of government companies

DISINVESTMENT
Privatisation of public sector undertaking by selling off part of the equity of PSUs to public

GLOBALISATION
It means integration of the economy of country with world’s economy.

OUTSOURCING
When work is done outside the country due to low wage rate, reasonable degree of skill and accuracy, it is known as outsourcing.

WORLD TRADE ORGANISATION {WTO}
The organization administers all multilateral trade agreements by providing equal opportunities to all countries in the market for trading purpose. The share of India in world trade is 0.5 to 0.7%.

Effect of these reforms on:

(a) AGRICULTURE

The growth rate of agriculture has been decelerating.
Reasons
• Public investment in infrastructure became low.
• Removal of fertilizer subsidy has led to increase in the cost of production.
• Removal of MSP and lifting of quantitative restriction have adversely affected farmers as they have to face increased international competition.

(b) INDUSTRY:
• It has decrease the demand of industrial products because of cheaper imports, in adequate investment in infrastructure.
• Domestic manufacturers are facing competition from imports.
• Free movement of goods and services adversely affected the local industries and employment opportunities.

2. Privatisation: 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.
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

**Multiple Choice questions**

1. RBI was setup in ..........
   (a) 2006   (b) 1971   (c) 1963   (d) 1935

**Conceptual questions**

1. Define Disinvestment
   Privatisation of the public sector undertakings by selling off part of the equity of PSUs to the private sector is known as disinvestment
Value Based Questions

1. Various fiscal reforms were initiated in the New economic policy of 1991. One fiscal measure undertaken was to reduce taxes. How in your views is it justifiable?

   Ans. Before 1991, both direct and indirect taxes were high. According to New economic policy of 1991, taxes were reduced to
   ➔ Discourage tax evasion
   ➔ Provide incentive to honest tax payers
   ➔ Inculcate good values among the tax payers to cooperate with the govt. in meeting its public expenditure.

Chapter 4: 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.


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 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 underdevelopment 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 appropriates 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 narrows & 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 unexploitation 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 Jayanti 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. SJSRY mainly aims at creating employment opportunities for both self-employment & wage-employment in urban areas.

3. **Swarna Jayanti 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 (Swarozagaris) 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 Gramaan 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 gramodya yojna [Gramin awas]
   c. Pradhan Mantri gramodya 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 5: 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?

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 frames in order to purchase machineries agricultural implements etc.
4. The government had also provided long term loans which can be repaved in 15to 20 years for improvement of the land, digging tubeneth 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(NBNR) 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**: - Marketive 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, old 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 agricultural 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, fishers, 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 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 area of food insecurity and vulnerability to prevent or reduce the livelihood of an emergency.

3. It also has a posture impact on the agricultural sector as it circulate 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 ever 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 effecting 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 6: 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 Indian 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?
Comparison between ‘Physical capital' and ‘Human Capital'.

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

Economic Growth refers to increase in real national income of country, so the contribution of the skilled person to economy is more that that of an illiterate. So, increase in human capital means increase in economic growth. Economic Growth may be the cause of Human Capital Formation or Human Capital Formation may be the cause of Economic Growth. Both are interdependent.

<table>
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<tr>
<th>S.No</th>
<th>Human Capital</th>
<th>Human Development</th>
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<tr>
<td>1.</td>
<td>Human Capital consider education &amp; health as a means to increase labour productivity</td>
<td>Human Development is based on the Idea that education &amp; health are integral to human well being</td>
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<td>2.</td>
<td>In Human capital, investment in education and health is considered to be unproductive, if it does not increase output of goods &amp; services</td>
<td>In case of human development, investments in education and health is taken to be productive, even if it does not lead to higher output</td>
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<td>3.</td>
<td>Human capital treats human beings as a means to an end; the end being the increase in productivity</td>
<td>In the human development perspective, human welfare should be increased through investment in education &amp; health as every individual &amp; health as every individual has a right to be literate &amp; lead a healthy life</td>
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**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 74.04% in 2011

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

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 74.04 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%

*Note*: Government intervention is required in providing of education and health-Both are very sensitive matter, if the responsibility of providing education and health given to the private sector we can't be sure that everyone could take benefit of it. Private sector works for profit motive. And because of this they may raise the cost of education and health which poor people can't afford.
Chapter 7: **EMPLOYMENT GROWTH, INFORMALISATION 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 ration 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.

This chapter focuses on some of the basic issues related to the problem of unemployment in India. It begins with defining some basic concepts such as economic activity, worker, employment, workforce relation between GDP growth and employment.

**Some basic concept-**

Worker- A worker is one who engaged in economic activity.

Economic activity- Those activities which contribute to the Gross national product.

Employed- one who gets at least 1 hour of work in half day.

Work force- No. of persons actually working.

Working population ratio- Divide the total worker by the total population in India and multiply it by 100.

Women in rural are more employed than women in urban area because Indian economy is agrarian so most of the rural women are engaged in agriculture. Other reasons are poverty, illiteracy etc.

Self employed-are those who are engaged in their own business or own profession.
*Hired workers are those who work for other as a reward get wages, salaries.

*Casual workers are daily wages

*Regular salaried employed are those who get wages in regular basis.


During the 50 yrs of independence the growth rate of GDP has always been positive and on an average it grow around 3 to 6 percent. But the growth rate of employment remains stable around 1% it started at 0.39%. This period is known as jobless growth. During 90's the Indian economy grew at 6% and growth rate of employment less then 1% i.e. 0.98%.

**Informalisation of Indian Workforce**-

Informalisation of worker means transfer of worker from formal sector to informal sector.

Necessity to create employment in formal sector because

1. It provide various security benefits.

2. It provides regular income.

3. Job Security

Unemployment-it means when a person is ready and willing to work at the prevailing rate of wage but does not get work.

Reasons for unemployment-

1. Increase in population.

2. Poverty.

3. Lack of infrastructure.

4. Slow growth of industrialization.

5. Lack of demand.

Types of unemployment-

1. Disguised unemployment is a situation when the no. of workers engaged in a job is much more than actually required. If some of them are withdrawn from job, total production will not get affected.

2. Seasonal Unemployment-work in agriculture is seasonal, no employment opportunity for remaining months.
3. Frictional Unemployment - when a person move from one job to other, but in the process of change may remains unemployed for sometimes.

4. Structural unemployment- it occurs due to structural changes in the economy structural changes are of two types.

1. Changes in technology.
2. Change in demand.

5. Cyclic Unemployment- Due to Business cycles.

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.

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 drawn 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 ration 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 Casuialisation 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.

Q 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 knowing 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 consider 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.

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

\[
WPR = \frac{\text{Total number of workers in India}}{\text{No. of work population In India}} \times 100
\]
It helps in knowing the proportion of population that is actively contributing to the production of goods and services of a country.

**Chapter 8: 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. Administered 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 9: 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.

Infrastructure refers to basic permanent installations which are necessary for development. These are means of irrigation, means of communication, transportation, Basic Industries, schools and hospitals etc. It is divided into two categories.

Social and Economic

Economic Infrastructure includes power sector, Industries, means of communication etc. These provide Tools
Social infrastructure includes education, health, Housing etc. These provide the skills to work upon tools.

Relevance of infrastructure-
Infrastructure contributes to economics development of a country by increasing productivity and improving the living standard of people. In the absence of inadequate infrastructure facilities health sector is adversely affected.

Infrastructure in India

Government investment on infrastructure is inadequate despite of so much technical progress in the world; especially in rural areas people were not able to get basic things. Tap water availability is limited to only 24 per cent. 76 percent drink water from open sources like wells, tanks, canals, etc. India invests only 5 percent of its GDP on infrastructure.

Energy-

Energy is essential for industries, agriculture as well as houses. There are commercial and non-commercial sources of energy. Commercial sources are coal, petroleum etc as they are bought for sold. They are exhaustible. Non-commercial sources are firewood, dried dung etc which are found in nature. They are renewable.

Consumption pattern of commercial energy-

Commercial energy consumption makes 65% to total energy consumed in India. The largest share is of coal 55%, then oil 31%, natural Gas 11% and hydro energy 3%. A non-commercial source of energy consumption is 35 percent. Out of which agricultural waste account for 30 percent of total energy consumption.

Power

Power is the most important component of infrastructure as it determines the economic development of a country. The growth rate of demand is higher than the GDP growth rate. If we want GDP to grow at the rate 8% percent per annum then power supply need to grow 12% annually.

Challenges in power sector-

Electricity generated is not consumed entirely by ultimate consumed by power station auxiliaries. Some challenges that India’s power station faces are.
1. Electricity generated is not sufficient. It is unable to meet the growing demand. Power station has to generate 1,00,000 Mw a year, but it is able to generate only 20,000 MW a year.
2. SEB’s incur losses which exceeds Rs 500 billion due to transmission and distribution losses.
3. Electricity is stolen in different areas scholars say that distribution of electricity to farmers is main reason for loss.
4. Public unrest due to high power tariff.
5. Shortage of raw materials and coal suppliers more public investments.

Better research, exploration, technological innovation and use of renewable sources can ensure additional supply of electricity.
Health-

Health is not only the absence of disease but the ability to realize one's potential. Health infrastructure includes hospital, beds, equipment required in hospital. Some policy makers envisaged that all the people should be able to secure medical facilities that is curative, medical treatment during illness, preventive taking safety measures to be saved from disease and spreading social awareness about health.

State of health infrastructure-

India has build up a vast health infrastructure. There has been an expansion in health services. No. of hospital and dispensaries increased from 9,300 to 43,300 and beds from 1.2 to 7.2 million. Expansion of health infrastructure has resulted into root out of small pox, guinea worms, polio and leprosy.

Indian system of medicine-
It includes six system-Ayurveda, Yoga, Unani, Siddha, Naturopathy, and Homeopathy (Ayush).

Indicator of health and health infrastructure- a critical appraisal-

Health status of country can be assessed thought indicators such as infant mortality rate, maternal mortality rate, life expectancy etc.

Expenditure on health sector is 1.4 per cent of total GDP which is very low.
India has about 17% of world's population and it bears 20% of Global burden of disease. GBD includes communicable diseases such as diarrhea, malaria, tuberculosis.

Urban-Rural and poor-rich divide

70 percent of India population lives in rural areas people living in rural areas do not have proper health facilities compared to urban areas, as in rural areas there is one hospital for 3 lakh population and in urban there is one hospital for 25 thousand population.

Villagers have no specialized medical care for pediatrics, gynecology, anesthesia, and obstetrics.

Women's health.

Women health across the country has become a matter of great concern by growing incidence of female feticides, 3 lakh girls under age of 15 are not only married but have already born child at least once. More than 50% of women have anemia and nutritional anemia caused by iron deficiency which has contribute 19% to maternal mortality rate. Abortions are also the reason of maternal morbidity.

If we want to lower down the rate of diseases then proper education, health infrastructure and awareness on health and hygiene should be provided. The main aim is to help the people in moving towards a better quality of life.
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. In fact 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.
   o inadequate generation of electricity
   o Less capacity utilization
   o 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.
   iv. 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 person’s 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 10: 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 Environmental 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 contaminate 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.

ABSORBTIVE CAPACITY

It means the ability of the environment to absorb degradation. The result –we are today at the threshold of environment crisis. The past development has polluted and dried up rivers and other aquifers making water an economic good.

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

SUSTAINABLE DEVELOPMENT:

Sustainable development implies meeting the basic needs of everyone and extending to all the opportunity to satisfy their aspiration for better life without compromising on the needs of future.
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.
**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.
अध्याय १
अर्थशास्त्र की अवधारणा एवं अर्थशास्त्र में सांख्यिकी का महत्व

३४ उपभोक्ता, उपभोग, उत्पादक, उत्पादन, निवेश
३५ आर्थिक, क्रियाएं
३६ अनार्थिक क्रियाएं
३७ दुर्लभता
३८ अर्थशास्त्र में सांख्यिकी का महत्व
  १) आर्थिक समस्याओं की परिमाणात्मक अभिव्यक्ति
  २) अन्तर क्षेत्रीय तथा अन्तर समय तुलनाएं
  ३) कारण परिणाम सम्बन्ध ज्ञात करना
  ४) नीतियों का निर्माण
  ५) आर्थिक भविष्यवाणी

३९ सांख्यिकी एक वचन तथा बहुवचन के रूप में

४० सांख्यिकी अध्ययन की अवस्थाएं
  १) आकड़ों का संकलन
  २) आकड़ों का व्यवस्थीकरण
  ३) आकड़ों का प्रस्तुतीकरण
  ४) आकड़ों का विश्लेषण
  ५) आकड़ों का निर्विचार

अति लघु उत्तरीय प्रश्न उत्तर (१ अंक)

१. आर्थिक क्रिया की परिभाषा दो।
   - वह क्रियाएं जिनका संबन्ध आय सृजन करना

२. अनार्थिक क्रियाओं के दो उदाहरण दीजिए।
   - धार्मिक क्रिया कलाप
- माँ का घरेलू कार्य

2. उत्पादन से आप क्या समझते हैं?
उत्पादन वह प्रक्रिया है जिसके द्वारा कच्चे भारतीय वस्तुओं ने परिवर्तित किया जाता है।

लघु उत्तीर्ण प्रश्नोत्तर (३/४ अंक)

1. आर्थिक क्रियाओं की परिभाषा उदाहरण सहित दीजिए।
आर्थिक क्रियाओं का संबंध धन के उपार्जन से है। उत्पादन, विनिवेश आर्थिक क्रियाओं के प्रभाव उदाहरण है।

2. आर्थिक शास्त्र में साख्यिकी के दो उपयोग समझाएं।
- आर्थिक समस्याओं की परिमाणात्मक अभिव्यक्ति
- नीतियों का निर्माण (व्याख्या कीजिए)
अध्याय २
आकड़ों का संकलन

आकड़ों के स्रोत

1. प्राथमिक स्रोत
2. द्वितीयक स्रोत

प्राथमिक तथा द्वितीयक आकड़ों में मुख्य अंतर

1. मौलिकता में अंतर
2. उद्देश्य की उपयुक्तता में अंतर
3. संकलन लागत में अंतर

अच्छी प्रश्नावली के गुण

1. प्रश्नों की ऋण संख्या
2. सरलता
3. उचित ऋण
4. निर्देश
5. गणना

द्वितीयक आकड़ों का संकलन

1. प्रकाशित स्रोत
2. अप्रकाशित स्रोत

- सरकारी प्रकाशन
- अच्छी सरकारी प्रकाशन
- समितियों व आयोगों की रिपोर्ट
- व्यापारिक संघों के प्रकाशन

द्वितीयक आकड़ों के दो महत्वपूर्ण स्रोत

1. भारत की जनसंख्या
2. राष्ट्रीय सेम्पल सर्वे संगठन की रिपोर्ट

अंति लघु उत्तरीय प्रश्न उत्तर

1. आंकड़ो के दो प्रमुख स्रोत कौन हैं?
   1) प्राथमिक स्रोत  
   2) द्वितीयक स्रोत

2. द्वितीयक आंकड़ो के दो प्रमुख स्रोत कौन से है?
   1) सरकारी प्रकाशन  
   2) भारत की जनसंख्या  
   3) राष्ट्रीय सेम्पल सर्वे संगठन की रिपोर्ट

लघु उत्तरीय प्रश्न उत्तर (३/४ अंक)

1. प्राथमिक तथा द्वितीयक आंकड़ो के स्रोत में अंतर कीजिए।
   1) मौलिकता में अंतर  
   2) संकलन लागत में अंतर  
   3) उद्देश्य की उपयुक्तता में अंतर

2. अच्छी प्रश्नावली के गुण लिखें।
   1) प्रश्नों की कम संख्या  
   2) सरलता  
   3) उचित ऋग्म  
   4) गणना

3. प्राथमिक आंकड़े एकत्रित करने की मुख्य विधियां कौन सी है?
   मौलिक विधि  
   जनसंख्या विधि  
   { - व्याख्या करें}

दीर्घ उत्तरीय (६ अंक)

1. द्वितीयक आंकड़ो के संकलन की व्याख्या कीजिए।

1) प्रकाशित स्रोत -
   सरकारी प्रकाशन  
   अर्थ सरकारी प्रकाशन  
   समितियों व आयोगों की रिपोर्ट  
   सरकार  
   विश्व विद्यालय  
   निजी संस्थाएं
अध्याय 3
आंकड़ों का व्यवस्थितीकरण

[Organisation of Data]

वर्गीकरण: वर्गीकरण वह क्रिया है जिसके द्वारा समान तथा असमान आंकड़ों को विभिन्न वर्गों में रूप के अनुसार प्रस्तुत किया जाता है।

वर्गीकरण के उद्देश्य:-

1. आंकड़ों को सरल व संक्षिप्त बनाना।
2. आंकड़ों की समस्पता को प्रकट करके उनकी उपयोगिता में वृद्धि करना।
3. आंकड़ो के विशिष्ट अन्तर स्पष्ट करना।
4. आंकड़ो को आकर्षक तथा प्रभावशाली बनाना।
5. आंकड़ो को व्यवस्थित रूप में वैज्ञानिक आधार प्रदान करना।

सांख्यिकी श्रंखला

सांख्यिकी में श्रंखला उन आंकड़ो को कहते हैं जो किसी तरह पूर्ण रूप के अनुसार व्यस्थित किए जाते हैं।

सांख्यिकी श्रंखलाओं के प्रकार:-

<table>
<thead>
<tr>
<th>व्यक्तिगत श्रंखला</th>
<th>आवृति वितरण श्रंखला</th>
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<td>अवरोधी रूप</td>
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<td>खड़ित श्रंखला</td>
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<td>अखड़ित श्रंखला</td>
</tr>
<tr>
<td>समावेशी</td>
<td>अपवर्जी</td>
</tr>
</tbody>
</table>

व्यक्तिगत श्रंखला: इकाई का अलग-अलग माप प्रकट किया जाता है।

यह दो प्रकार से प्रस्तुत किया जा सकता है।
1. क्रमानुसार: मदों को किसी क्रम के अनुसार प्रकट करना।

2. अवरोही क्रम: प्रत्येक इकाई के माप को उनके बढ़ते हुए क्रम या घटते हुए क्रम के अनुसार बदल करना।

प्रथा: आंकड़ो को बढ़ते हुए अर्थात आरोही या घटते हुए अर्थात अवरोही क्रम से प्रस्तुत करना।

2) आवृत्ति वितरण श्रंखला:— आवृत्ति वितरण के अनुसार श्रंखलाएँ दो प्रकार की होती है।

1. खंडित श्रंखला
2. अखंडित श्रंखला

आवृत्ति वितरण श्रंखलाओं से जुड़े अवधारणाएँ:

1. आवृत्ति: किसी वर्गान्तर में प्रयुक्त संख्या को आवृत्ति कहते हैं।
2. वर्ग आवृत्ति: किसी भी वर्ग में आने वाले मदों की संख्या को वर्ग आवृत्ति कहा जाता है।

1. खंडित श्रंखला: इसमें प्रत्येक मद का निश्चित माप स्पष्ट हो जाता है।
2. अखंडित श्रंखला: इस श्रंखला में इकाईयों को वर्गान्तरों में लिखा जाता है।
3. वर्ग: संख्याओं के किसी निश्चित समूह को जिसमें मदें शामिल होती है।
4. वर्ग सीमाएँ: एक वर्ग की निम्न तथा ऊपरी सीमा वर्ग सीमा कहलाती है।
5. वर्ग विस्तार: किसी वर्ग के ऊपरी सीमा तथा निचली सीमा में अन्तर को वर्ग विस्तार कहते हैं।

मध्य मूल्य : ऊपरी सीमा + निम्न सीमा

2

3. आवृत्ति वितरण के प्रकार:

1) अवरोही श्रंखला: इसमें एक वर्ग की ऊपरी सीमा दूसरे वर्ग की निचली सीमा होती है। प्रत्येक वर्गान्तर की ऊपरी सीमा उस वर्गान्तर में सम्मिलित नहीं होती है।

उदा:
2. समावेशी श्रंखला: इसमें किसी वर्ग की ऊपरी सीमा का मूल्य भी उसी वर्ग में शामिल होता है।

उदाहरण –

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</tbody>
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4. संचयी आवृत्ति श्रंखला: जिसमें आवृत्तियों को वर्गानुसार अलग-अलग न रख कर संचयी रूप में जोड़ दिया जाता है।

इसके दो विधियाँ हैं –

1. यदि संचयी आवृत्ति वर्ग उच्च सीमा के आधार पर लिखी जाए, तो उस दशा में ‘से कम’ शब्द का प्रयोग किया जाता है।

2. यदि संचयी आवृत्ति निम्न सीमा के आधार पर लिखी जाए, तो उस दशा में ‘से अधिक’ शब्द लिखा जाता है।

खुले सिसे वाली श्रंखला: इसमें प्रथम वर्ग की निम्न सीमा तथा अंतिम वर्ग की उच्च सीमा नहीं दो हुई होती।

उदाहरण –

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</tbody>
</table>

इस श्रंखला की दोनों सीमाओं को ज्ञात करने के लिए प्रायः इनके निकट वर्गों के विस्तार को ही उसका विस्तार मान लिया जाता है।
अतिलघु, उत्तर रूपी प्रश्न  (१ अंक)

1. वर्गीकरण किसे कहते हैं?
2. आवृत्ति से क्या समझाते हैं?
3. व्यक्तिगत श्रंखला से क्या अभिप्राय हैं?

लघु उत्तर रूपी प्रश्न

1. अपवर्जी श्रंखला और समावेशी श्रंखला में अंतर स्पष्ट कीजिए।
2. विविध श्रंखला और संतत श्रंखला में अंतर स्पष्ट कीजिए।
3. इन अवधारणाओं का वर्णन करें।
   (१) वर्गांतर  (२) व्यक्तिगत श्रंखला  (३) आवृत्ति वितरण

अध्याय ४

आंकड़ों का प्रस्तुतीकरण

आंकड़ों के प्रस्तुतीकरण के तीन प्रकार:

1. पाठ्य या वर्णात्मक  2. सारणीय
3. चित्रमय प्रदर्शन  4. ग्राफीय प्रदर्शन

1) पाठ्य प्रस्तुतीकरण – आंकड़े अध्ययन के पाठ्य का एक अंश होते हैं।
2) सारणीय – आंकड़ों को काँलम और पंक्तियों में संगठित करना।

एक सारणी के भाग

1) सारणी की संख्या  2) शीर्षक  3) पंक्ति शीर्षक
4) उपशीर्षक  5) सारणी का क्षेत्र
6) टिप्पणी  7) स्रोत
सारणी का प्रारूप
सारणी संख्या
शीर्षक

पंक्ति शीर्षक

<table>
<thead>
<tr>
<th>कालम शीर्षक या उपशीर्षक</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

सारणी का क्षेत्र

टिप्पणी : स्रोत :

सारणियों के प्रकार

1) सरल या एक गुण वाली सारणी – आँकड़ों की एक ही विशेषता का वर्णन किया जाता है।

2) द्विगुणी सारणी – आंकड़ों की दो विशेषता को प्रस्तुत करती है।

3) वर्गीकरण सारणी – आंकड़ों की तीन या तीन से अधिक गुणों को प्रकट करती है।

सारणीयन के गुण

1) सरल और संक्षिप्त प्रस्तुतीकरण

2) तुलना में सुविधा

3) सतत विश्लेषण

4) मित्यादि
(2) आकड़ों का चित्रीय प्रस्तुतीकरण: अ) दण्ड आरेख  ब) वृतीय आरेख
अ) दण्ड आरेख: आकड़ों को दण्डों के रूप में प्रकट किया जाता है।
प्रकार
अ) सरल दण्ड आरेख:— एक ही प्रकार के संख्यात्मक तथ्यों के विभिन्न मूल्यों को दण्डों में प्रकट करते है।
ब) बहुभुज दण्ड आरेख:— जो दो या दो से अधिक तथ्यों के आकड़ों को प्रस्तुत करता है।
स) उपविभाजित दण्ड आरेख:— किसी तथ्य के कुल मूल्य और उपविभाजन को प्रस्तुत करता है।

२) वृतीय आरेख:— एक वृत को कई भागों में बाँट कर आकड़ों के सापेक्ष मूल्यों को प्रस्तुत किया जाता है।

आवृति चित्र
अ) आयाचित्र:— सतत श्रंखला से संबंधित मदों तथा उनकी आवृतियों को आयतों के रूप में ग्राफ पेपर पर प्रदर्शित किया जाता है।
ब) बहुभुज:— आयाचित्र के प्रत्येक आयत के शीर्ष के मध्य बिन्दुओं को सरल रेखाओं द्वारा मिलाकर बनाया जाता है।
स) आवृति वक्र:— बहुभुज का मुक्त हस्त रीति से खिंचा हुआ सरलित रूप है।
इ) ओजाइव या तोरण वक्र:— वह वक्र जो ग्राफ पेपर पर संचयी आवृतियों को अंकित करके बनाया जाता है।

* * *

रेखीय ग्राफ या कालिक श्रंखला ग्राफ

ग्राफ की रचना के नियम

१. उपयुक्त शीर्षक
2. पैमाने का चुनाव
3. कृत्रिम आधार रेखा का प्रयोग
4. विभिन्न प्रकार की रेखाओं का प्रयोग
5. आँकड़ों की सारणी

एक चर वाले ग्राफ़ – जिसमें समय के सापेक्ष केवल एक ही चर दिया जाता है।

दो या दो से अधिक चरों वाले ग्राफ़ – वे ग्राफ़ जो विभिन्न समय से संबंधित दो या दो से
अधिक तथ्यों से संबंधित आँकड़े प्रस्तुत करते है।

ग्राफ़ी प्रदर्शन के लाभ
1. सरल व सुचनावती सूचना  2. अधिक समय तक याद रहना
3. आर्थिक और प्रभावशाली  4. सूचना के साथ मनोरंजन

ग्राफ़ीय प्रदर्शन की सीमाएँ
1. सीमित उपयोग
2. दुरुपयोग
3. केवल प्राथमिक निष्कर्ष

संख्यात्मक प्रश्न
1. निम्नलिखित सूचना को सारणी में प्रस्तुत कीजिए।
   अ) संकाय के अनुसार : कला, विज्ञान और वाणिज्य
   ब) कक्षा के अनुसार : ११ वीं और १२ वीं
   स) लिंग के अनुसार : लड़के और लड़कियाँ
2. सारणी के मुख्य रूप कौन से है?
3. संख्यात्मक सारणियों के मुख्य भागों का वर्णन करें।
4. सारणीयन के मुख्य लाभ लिखिए।
5. निम्न को उपविभाजित दण्ड आरेख में प्रस्तुत कीजिए।
6. निम्न आंकड़ों को एक वृत्तीय आरेख में प्रस्तुत कीजिए।

<table>
<thead>
<tr>
<th>मदें</th>
<th>प्रतिशत व्यय</th>
</tr>
</thead>
<tbody>
<tr>
<td>मज़दूरी</td>
<td>२५</td>
</tr>
<tr>
<td>ईंट</td>
<td>१५</td>
</tr>
<tr>
<td>सीमेंट</td>
<td>२०</td>
</tr>
<tr>
<td>इस्पात</td>
<td>१५</td>
</tr>
<tr>
<td>लकड़ी</td>
<td>१०</td>
</tr>
<tr>
<td>निरीक्षण</td>
<td>१५</td>
</tr>
</tbody>
</table>

7. बहुगुणी दण्ड आरेख में निम्न को प्रस्तुत कीजिए।

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<thead>
<tr>
<th>वर्ष</th>
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<td>2004-05</td>
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<tr>
<td>2005-06</td>
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<td>2006-07</td>
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<tr>
<td>2007-08</td>
<td>450</td>
<td>620</td>
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</table>

8. आयतचित्र, आवृत्ति बहुभुज और आवृत्ति वक्र को निम्नलिखित आंकड़ों की सहायता से बनाइए।

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<th>अंक</th>
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<th>40-50</th>
<th>50-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>विद्यार्थियों की संख्या</td>
<td>10</td>
<td>16</td>
<td>20</td>
<td>20</td>
<td>22</td>
<td>15</td>
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</table>

9. निम्नलिखित को कालिक श्रंखला ग्राफ पर प्रदर्शित कीजिए।

<table>
<thead>
<tr>
<th>वर्ष</th>
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<td>2201</td>
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<td>2190</td>
<td>2095</td>
<td>2170</td>
</tr>
</tbody>
</table>
अध्याय ५
केन्द्रीय प्रवृत्ति के माप
(Measures of Central Tendency)

१. औसत:— एक ऐसा मूल्य जो सारी श्रेणी का प्रतिनिधित्व करता है।

२. औसतों के उद्देश्य:—

अ) संक्षिप्त विवरण: जटिल आंकड़ों को संक्षिप्त प्रस्तुत करना।
ब) तुलना: आंकड़ों के दो या दो से अधिक समूहों की तुलना की जा सकती है।
स) नीति निर्धारण:— आर्थिक नीतियों के निर्धारण में औसत के अनुमान से सहायता मिलती है।
ढ) सांख्यिकीय विश्लेषण काफी सीमा तक औसत के अनुमान पर आधारित है।

३. एक अच्छे औसत के आवश्यक गुण:—

१) स्पष्ट और स्थिर परिभाषा २) प्रतिनिधित्व
३) सरलता ४) प्रतिदर्श के परिवर्तन का न्यूनतम प्रभाव

५) बीजगणितीय विवेचन ६) सभी मूल्यों पर आधारित

४. सांख्यिकी के औसत के प्रकार

१) समान्तर माध्य २) माध्यिका
३) बहुलक ४) चतुर्थक

समान्तर माध्य

५. प्रत्यक्ष विधि लघु विधि

व्यक्तिगत श्रंखला
खण्डित आवृत्ति श्रंखला
आवृत्ति वितरण श्रंखला
6) भारत माध्य की गणना

7. समान्तर माध्य के गुण:–

1) सरलता  2) निश्चितता

3) सभी मूल्यों पर आधारित  4) वीजगणितीय विवेचन

5) तुलना का आधार  6) स्थिरता

8. समान्तर माध्य के दोष

1) सीमांत मूल्यों का प्रभाव  2) सदैव प्रतिनिधित्व मूल्य नहीं है

3) हास्यप्रद निष्कर्ष  4) गलत निष्कर्ष

माध्यिका

9. किसी श्रंखला की वह संख्या जो इस श्रंखला को दो बराबर भागों में बाँट देती है।

10. माध्यिका की गणना

व्यक्तिगत श्रंखला  आवृत्ति विन्यास/संतति श्रंखला

11. माध्यिका के गुण

1) सरलता  2) सीमांत मूल्यों के प्रभाव से मुक्त

2) निश्चितता  4) ग्राफिक प्रदर्शन

5) अपूर्ण तथ्यों में भी संबंध

12. माध्यिका के दोष

1) प्रतिनिधित्व का अभाव  2) अवस्थित

2) वीजगणितीय विवेचन का अभाव

बद्दलक

13. किसी श्रंखला के वह मूल्य जो श्रंखला में सबसे अधिक बार आता है।
14. बहुलक की गणना

1) व्यक्तिगत श्रंखला
   अ) निरीक्षण द्वारा
   ब) व्यक्तिगत श्रंखला को विवक्त श्रंखला में बदलकर

2) विवक्त आवृति श्रंखला में गणना
   अ) निरीक्षण विधि
   ब) समूहीकरण सारणी
   द) विश्लेषण सारणी

3) आवृति वितरण श्रंखला में बहुलक की गणना
   अ) निरीक्षण विधि सूत्र \[ Z = 1_i + f_1 - f_0 \]
   ब) सामूहिककरण विधि \[ 2f1 - F_0 - F_2 \times \]

अ) बहुलक के गुण
   - सरल एवं लोकप्रिय
   - सीमान्त इकाइयों का कम प्रभाव
   - बिन्दु रेखीय निर्धारण
   - सबसे अच्छा प्रतिनिधित्व
   - सभी आवृत्तियों की गणना आवश्यक नहीं।

ब) बहुलक के अवगुण
   - अनिश्चित व अस्पष्ट
   - बीज गणितीय प्रयोग के लिए उपयुक्त नहीं है।
   - कठिन
   - समूही करण की जरिया प्रक्रिया
   - अति सीमान्त आवृत्तियों की अवहेलना
चतुर्थक
यदि किसी श्रंखला को चार बराबर भागों में बाँटा जाता है तो प्रथम चतुर्थक को \( Q_1 \), तथा तीसरे चतुर्थक को \( Q_3 \) कहते हैं।

\( Q_1 \) और \( Q_3 \) की गणना

व्यक्तिगत तथा खंडित श्रंखला

\( Q_i = \text{Size of item} \)
\( Q_3 = \text{Size of 3 item} \)

आवृत्ति वितरण श्रंखला

\( Q_i \) का वर्ग अंतराल = Size of \((N/4)th\) item
\( Q_3 \) का वर्ग अंतराल = Size of \(3(N/4)th\) item

अति लघु उत्तर रूपी प्रश्न (१ अंक)

1. औसत किसे कहते हैं?

2. माध्यक की परिभाषा दीजिए।

3. बहुलक की परिभाषा दीजिए।

लघु उत्तर रूपी प्रश्न

1. सांख्यिकीय औसत के चार उद्देश्य बताइए।

2. एक आदर्श माध्य के चार गुण बताइए।

3. समान्तर माध्य के चार गुण लिखिए।

4. समान्तर माध्य के चार दोष लिखिए।

5. बहुलक से क्या अभिप्राय है? बहुलक के लाभों, हानियों लिखिए।

निम्नलिखित श्रंखला के समान्तर माध्य, माध्यक और बहुलक ज्ञात कीजिए।

<table>
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अध्याय ६
परिक्षेपण के माप
(Measures of Dispersion)

परिक्षेपण मद्दों के विचरण का माप है।

परिक्षेपण के माप से उद्देश्य

1. श्रंखला के औसत मूल्य से, मद्दों के विभिन्न मूल्यों की औसत दूरी ज्ञात करना।
2. श्रंखला की बनावट के बारे में सूचना प्राप्त करना।
3. मद मूल्यों का सीमा विस्तार।
4. दो या अधिक श्रंखलाओं में पाई जाने वाली असमानता की तुलना।
5. माध्य श्रंखला का सही प्रतिनिधित्व कर रहा है या नहीं।

परिक्षेपण के प्रकार

1. निरपेक्ष माप: जिन्हें उन्हें इकाइयों में व्यक्त किया जाता है जिनमें मूल आंकड़े होते हैं।
2) सापेक्ष माप:– जिसमें आंकड़े के अंतर को अनुपात या प्रतिशत के रूप में व्यक्त किया जाता है।

परिक्षेपण ज्ञान करने की विधियाँ

<table>
<thead>
<tr>
<th>निरपेक्ष माप</th>
<th>सापेक्ष माप</th>
</tr>
</thead>
<tbody>
<tr>
<td>परास</td>
<td>परास गुणांक</td>
</tr>
<tr>
<td>चतुर्थक विचलन, अंतर चतुर्थक परास</td>
<td>चतुर्थक विचलन गुणांक</td>
</tr>
<tr>
<td>माध्य विचलन</td>
<td>माध्य विचलन गुणांक</td>
</tr>
<tr>
<td>मानक विचलन</td>
<td>मानक विचलन गुणांक</td>
</tr>
<tr>
<td>लारेज वक्र</td>
<td></td>
</tr>
</tbody>
</table>
परास
किसी श्रंखला में अधिकतम एवं न्यूनतम मानों के बीच का अंतर

व्यक्तिगत श्रंखला | विविकत श्रंखला/संलग्न श्रंखला
---|---
$R = L - S$ | $R = L - S$
$L = अधिकतम मान$ | $R = L - S$
$S = न्यूनतम मान$

परास गुणांक

$CR = L - S$

$L + S$

2) परास के गुण
   अ) सरल    ब) विस्तृत प्रयोग

परास के दोष

1) अस्थायी
2) सभी मूल्यों पर आधारित नहीं है
3) श्रंखला की बनावट की जानकारी का ज्ञान न देना
4) खुले सिरे वाली आवृत्ति बितरण के लिए अनुपयुक्त

अंतर चतुर्थक परास (Inter Quartile Range)

अंतर चतुर्थक परास : $Q_3 - Q_1$

चतुर्थक विचलन : $\frac{Q_3 - Q_1}{2}$

चतुर्थक विचलन गुणांक : $\frac{Q_3 - Q_1}{Q_3 + Q_1}$

चतुर्थक विचलण के गुण

1. सरल
2. सीमांत मूल्यों का कम प्रभाव

चतुर्थक विचलन के दोष

1. सभी मूल्यों पर आधारित नहीं।
2. श्रंखला की बनावट अज्ञात।
3. अस्थिरता

माध्य विचलन

एक श्रंखला के किसी औसत मूल्य से निकाले गए विचलनों के जोड के समांतर माध्य को विचलन कहा जाता है।

मूल्यों के विचलन निकालते समय बीजगणितीय चिह + तथा − को छोड़ दिया जाता है।

माध्य विचलन की गणना

व्यक्तिगत श्रंखला   विविध श्रंखला/सतत श्रंखला

\[ M.D = \frac{\sum(D)}{N} \]   \[ M.D = \frac{\sum f(D)}{\sum f} \]

\( D \) = माध्यिका द्वारा

मदों का विचलन

चिह्नों से उपेक्षित

माध्य विचलन का गुणांक

= \[ M.D \]

समांतर माध्य या माध्यिका

माध्य विचलन के गुण

1. सरल
2. सभी मूल्यों पर आधारित
3. सीमांत मूल्यों से कम प्रभावित
माध्य विचलन के दोष

1. असुंदी
2. वीजणितिय प्रयोग नहीं
3. अविश्वसनीय

मानक विचलन (स)

इसे विचलन वर्ग माध्य मूल्य भी कहा जाता है।

मानक विचलन समांतर माध्य से लिए गए विचलनों के वर्गों के माध्य का वर्गमूल है।

मानक विचलन के गुण

1. सभी मूल्यों पर आधारित  
2. स्पष्ट व निश्चित माप
3. प्रतिचयण परिवर्तनों का कम से कम प्रभाव  
4. वीजणितिय अध्ययन

मानक विचलन के दोष

1. कठिन  
2. सीमांत मूल्यों का अधिक महत्व

लारेज वक्र

ग्राफ विधि के प्रयोग द्वारा परिशोधण का प्रदर्शन किया जाता है।

लारेज वक्र समान वितरण रेखा से वास्तविक वितरण के विचलन का माप है।

लारेज वक्र एक संचयी प्रतिशत वक्र है।

अतिलघु उत्तर सूची प्रश्न   (१ अंक)

1. परास से क्या अभिप्राय है?
2. लारेज वक्र क्या है?
3. विचलन गुणांक से क्या अभिप्राय है?

लघु उत्तर सूची प्रश्न

1. मानक विचलन के मुख्य दोष कौन-कौन से हैं?
2. मानक विचलन के गुण कौन से हैं?

3. माध्य विचलन के किन्तु दो गुण और दोष लिखिए।

निम्नलिखित वितरण के मानक विचलन ज्ञात कीजिए।

अंक          10-20  20-30  30-40  40-50  50-60  60-70  70-80  80-90
विद्यार्थियों की संख्या 19  3    2    9    24   2    0    1

अध्याय ७

सह-संबंध (Correlation)

सह-संबंध - सांख्यिकीय तकनीक जिससे विभिन्न चरों के माध्यमक संबंध की गणना करते हैं।

सह-संबंध के प्रकार:

1. धनात्मक सह-संबंध - जब दो चरों में परिवर्तन एक ही दिशा की ओर होती है।
2. ऋणात्मक सह-संबंध - जब चरों में परिवर्तन विपरीत दिशा की ओर होता है।
3. समरेखीय सह-संबंध - जब दो चरों में स्थाई रूप में समान अनुपात में परिवर्तन होता है।
4. असमरेखीय सह-संबंध - जब दो चरों में परिवर्तन का अनुपात असमान होता है।
5. सरल सह-संबंध - जब केवल दो चरों के संबंधों का ही अध्ययन किया जाता है।
6. बहुमुखी सह-संबंध - जब तीन या तीन से अधिक चरों के संबंधों का एक साथ अध्ययन किया जाता है।

सह-संबंध का परिमाण

1. पूर्ण सह-संबंध

   1) पूर्ण धनात्मक - सह-संबंध गुणांक +1 होता है।
   2) पूर्ण ऋणात्मक - सह-संबंध गुणांक -1 होता है।
2. सह-संबंध की अनुपस्थिति – सह-संबंध गुणांक शून्य है।

3. सह-संबंध के सीमित परिमाण

अ) उच्च – गुणांक 0.75 और 1 के बीच में होता है।
ब) मध्यम – गुणांक 0.25 और 0.75 के बीच में होता है।
स) निम्न – गुणांक 0 और 0.25 के बीच में होता है।

सह-संबंध ज्ञात करने की विधियाँ

अ) प्रकीर्ण आरेख विधि

ब) कार्ल पियरसन का सह-संबंध गुणांक

स) स्पीयरमेंट का श्रेणी अंतर सह-संबंध गुणांक

अ) प्रकीर्ण आरेख: आंकड़ों के दो समूह के संबंधों के अनुमान को प्रकट करता है।

गुण

1. सरल और आकर्षक तरीका है।

2. तुरंत पता चल जाता है कि दो श्रृंखलाओं के मूल्य में संबंध है या नहीं।

दोष

1. सह-संबंध के परिमाण के बारे में कोई निश्चित जानकारी प्राप्त नहीं होती।

2. इस विधि-द्वारा सह-संबंध का संख्यात्मक माप संभव नहीं है।

ब) कार्ल पियरसन का सह-संबंध गुणांक

स) स्पीयरमेंट का श्रेणी अंतर सह-संबंध गुणांक

\[ r_s = 1 - 6 \sum D^2 \]

\[ N^3 - N \]

\[ D = \text{श्रेणी अंतर} \]

\[ N = \text{जोड़ों की संख्या} \]

\[ rs = \text{सह-संबंध गुणांक} \]
गुण
1. समझने में सरल है।
2. गुणात्मक श्रृंखलाओं में प्रयोग किया जा सकता है।

दोष
1. समूह आवृत्ति आवंटन श्रृंखलाओं में प्रयोग नहीं किया जा सकता है।
2. 20 से अधिक मदों वाली मदमालाओं पर नहीं किया जा सकता।

प्रश्न (3/4/6 अंको वाले प्रश्न)

4 अंक
1. कीमत और पूर्ति में सह-संबंध ज्ञात कीजिए।
   कीमत :  4  6  8  15  20
   पूर्ति  : 10 15 20 25 30
2. माँग और कीमत के मध्य सह संबंध ज्ञात कीजिए।
   कीमत :  5 10 15 20 25
   माँग  : 40 35 30 25 20
3. सह-संबंध गुणांक निकालिए।
   X  :  20 11 72 65 43 29 50
   Y  :  60 63 26 35 43 51 37

3 अंक
1. सह-संबंध ज्ञात करने की प्रक्रिया आरेख विधि का वर्णन कीजिए।
2. सह-संबंध के प्रकारों का वर्णन कीजिए।

6 अंक
1. हिन्दी में अंक :  80  78  75  75  68  67  60  59
   अंग्रेजी में अंक : 12 13 14 14 18 16 15 17
2. कार्ल पियरसन द्वारा सह-संबंध गुणांक निकालिए।

आयात :  56  49  53  58  65  76  58
निर्यात :  42  44  58  55  89  98  66

3. श्रेणी अंतर सह-संबंध गुणांक निकालिए।

X :  45  42  44  33  47  51  43  40  53  55
Y :  27  24  23  16  25  26  18  15  12  10

अध्याय 8

सूचकांक या निर्देशांक

परिभाषा: सूचकांक एह ऐसी सांख्यिकीय माप है जो समय, स्थान या अन्य विशेषता के आधार पर किसी पर आय मूल्यों के समय में होने वाले परिवर्तनों को प्रदर्शित करता है।

विशेषताएँ

1. परिवर्तनों का सापेक्ष माप
2. संख्यात्मक रूप में
3. औसत

सूचकांकों के लाभ

1. कीमत स्तर में परिवर्तन
2. जीवन स्तर परिवर्तन का ज्ञान
3. वेतन तथा भतों में समानताओं
4. व्यापारी वर्ग के लिए उपयोगी
5. अपादन के बारे में जानकारी

सूचकांकों की सीमाएं

1. पूर्ण सत्य नहीं
2. अन्तर्घातीय तुलनासम्बन्ध नहीं
3. समय का अंतर
4. सीमित उपयोग
5. भार देने का दोष

सूचकांकों के प्रकार
1. साधारण सूचकांक       2. भारित सूचकांक

सूत्र ..........
1) लाप्तीय की विधि –
2) पारंपरिक की विधि       सूत्र ........
3) धिशर का सूचकांक       सूत्र ........

उपभोक्ता मूल्य सूचकांक की रचना
1) उपभोक्ता वर्ग का चुनाव       2) परिवारिक बजर की जानकारी
3) आधार वर्ग का चुनाव       4) कीमत की जानकारी

उपभोक्ता कीमत सूचकांक बनाने की विधियाँ
1) समूहीकृत ...... विधि       2) पारिवारिक ...... विधि

उपभोक्ता मूल्य सूचकांक का महत्व
1. मूल्य नारी का निर्धारण       2. मजदूरी समायोजन
3. वास्तविक मूल्यों का माप       4. बाजारो का विश्लेषण

औद्योगिक उत्पादन के सूचकांक की रचना
1. उद्योगों का वर्गीकरण       2. खनन
3. बिनिर्माण       4. बिजली

सूत्र .......

प्रश्नोतर
भाग २

अध्याय १

स्वतंत्रता प्राप्ति के समय भारतीय अर्थव्यवस्था

प्र १. स्वतंत्रता के समय भारतीय कृषि की अवस्था कैसी थी?

उत्तर: १) उत्पादकता का निम्न स्तर
      २) उच्च कोटि की सुमेधता
      ३) भू-स्वामी द्वारा कृषक का भरपूर श्रोषण
      ४) भूमि के स्वामी तथा उसे जोतने वाले के बीच चौड़ी खाई

प्र २. स्वतंत्रता प्राप्ति के समय औद्योगिक क्षेत्र की स्थिति कैसी थी?

उत्तर: १) राज्य की विभेदमूलक तटकर नीति
      २) राज दरबारों का लोप होना
      ३) मशीनों द्वारा निर्मित वस्तुओं से प्रतियोगिता
      ४) माँग का नया रूप
      ५) भारत में रेलवे का आगमन
      ६) आधुनिक उद्योग का निरंशाजनक विकास
प्र ३. ब्रिटिश शासन के अन्तर्गत विदेशी व्यापार को स्थिति कैसी थी?
उत्तर: भारतीय अर्थव्यवस्था के औपनन वेशिक शोषण के कारण, भारत कच्चे माल तथा व्यापारी वस्तुओं का शुद्ध निर्यात कर गया। दूसरी ओर, यह ब्रिटिश उद्योग द्वारा उत्पादित वस्तुओं का शुद्ध आयात कर गया। ब्रिटिश सरकार की औपनिवेशिक नीति के कारण भारत के विदेशी व्यापार पर ब्रिटेन सरकार का एकाधिकारी नियंत्रण हो गया। अधिकांश सन्यात तथा आयात भारत तथा ब्रिटिश के बीच सीमित हो गए।
प्र ४. ब्रिटिश शासन के दौरान जनांकिकीय सुची कैसी थी?
उत्तर: 1) जन्म दर और मृत्यु दर दोनों में वृद्धि थी - लगभग ४८ तथा ४० प्रति हजार जो कि देश में पारि जाने वाली निर्धंतता दर की व्याख्या है।
2) शिशु मृत्यु दर बढ़ते ऊंची थी जो कि लगभग २१८ प्रति हजार थी। इसकी तुलना में आज यह ५७ प्रति हजार है।
3) जीवन अवधि के लिए ३२ वर्ष थी, जब तक कि वर्तमान में यह बढ़कर ६५.४ वर्ष हो गयी है।
4) साक्षरता दर लगभग १६ प्रतिशत थी। यह भी सामाजिक तथा आर्थिक पिँढ़ेपंप की निश्चित है।
प्र ५. स्वतंत्रता के समय पेशेवर झांचा कैसा था?
उत्तर: 1) कृषि - मुख्य व्यवसाय था जिसमें लगभग ७२.७% प्रतिशत कार्यकारी जनसंख्या कृषि में लगी हुई थी।
2) उद्योग - व्यवसाय का उभरता स्रोत था जिसमें कार्यकारी जनसंख्या का केवल १०.१ प्रतिशत भाग निर्माण उद्योगों इत्यादि में लगा हुआ था।
3) असत्याति विकास - इस समय केवल प्राथमिक क्षेत्र का विकास हुआ का तथा व्यावसायिक तथा तृषीक अन्य क्षेत्रों का विकास अपने शेषाव काल में था।
प्र ६. स्वतंत्रता प्राप्ति के समय आधारित संरचना कैसी थी?
उत्तर: ब्रिटिश शासन के दौरान यात्रात तथा संचार के क्षेत्र में कुछ आधारित संरचना का विकास किया गया था। रेलवे के विकास के साथ-साथ डाक-तार, कुछ बन्दरगाहों
तथा सड़कों का निर्माण तथा विकास भी हुआ।
हालाँकि इन सभी का विकास अपने उपनिवेशी हितों को बढ़ावा देगा था न कि भारतीय अर्थव्यवस्था के विकास की प्रक्रिया की गति को तीव्र बनाना था।

अध्याय २

भारतीय अर्थव्यवस्था (१९५०–१९९०)

अर्थव्यवस्था के प्रकार – → बाजार अर्थव्यवस्था
  → समाजवादी अर्थव्यवस्था
  → मिश्रित अर्थव्यवस्था

योजना आयोग का गठन (पंचवर्षीय योजनाएँ)

१९५०

योजनाओं के उदेश

- वृद्धि – आधुनिकता
- आत्म निर्धारिता – समानता

कृषि – भूमिसूचक
- हिरंत ऋत्ति – बाजार अविभाजित – सहायकी

उद्योग एवं व्यापार

१९५६ की औद्योगिक नीति प्रस्ताव

- छोटे पैमाने के उद्योग
  विभिन्न औद्योगिक नीतियों का विकास पर प्रभाव

१९४८ की औद्योगिक नीति

अति लघु उत्तरीय प्रश्नोत्तर (१ अंक)

१. प्राथमिक क्षेत्र से क्या अभिप्राय है?

प्राथमिक क्षेत्र में कृषि, वाणिज्य, वन आदि को शामिल किया जाता है प्राकृतिक सत्रोत
इसमें शामिल किया जाते हैं।

2. द्वितीय क्षेत्र से क्या अभिप्राय है?

यह वह क्षेत्र है जिसमें उद्यम एक प्रचार की वस्तु को दूसरे प्रकार में परिवर्तित करते है।

3. तृतीय क्षेत्र का क्या अभिप्राय है?

तृतीय क्षेत्र वह क्षेत्र है जो सेवाओं का उत्पादन करता है।

लघु उत्तरीय प्रश्नोत्तर (3/4 अंक)

1. स्वतंत्रता के समय भारतीय अर्थ व्यवस्था की प्रमुख विशेषताएं बताइए।
   - कृषि आजीविका का प्रमुख स्रोत
   - अपर्याप्त कृषि उत्पादन
   - कृषि का सीमित व्यापारी करण
   - आधारभूत उद्योग का अभाव

2. योजना आयोग की स्थापना कब हुई? इसके प्रमुख उद्देश्य क्या हैं?

योजना आयोग की स्थापना १९५० में हुई।

उद्देश्य
   - आधुनिकता
   - विकास
   - आत्मनिर्भरता
   - समानता

दीर्घ उत्तरीय प्रश्नोत्तर (6 अंक)

1. स्वतंत्रता के समय भारतीय अर्थव्यवस्था के पिछड़े प्रकार की व्याख्या करें।
   - उद्यानक्षेत्र का निम्न स्तर
   - निम्न कोटि की तकनीकी
   - सरकार की ओर से उदासीनता
   - सिचाई के साधनों का अभाव
- कृषकों को उचित प्रशिक्षण का आभाव

2. द्वितीयक एवं तृतीयक क्षेत्र में अन्तर स्पष्ट कीजिए।
   1) द्वितीयक क्षेत्र
      अ) उद्योग   ब) निर्माण
   2) तृतीयक क्षेत्र
      अ) बैंकिंग  ब) वीमा   स) परिवहन  ड) संचार  ढ) व्यापार

अध्याय 3

नई आर्थिक नीति या अधिक सुधार

प्र 1. आर्थिक सुधार क्या है?
उत्तर: सन् 1991 से भारत सरकार ने देश को आर्थिक संकट से निकालने तथा विकास को गति को तेज़ करने के लिए विभिन्न आर्थिक सुधार आरंभ किए। इसे आर्थिक सुधार कहते हैं।

प्र 2. आर्थिक सुधारों की आवश्यकता क्यों पड़ी?
उत्तर: इसकी आवश्यकता निम्न कारणों से पड़ी:–
   - राजकीय घाटे में वृद्धि
   - प्रतिकूल भुगतान संतुलन में वृद्धि
   - खाड़ी संकट
   - विदेशी विनिमय के भंडारों में कमी
   - कीमतों में वृद्धि
   - सार्वजनिक क्षेत्र के उधमों का कार्य संतोषजनक न होना।

प्र 3. नई आर्थिक नीति के मुख्य विशेषताओं को बताइए?
उत्तर: नई आर्थिक नीति के तीन मुख्य तत्त्व हैं:–
अ) उदारीकरण:- सरकार द्वारा लगाये गये प्रत्यक्ष या भौतिक नियंत्रणों से अर्थव्यवस्था की मुक्ति

उदारीकरण के अंतर्गत आर्थिक सुधार

- औद्योगिक लाइसेंसिंग का उन्मूलन
- उत्पादन क्षेत्र से आरक्षण हटाना
- उत्पादन क्षमता का विकास
- पूर्णांग पदार्थों के आयात की स्वतंत्रता

ब) निजीकरण:- यह वह सामान्य प्रक्रिया है जिसके द्वारा निजी क्षेत्र किसी सरकारी उद्यम का मालिक बन जाता है या उसका प्रबंध करता है।

निजीकरण के उपाय:

- सार्वजनिक क्षेत्र का संकुचन
- सार्वजनिक क्षेत्र के उद्यमों में सरकार का विनिवेश
- सार्वजनिक उद्यमों के शेयरों की विक्री।

स) वैश्वीकरण : इससे अभिप्राय विश्व अर्थव्यवस्था में आये खुलेपन, बढ़ती हुई परस्पर आर्थिक निर्भरता तथा आर्थिक एकीकरण के फैलाव से है।

वैश्वीकरण के उपाय:

- विदेशी विशेष की साम्या सीमा में वृद्धि
- आर्थिक परवर्तनीयता
- दीर्घकालीन व्यापार नीति

ड) नई आर्थिक नीति के सकारात्मक प्रभावों को बताइए।

उत्तर: - एक कंपनियांक मार्ग अर्थव्यवस्था
- औद्योगिक उत्पादन के लिए स्फूर्तिदायक
- राजकीय घाटे पर रोक
- मुदा-स्फीति पर रोक
- उपभोक्ता की प्रमुख
- विदेशी विनियम कोषों में पर्याप्त वृद्धि
- निजी विदेशी निवेश का प्रवाह
- एकाधिकारी बाजार से प्रतियोगी बाजार

प्र 5: नई आर्थिक के नकारात्मक प्रभावों को बताए।

उत्तर: कृषि की अवबंधन
- विकास प्रक्रिया का शहरी केन्द्रीयकरण
- आर्थिक औपनिवेशवाद
- उपभोक्तावाद का फैलाव
- एक-लीला संवृद्धि प्रक्रिया
- सांस्कृतिक हस

अध्याय ४ – भारतीय अर्थव्यवस्था की वर्तमान चुनौतियाँ

निर्धारण

निर्धारण से अभिप्राय है जीवन के लिए न्यूनतम उपयोग आवश्यकताओं की प्राप्ति का न होना।

निर्धारण के प्रकार

1. सापेक्ष निर्धारण – सापेक्ष निर्धारण से अभिप्राय विभिन्न वर्गों, प्रदेशों या दूसरे देशों की तुलना में पाई जानेवाली निर्धारण से है। जिस देश या वर्ग के लोगों का जीवन निर्वाह स्तर नीचा होता है वे उच्च निर्वाह स्तर के लोगों या देश की तुलना में गरीब या सापेक्ष रूप से निर्धारण माने जाते हैं।

2. निर्पेक्ष निर्धारण – निर्पेक्ष निर्धारण से अभिप्राय किसी देश की आर्थिक अवस्था को ध्यान में रखते हुए निर्धारण के माप से है। भारत में निर्पेक्ष निर्धारण का अनुमान लगाने

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के लिए निर्धनता रेखा की धारणा का प्रयोग किया गया है।

निर्धनता का श्रेणी करण – श्रेणी १ चिकित्सकलिक निर्धनता – वे जो सदैव निर्धन रहते हैं और जो सामाजिक निर्धन रहते हैं। उदाहरण भूमिगत श्रमिक और अनियमित भाज्य।

श्रेणी २ अत्य चिकित्सकलिक निर्धन – (१) सबसे व्यक्ति जो निरंतर निर्धन और गर्म निर्धन वर्गों के बीच आता जाता रहता है जैसे मोसमी मजदूर और (२) अत्यचिकित्सकलिक निर्धन

श्रेणी ३ कभी निर्धननही – वे व्यक्ति जो कभी निर्धन नहीं होते, इन्हें गर्म निर्धन कहा जाता है।

यह अनुमान लगाया गया है कि तमिलनाडु, उत्तरप्रदेश, बिहार, उड़ीसा तथा मध्यप्रदेश में निर्धनों की संख्या सबसे अधिक है। उत्तरप्रदेश की लगभग ३१.२ प्रतिशत बिहार की ४२.६ प्रतिशत, उड़ीसा की ४७.२ प्रतिशत, मध्यप्रदेश की ३७.४ प्रतिशत अनुभावित जनसंख्या निर्धनता रेखा से नीचे रह रही है।

निर्धनता के कारण

१. राष्ट्रीय उत्पाद का सम्मान स्तर – भारत का कुल राष्ट्रीय उत्पाद जनसंख्या की तुलना में काफी कम है। इस कारण भी प्रति व्यक्ति आय कम रही है।

२. विकास की कम दर – भारत की पंचवर्षीय योजनाओं में विकास की दर बहुत कम रही है। योजनाओं की अवधि में सफल घरेलू उत्पाद की विकास दर लगभग ४ प्रतिशत रही है। परन्तु जनसंख्या की वृक्षि दर लगभग २ प्रतिशत होने से प्रति व्यक्ति आय में वृक्षि केवल २-४ प्रतिशत हुई है।

३. जनसंख्या का अधिक दरवाध – भारत में जनसंख्या उत्पाद दूरित्व से बढ़ रही है, इस वृक्षि का कारण पिछले कई वर्षों से मृत्यु दर का तो कम हो जाना पर जनम दर का लगभग स्थिर रहना है।

४. स्फूरतिक दरवाध – उत्पादन की नीची दर तथा जनसंख्या वृक्षि की ऊंची दर के फलस्वरूप भारत जैसी अत्यविकसित अर्थव्यवस्थाएं स्फूरतीक दरवाध के जाल में फंस जाती है। मुद्रा स्फूरति भारतीय अर्थव्यवस्था का एक स्थायी लक्षण बना हुआ है।

५. पूँजी की अपर्याप्तता – पूँजी आर्थिक विकास का एक सहायक तत्व है। पूँजी संचय को किसी देश के उत्पादन भाग के एक सूचक के रूप में प्रयोग किया जा सकता है।
निम्न पृष्ठी निर्माण का अर्थ है कम उत्पादन क्षमता और इसलिए निर्धनता।

6. आधारिक संरचना का अभाव – आधारिक आधारित संरचना के प्रमुख घटक जैसे उर्जा, यातायात तथा संचार और सामाजिक आधारित संरचना के प्रमुख घटक जैसे शिक्षा, स्वास्थ्य तथा निवास सेवाएं बहुत बुरी अवस्था में है। संवृद्धि तथा विकास के कार्यक्रम में ये सभी एक आधार शिला का कार्य करते है।

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निर्धनता को दूर करने के उपाय

1. आधारिक विकास की वृद्धि का गति को बढ़ाना

2. आय की असमानता को कम करना

3. जमसंख्या की वृद्धि दर में कमी

4. अन्य उपाय –
   1) कृषि का विकास
   2) कीमत स्तर में स्थिरता
   3) बेरोजगार का उन्मूलन
   4) उत्पादन तकनीक में परिवर्तन
   5) न्यूनतम आवश्यकताओं की सन्तुष्टि
   6) पिछड़े क्षेत्रों पर विशेष ध्यान
   7) स्वयं रोजगार के लिए अवसर

सरकार द्वारा निर्धनता को दूर करने के लिए किए गए

उपाय – (1) स्वर्ण जयन्ती ग्राम स्वरोजगार योजना

- इस योजना में स्वरोजगार के लिए पहले से लागू सभी योजनाओं को शामिल कर लिया गया है। जैसे–

   (1) समान्त ग्रामीण विकास कार्यक्रम
   (2) स्वरोजगार के लिए ग्रामीण युवाओं का प्रशिक्षण कार्यक्रम

2) संपूर्ण ग्रामीण रोजगार योजना – यह योजना। सितंबर 2001 को शुरू की गई थी। जवाब है ग्राम समृद्धि योजना तथा रोजगार आवश्यक योजना को इस योजना में मिला दिया गया
है।

3. प्रधानमंत्री ग्रामोदय योजना – (१) प्रधानमंत्री ग्राम सड़क योजना (२) प्रधानमंत्री ग्रामीण आवास योजना (३) प्रधानमंत्री ग्रामीण – पेयजल योजना

4. जयप्रकाश रोजगार गारंटी योजना

5. स्वर्ण जयन्ती शहरी रोजगार योजना

6. प्रधानमंत्री रोजगार योजना

7. लघु तथा कुटीर उद्योगों का विकास

8. न्यूनतम आवश्यकता कार्यक्रम

9. बीस सूत्रीय कार्यक्रम

10. महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम २००५

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अति लघु उत्तर रूपी प्रश्न (१ अंक वाले प्रश्न)

1. गरीबी से आप क्या समझते हैं?

2. भारत में निर्धनता को दूर करने के लिए क्या उपाय किया जाना चाहिए?

3. भारत में निरपेक्ष निर्धनता से क्या अभिप्राय है?

4. सापेक्ष निर्धनता से क्या अभिप्राय है?

5. निर्धनता रेखा की परिभाषा दीजिए।

6. भारत में निर्धनता रेखा से नीचे कौन से व्यक्ति कहलाते है?

7. शिक्षित बेरोजगार युवाओं को रोजगार देने के लिए कौन सी योजना लागू की गई है?

लघु उत्तर रूपी प्रश्न (३/४ अंक)

1. सापेक्ष और निरपेक्ष गरीबी के मध्य अंतर की कारण करें।

2. निर्धनता से क्या अभिप्राय है? इसके मुख्य दो सप कौन से हैं?

3. भारत में निर्धनता को हटाने के लिए तीन मुख्य सुझाव दें।
4. भारत सरकार ने निर्धारण दूर करने के लिए कौन से चार उपाय किए है?

5. स्वर्ण जयंती ग्राम स्वरोजगार योजना पर एक टिप्पणी लिखें।

6. निर्धारण तथा असमानता किस प्रकार एक दूसरे से सम्बन्धित है?

7. महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी योजना को समझाएं।

8. न्यूनतम आवश्यकता कार्यक्रम से क्या अभिप्राय है?

दीर्घ उत्तरीय प्रश्न (6 अंक वाले प्रश्न)

1. रोजगार गारंटी एक २००५ क्या है? क्या आप सोचते हैं कि भारत में निर्धारण की समस्या के निवारण में यह सहायता देगा?

2. भारत सरकार द्वारा निर्धारण उन्मूलन के लिए उठाए गए विभिन्न उपयोग का वर्णन करें।

3. निर्धारण से क्या अभिप्राय है? भारत में निर्धारण के कारणों का वर्णन करें।

अति लघु उत्तरीय प्रश्नों के उत्तर (१ अंक)

1. गरीबी से अभिप्राय है जीवन के लिए न्यूनतम उपयोग आवश्यकताओं की प्राप्ति कानहोना है।

2. भारत में निर्धारण को दूर करने के लिए ग्रामीण क्षेत्रों में विनिवेश करना चाहिए लघु तथा कुटीर उद्योगों का विकास करना चाहिए।

3. निम्न पेट्रोलियम निर्धारण से अभिप्राय किसी देश की आर्थिक अवस्था को ध्यान में रखते हुए निर्धारण के माप से है?

4. सालापेक्षा निर्धारण से अभिप्राय विभिन्न वर्गों, प्रदेशों या दूसरे देशों की तुलना में पायीजाने वाली निर्धारण से है?

5. निर्धारण रेखा की परिकल्पना सरकार के द्वारा की जाती है यदि किसी व्यक्ति के पास सरकार द्वारा निर्धारित आय है साधन नहीं है तो वह निर्धारण रेखा की परिधि में आता है।

6. BPL गरीबी रेखा से नीचे व्यक्ति सरकार द्वारा विशेष सुविधाए पाने के हकदार।

7. प्रधानमंत्री शिक्षित रोजगार योजना।
लघु उत्तरीय प्रश्नों के उत्तर (३/४ अंक)

1. सापेक्ष्य गरीबी –
   - सापेक्ष्य निर्धारण से अभिप्रय विभिन्न वर्गों व प्रदेशों या दूसरे देशों की तुलना में पायी जाने वाली निर्धारण से है।
   - निरपेक्ष गरीबी – से अभिप्रय किसी देश की आर्थिक अवस्था को ध्यान में रखते हुए निर्धारण के माप से है।

2. निर्धारण से अभिप्रय है जीवन के लिए न्यूनतम उपयोग आवश्यकताओं की प्राप्ति का न होना। सापेक्ष्य तथा निरपेक्ष निर्धारण के दो प्रकार है।

3. - आर्थिक विकास की वृद्धि की गति को बढ़ाना
   - आय की असमानता को कम करना
   - जनसंख्या की वृद्धि दर में कम्भी
   - कृषि का विकास, क्रीमत निराल में स्थिरता

4. - स्वर्ण जयंती ग्राम स्वरोजगार योजना
   - समन्वित ग्रामीण विकास कार्यक्रम
   - सम्पूर्ण ग्रामीण रोजगार योजना
   - प्रधानमंत्री ग्रामोदय योजना

5. यह योजना सितंबर २००९ को शुरू की गई थी। जवाहर ग्राम समृद्धि योजना तथा रोजगार आश्वासन योजना को इस योजना में मिला दिया गया है।

6. निर्धारण व्यक्ति के काम करने के अवसर कम होते उसकी आय कम होती है तथा जीवन स्तर भी निम्न होता यही सभी कारण उसे समाज के दूसरे लोगों की दृष्टि में असमानता की दृष्टि से देखा जाता है इस प्रकार निर्धारण तथा असमानता एक दूसरे से सम्बन्धित है।

7. राष्ट्रीय ग्रामीण रोजगार गार्डनी अधिनियम करने के इच्छुक हैं, उन्हें १०० दिनों की न्यूनतम अवधि के लिए काम दिया जायेगा।
8. पाँचवी योजना में निर्धन लोगों के जीवन स्तर को ऊँचा उठाने के लिए न्यूनतम आवश्यकता कार्यक्रम लागू किया गया। ये कार्यक्रम हैं — प्रारंभिक शिक्षा, प्रोड शिक्षा, ग्रामीण स्वास्थ्य, ग्रामीण जल आपूर्ति, ग्रामीण सड़कें, ग्रामीण — विधुतीकरण, ग्रामीण आवास आदि।

दीर्घ उत्तरीय प्रश्नों के उत्तर (6 अंक)

1. इस एक्ट के अन्तर्गत वे सभी व्यक्ति जो न्यूनतम मजदूरी दर पर काम करने के इच्छुक हैं उन्हें १०० दिनों की न्यूनतम अवधि के लिए काम दिया जायेगा। जो रोजगार प्राप्त करना चाहते हैं उन्हें उन ग्रामीण क्षेत्रों में पहुँचना होगा जहां रोजगार कार्य शुरू किया जा रहा है। ग्रामीण क्षेत्र के लोगों की आय में वृद्धि होगी तथा गरीबों की समस्या दूर होगी।

2. — स्वर्ण जयंती ग्राम स्वरोज़जिया योजना
— संपूर्ण ग्रामीण रोजगार योजना
— प्रधानमंत्री ग्रामोदय योजना
— जयप्रकाश रोजगार गारंटी योजना
— स्वर्ण जयंती शहरी रोजगार योजना
— प्रधानमंत्री रोजगार योजना
— महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम २००५

3. परिभाषा अंति लघु उत्तरीय भाग भें देखे
— राष्ट्रीय उत्तर का निर्माण
— विकास की कम दर
— जनसंख्या का अधिक दरबार
— स्फीतिक दरबार
— पौँजी की अपर्याप्तता
— आधरित संरचना का अभाव
(संक्षेप में समझाये)
अध्याय ५
मानव पूँजी निर्माण

मानव पूँजी – से अभिप्राय किसी देश में किसी समय विशेष पर पाए जाने वाले कौशल तथा सुविज्ञता के भण्डार से है।

- समय के साथ, मानव पूँजी के स्टॉक में होने वाली वृद्धि को प्रक्रिया को मानव पूँजी निर्माण कहते हैं।
- भौतिक पूँजी – से अभिप्राय उत्पादन के उत्पादित साधनों के भण्डार से है इसमें मशीनों, उत्पादन करने उपकरणों तथा क्षेत्रों एवं उपकरणों को सम्मिलित लिए जाता है।

वित्तीय पूँजी – का अर्थ कम्पनियों के शेयर्स/स्टॉक है, अथवा यह कम्पनियों की सम्पत्तियों के प्रति वित्तीय दावे होते हैं।

मानव पूँजी निर्माण के स्रोत

1. शिक्षा पर काम
2. स्वास्थ्य पर व्यय
3. नौकरी के साथ प्रशिक्षण
4. व्यस्कों के लिए अध्ययन का कार्यक्रम
5. स्थानरण
6. सूचना पर व्यय

आर्थिक संवृद्धि में मानव पूँजी निर्माण की भूमिका

- संवृद्धि के भावात्मक तथा भौतिक वातावरण में परिवर्तन
- भौतिक पूँजी की उच्चतर उत्पादन
- कौशल में नवीनता
- समानता तथा सहभागिता की उच्च दर
भारत में मानव पूर्वजी निर्माण की समस्याएं
- तेजी से वढ़ रही जनसंख्या
- वृद्धि जीवी अपवाह
- अपवाह मानव शक्ति आयोजन
- कृषि में काम के दौरान प्रशिक्षण की अपर्याप्तता
- निम्न शैक्षिक मानव

शिक्षा का महत्व तथा इसके उद्देश्य
1. शिक्षा से अच्छे नागरिक बनते हैं।
2. इससे ज्ञान तथा, प्रौद्योगिकी का विकास होता है।
3. लोगों के मास्त्यक का विकास होता है।
4. इसके द्वारा लोगों का व्यक्तित्व विकसित होता है।

भारत में शिक्षा क्षेत्र का विकास
1. सामान्य शिक्षा का विस्तार
2. प्राथमिक शिक्षा
3. माध्यमिक शिक्षा– केन्द्रीय विद्यालय, नवोदय विद्यालय
4. उच्च शिक्षा
5. तकनीकी, चिकित्सा तथा कृषि संबंधी शिक्षा
6. सर्वशिक्षा अभियान
7. ग्रामीण शिक्षा
8. व्यक्ति तथा महिला शिक्षा
शिक्षा अभी भी एक चुनौती पूर्ण समस्या

1. निरक्षर (की बड़ी संख्या)
2. अपर्याप्त व्यावसायिक शिक्षा
3. लिंग भेद
4. ग्रामीण भारतीय का निम्न होना
5. शिक्षा पर कम खर्च
6. निर्जीकण

अति लघु उत्तरीय प्रश्न (अंक 01)

1. मानव पूंजी की परिभाषा।
2. मानव पूंजी निर्माण का व्या अर्थ है?
3. शिक्षा निवेश क्या है?
4. काम के दौरान प्रशिक्षण क्या है?
5. मानव विकास क्या है?

लघु उत्तरीय प्रश्न (1/4 अंक)

1. मानव पूंजी निर्माण के तीन प्रमुख संसाधन क्या है?
2. भारत में शिक्षा के मुख्य उद्देश्यों का वर्णन करें।
3. क्या तेजी से बढ़ती जनसंख्या मानव पूंजी निर्माण की प्रक्रिया में बाधक है?
4. सूचना पर क्या मानव पूंजी निर्माण का एक संसाधन है? कैसे? व्याख्या कीजिए।

अतिलघु उत्तरीय प्रश्नों के उत्तर (01 अंक प्रत्येक के लिए)

1. मानव पूंजी से अभिप्राय किसी देश में किसी समय विशेष पर पाए जाने वाले कौशल तथा सुविज्ञता के भण्डार से है।
2. मानव पूंजी निर्माण वह प्रक्रिया है। जिसके द्वारा ऐसे व्यक्तियों को पाना तथा उनकी संख्या में वृद्धि करना है जिनमें कौशल शिक्षा तथा अनुभव के गुण पाए जाए जो कि
किसी देश के आर्थिक तथा राजनैतिक विकास के लिए बहुत महत्वपूर्ण होते हैं।

3. शिक्षा में निवेश से तात्पर्य उस निवेश से है सरकार द्वारा या निजी व्यक्ति के द्वारा शिक्षा के विकास के लिए किया जाए।

4. काम के दौरान प्रशिक्षण का अर्थ उस प्रशिक्षण से है जो अपने कर्मचारियो को उनकी दक्षता बढ़ाने के लिए दिया जाता है।

5. मानव के ज्ञान तथा कौशल में सुधार के लिए किये जाने वाले विराम को मानव विराम कहते है।

लघु उत्तरीय प्रश्नों के उत्तर (३/४ अंक)

1. शिक्षा पर लाभ
   - स्वास्थ्य पर व्यय
   - नौकरी के साथ प्रशिक्षण
   - व्यस्कों के लिए अध्ययन का कार्यक्रम
   - संक्षेप में व्याख्या करें

2. अच्छे नागरिक
   - विज्ञान तथा प्रौद्योगिकी का विकास
   - देश के संसाधनों के प्रयोग में सहायक
   - मानव व्यवस्था का विकास
   - लोगों के मानसिक क्षितिज वाकरी

3. तेजी से वढ़ रही जनसंख्या के अनुपात में विनिवेश नहीं किया जाता है इस कारण मानव के रोजगार के स्तर में कभी रहती है और समयवध्य तरीके से पूजी निर्माण की प्रक्रिया वाधक होती है।

4. कौशल की प्राप्ति तथा इसके प्रयोग के लिए आवश्यक है। कि नौकरी के स्थानों तथा विशिष्ट कौशल निर्माण की श्रृंखलक संस्थाओं के बारे में पूजी सूचना प्राप्त हो। तदनुसार सूचना पर किया गया काम भी मानव पूजी निर्माण के स्रोतों में शामिल किया
ताता है।

दीर्घ उत्तरीय प्रश्नों के उत्तर (6 अंक)

1. मानव पूंजी से अभिप्राय किसी देश में किसी समय विशेष पर पाए जाने वाले कौशल तथा सुविज्ञता के भण्डार से है।
   भौतिक पूंजी से अभिप्रयोग उत्पादन के उत्पादित साधनों के भण्डार से है इसमें मशीनों से है इसमें मशीनें, उत्पादन करने वाले प्लांट्स (Plants) तथा यन्त्र एवं उपकरणों को सम्मिलित किया जाता है।

2. मानव पूंजी में निवेश से उत्पादन का स्तर बढ़ता है रोजगार के नए=२ अवसर प्रदान होते है आय के साथन बढ़ते है विकास में सहायक सकल घरेलू उत्पाद के वृद्धि तकनीकी विकास देश के विकास के सहायक।

3. शिक्षा मानव संसाधन विकास के एक आवश्यक तत्व है। ज्ञान तथा कौशल में सुधार करने के लिए शिक्षा अध्यायन, प्रशिक्षण तथा सीखने की विशेष कर स्कूलों तथा कालेजों में एक प्रक्रिया है। शिक्षा से अच्छे नागरिक बनते है। इससे विज्ञान तथा प्रौद्योगिकी का विकास होता है। लोगों के मस्तिष्क का विकास होता है। इसके द्वारा लोगों का व्यक्तित्व विकसित होता है। इसके द्वारा लोगों का व्यक्तित्व विकास। (अन्य उपयोगी बिन्दु)

4. श्रम वल की उत्पादन क्षमता में वृद्धि करके मानव पूंजी निर्माण सहभागिता की दर में वृद्धि करके मानव पूंजी निर्माण सहभागिता की दर में वृद्धि करता है। सहभागिता की दर जितनी ऊंची होती है समाज में आर्थिक तथा सामाजिक समानता का अंश भी उतना ही अधिक होता है सहभागिता की ऊंची दर तथा समानता का उच्च अंश, सामाजिक न्याय के साथ संवृद्धि जिसे विकास कहा जाता है, वे सूचक होते है।

दीर्घ उत्तरीय प्रश्न (6 अंक)

1. मानव पूंजी तथा भौतिक पूंजी के अंतर कीजिए।

2. मानव पूंजी निर्माण के संसाधन क्या है?

3. व्याख्या कीजिए कि कैसे मानव पूंजी में निवेश संवृद्धि की प्रक्रिया को तीव्र बनाता है।
4. राष्ट्र के विकास के लिए शिक्षा कैसे एक महत्वपूर्ण आगत है। व्याख्या कीजिए।
4. सामाजिक समानता तथा सहभागिता की दर में मानव पूंजी निर्माण किस प्रकार वृद्धि करता है? व्याख्या कीजिए।

अध्याय 6
ग्रामीण विकास
ग्रामीण विकास का अर्थ है ग्रामीण क्षेत्रों के सामाजिक एवं आर्थिक उत्थान के लिए एक नियोजित कार्य विधि ग्रामीण क्षेत्रों में लटकती और उभरती चुनौतियों पर ध्यान केन्द्रित करती है।
ग्रामीण विकास के लिए नियोजित कार्य विधि के मुख्य मुद्दे
1) आधारिक संरचना का विकास
2) मानवीय पूंजी निर्माण
3) उत्पादन संसाधनों का विकास
4) निर्धनता निवारण
5) भूमि सुधार

ग्रामीण सार्थ
ग्रामीण सार्थ का अर्थ कृषि परिवारों के लिए सार्थ की उपलब्धता है। एक सामान्य भारतीय किसान की सार्थ जरूरतों का परिकरण निम्न प्रकार से किया जा सकता है।
1. अत्य कालीन ऋण/सार्थ की आवश्यकता
2. मध्य कालीन ऋण/सार्थ की आवश्यकता
3. दीर्घ कालीन ऋण/सार्थ की आवश्यकता
ग्रामीण सार्थ के स्रोत
अ) गैर संस्थागत स्थोत - भूस्वामी, गांव का चनिया तथा महाजन।
ब) संस्थागत स्थोत - सरकार सहकारी समितिया व्यापारिक बैंक तथा क्षेत्रीय ग्रामीण बैंकों को शामिल किया जा सकता है।
- सहकारी साख समितियाँ
- स्टेट बैंक और इण्डिया तथा व्यापारिक बैंक
- क्षेत्रीय ग्रामीण बैंक तथा भूमि विकास बैंक
- कृषि तथा ग्रामीण विकास का राष्ट्रीय बैंक

कृषि विपणन

फसल कटाई के बाद किसानों को अपनी फसल/उत्पाद को अपने खेत पर संग्रह करने की आवश्यकता होती है, उसे प्रशंसकरण करना होता है। वर्गीकरण होता है और बाद में बाजार में बेचने से पहले पौकिंग करना होता है। कृषि विपणन में निम्न प्रक्रियाओं का शामिल किया का सकता है।

1. फसल कटाई के बाद उसको इकट्ठा करना
2. उत्पाद का प्रशंसकरण करना
3. कोटि के अनुसार उत्पाद का वर्गीकरण करना
4. उत्पाद की विकी पय करना जब की मत लाभपद है।

विपणन प्रणाली को सुधारने के लिए सरकार द्वारा किए गए उपाय।

1. नियमित मणिडां
2. सहकारी कृषि विपणन समितिया
3. भण्डार गृह सुविधाओं का प्रावधान
4. सस्तायात्यात चुमा भातायात
5. सूचना का प्रसार
6. न्यूनतम समर्थन कीमत नीति
ग्रामीण जनसंख्या के लिए रोजगार के गैर कृषि क्षेत्र

1. पशु पालन - भारत में रोजगार का महत्वपूर्ण गैर कृषि क्षेत्र पशुपालन है जैसे जैसे हम सिंचित क्षेत्रों से गैर सिंचित सूखे या सूखे क्षेत्रों की ओर जाते हैं, पशु पालन कृषि का महत्व बढ़ता जाता है। आपरेशन प्लांट उद्योग उत्पाद क्षेत्र में एक ऋणि है जो सन 1966 में आरम्भ की गई थी इस प्रणाली के अन्तर्गत सभी सदस्य किसानों को बाजार में सामूहिक विक्री के लिए अपने दूध के उत्पाद को एकत्रित करना होता है।

2. मछली पालन - केरल, महाराष्ट्र, गुजरात, तथा तमिलनाडु भारत में मछुआरों का समुदाय, मछली पकड़ने के अन्तर्गत और महासागर स्थलों पर लगभग समान रूप से निर्धार करता है। इस क्षेत्र का सकल घरेलू उत्पाद में योगदान 2 प्रतिशत है।

3. उद्यान विज्ञान वागवानी - ग्रामीण क्षेत्रों में उद्यान विज्ञान और नागवानी उत्पादक गतिविधियों में विकसीकरण का एक अन्य क्षेत्र है। नागवान उत्पादों फल, सब्जियां, रेशेदार फसलें, सुगन्धित फूल पोथे आधि शामिल होते हैं। अंतर्गत फसल उत्पादकता 1991–2003 के वर्षों के बीच के समय को वागवानी का “स्वर्णी ऋणि” का काल माना जाता है।

4. कटौती और घरेलू उद्योग - कटौती और घरेलू उद्योग आय निर्माण के पारंपरिक गैर कृषि स्थल है। परस्पर से ही इस उद्योग पर काटने, बुनने, रंगने तथा ब्याचिंग क्रियाओं का प्रभुत्व रहा है। साफ बनाना, गुड़िया बनाना, मशरूम की खेती तथा मधुमक्खियों का पालन प्रमुख उद्देश्य है।

जैविक कृषि और धारणिय विकास

जैविक कृषि आधारिक रूप से वह पर्याप्त है जो खेती के लिए जैविक आगामों के प्रयोग पर निर्भर करती है। जैविक आगाम में मूलत: पशु खाद हरी खाद शामिल है।

जैविक कृषि क्यों?

परस्परागत कृषि की तुलना में जैविक कृषि के कुछ उल्लेखनीय लाभ है जो इस प्रकार हैं -

1. गैर नवीकरणीय संसाधनों के प्रयोग का त्याग करती है।

2. पर्यावरण मित्र
3. मृदा उपजाऊपन को बनाए जाती है
4. स्वास्थ्यवर्धन एवं स्वादिष्ट भोजन
5. छोटे और सीमान्त किसानों के लिए सस्ती प्रोडॉक्टिवीटी

अति लघु उत्तरीय प्रश्न (१ अंक)
1. कृषि सारख से आप क्या समझते हैं?
2. ग्रामीण विकास संबंधी चार महत्वपूर्ण समस्याओं के नाम बताइए।
3. कृषि सारख के गैर संस्थागत स्थ्रोतों की परिभाषा दीजिए।
4. जैविक कृषि से आप क्या समझते हैं?
5. कृषि साज के दो संस्थागत स्थ्रोतों के नाम बताइए।
काम करने के योग्य एवं इच्छुक है वर्तमान में इस कार्यक्रम का नाम महात्मा गांधी
राष्ट्रीय ग्रामीण रोजगार गास्टी एक्ट २००५ है।

दीर्घ उत्तरीय प्रश्नोत्तर (६ अंक)
1. भारत में वेरोजगारी के कारणों का वर्णन करें।
   - धीमा आर्थिक विकास
   - जनसंख्या में तीव्र वृद्धि
   - कृषि एवं मौसमी धन्या
   - सितार सुविधाओं की कमी
   - संयुक्त परिवार प्रणाली
   - कुटीर और लघु उद्योगों का पतन
2. वेरोजगारी की समस्या को हल करने के लिए किए गए प्रयासों की चर्चा कीजिए।
   - उत्पादन में वृद्धि
   - उत्पादकता में वृद्धि
   - पूर्ण निर्माण की ऊंची दर
   - स्वयं रोजगार में लगे लोगों को अधिक सहायता
   - शिक्षा प्रणाली में परिवर्तन
   - औद्योगिक तकनीकी में परिवर्तन
   - योजनाओं में रोजगार कार्यक्रम को अधिक महत्व
3. वेरोजगारी के आर्थिक एवं सामाजिक परिणामों की व्यवस्था कीजिए।
अ) आर्थिक परिणाम

- मानव शक्ति का अप्रयोग
- उत्पादन की हानि
- पूंजी निर्माण में गिरावट
- कम उत्पादकता

ब) सामाजिक परिणाम

- जीवन की निम्न गुणवत्ता
- अत्याधिक असमानता
- सामाजिक अशान्ति
- वर्ग संघर्ष

व्यापार (तथा धन्यें मे लगे होते है)

४. नियमित मजदूर कौन है?

नियमित मजदूरों को स्थापी वेतन पर रख जाता है यह लोग सभी प्रकार के लाभ पाने के अधिकार है।

५. मौसमी वेरोजगारी से आप क्या समझते है?

मौसमी वेरोजगारी से आशय यह है कि खाली मौसम में अक्सर कृषि में काम करने वाले बेकार रहते है वह ५ व ७ महीने तक वेरोजगार रहते है मौसमी वेरोजगारी की श्रेणी में रहा जाता है।

लघु उत्तरीय प्रश्नोत्तर  (३/४ अंक)

१. श्रम आपूर्ति तथा श्रम वल मे अन्तर स्पष्ट कीजिए।

श्रम आपूर्ति

विभिन्न मजदूरी दरों के अनुसार श्रम की पूर्ति

काम करने वालों की संख्या स्थिर रहते हुए भी श्रम की आपूर्ति कम या अधिक हो सकती है।

श्रम वल

- वास्तव में काम कर रहे या काम करने के इच्छुक व्यक्तियों की संख्या
- क्योंकि इसे व्यक्तियों की संख्या के रूप में मापा जाता है।

2. भारत में सहभागिता की दर को समझाए।
- शहरी क्षेत्रों में सहभागिता की दर लगभग ३४ प्रतिशत है।
- ग्रामीण क्षेत्रों में सहभागिता की दर लगभग ४२ प्रतिशत है।
- देश में सहभागिता की दर लगभग ४० प्रतिशत है।

3. भारत में पेशेवर ढांचे का वर्गीकरण कीजिए।
- प्राथमिक क्षेत्र – कृषि वानिकी, मछली पकड़ना खनन आदि।
- द्वितीय क्षेत्र – निर्माण, विनिर्माण, विजली गैस आदि।
- तृतीय क्षेत्र – व्यापार, परिवहन, संग्रहण तथा सेवाएं।

4. ग्रामीण रोजगार गारंटी एक्ट २००५ क्या है?
राष्ट्रीय ग्रामीण रोजगार गारंटी एक्ट २००५ में लागू किया गया। ग्रामीण क्षेत्रों में यह एक्ट उन सभी व्यक्तियों को १०० दिन के लिए मजदूरी रोजगार की गारंटी देता है जो निर्धनता रेजा से नीचे रहते हैं और सरकार द्वारा दी गई मजदूरी दर पर .................

अध्याय ७
रोजगार एवं बरोजगारी

वह व्यक्ति जो जीविका के लिए किसी प्रकार के रोजगार में लगा है कर्मी कहलाता है।
एक अर्थव्यवस्था में एक वर्ष के दौरान उत्पादित वस्तुओं तथा सेवाओं के कुल जोड़ को सकल घरेलू उत्पाद कहा जाता है व्यवस्थित मजदूर वें लोग होते हैं जो अपने ही व्यापार तथा धन्ये में लगे होते है।
भाड़े के मजदूर वें होते हैं जो दूसरों के लिए काम करते हैं। अनियमित मजदूरों को दैनिक मजदूरी पर रखा जाता है।
मालिक उन्हें नियमित आधार पर नहीं लगाते।
नियमित मजदूरों का नाम मालिकों के स्थायी चेतन पर रखा जाता है। वे लोग सभी प्रकार के सामाजिक सुरक्षा के लाभों जैसे पेंशन, उपदान तथा भविष्य निधि के अधिकारी होते हैं।

भारत में कार्यवाल का आकार

1. हमारा अधिकांश कार्यवाल ग्रामीण आधारित ब्यों है।
2. महिला श्रमिकों का प्रतिष्ठित निम्न तथा शहरी क्षेत्रों में और भी अधिक निम्न ब्यों होता है।

पेशेवर ढांचा

1. प्राथमिक क्षेत्र में – कृषि, वाणिज्य, मछली पकड़ना, जनन आदि
2. द्वितीय क्षेत्र – विनिमय, निर्माण, विजली गैस तथा जल आपूर्ति
   – ग्रामीण वेलेजगार, शहरी वेलेजगार प्रकार
   – वेलेजगारी के आधिक तथा सामाजिक परिणाम

सरकारी नीति और कार्यक्रम

अतिलघु उत्तरीय प्रश्न एवं उत्तर (ि अंक)

1. कर्मी से आप क्या समझते हैं?
   वह व्यक्ति जो जीविका के लिए किसी प्रकार के रोजगार में लगा है।
2. स्वालियों जित मजदूर कौन है?
   स्वाभितोंजित मजदूर वे लोग होते हैं जो अपने ही कार्य में लगे रहते हैं।

लघु उत्तरीय प्रश्न (३/४ अंक)

1. NABARD पर एक संक्षिप्त टिप्पणी लिखें।
2. भारतीय किसान को साख की बंडों जरबत पड़ती है?
3. जीविका खेती के क्या लाभ है?
4. सहकारी साख समितियों के दो आधार भूत उद्देश्य बताइए।
दीर्घ उत्तरीय प्रश्न

1. ग्रामीण विकास शब्द से आप क्या समझते हैं। ग्रामीण विकास के मुख्य मुद्दे क्या हैं?
2. किसानों द्वारा विभिन्न उद्देश्यों के लिए ली जाने वाली साख की किस्मों की व्याख्या करें।
   गैर संस्थागत साख के महत्व को बताएँ।

अति लघु उत्तरीय प्रश्नों के उत्तर (१ अंक)

1. कृषि कार्यों के लिए लिया जाने वाला ऋण कृषि साख कहलाता है।
2. सिचाई के स्थायी साधन - ग्रामीण क्षेत्रों में साख सुविधाएं उपलब्ध कराना - कृषि और गैर कृषि कियाओं के लिए विनामूलक उपलब्धता - ग्रामीण विपणन का विकास।
3. परस्परागत रूप से किसान की साख संबंधी जरूरतें गैर - संस्थागत स्त्रोतों से पूरी हुआ करती थी जैसे भूम्याल, गांव का वनिया, महानग।
4. जैविक खेती भौतिक रूप से खेती की एक बहुप्रतली है जो खेती के लिए जैविक आर्गों के प्रयोग पर निर्भर करती है।
5. - सहकारी साख सामिलियां
   - क्षेत्रीय ग्रामीण बैंक तथा भूमि विकास बैंक

लघु उत्तरीय प्रश्नों के उत्तर (३/४ अंक)

1. NABARD (कृषि तथा ग्रामीण विकास के राष्ट्रीय बैंक) एक शिक्षा संस्था जो ग्रामीण साख कार्यक्रमों में लगी भीतीय संस्थाओं की कियाओं या समन्वय करती है। इस संस्था के आने से ग्रामीण वित्त पहले से अधिक व्यवस्थित हो गया।
2. भारतीय किसान को साख की जरूरत कृषि कार्यों को सचाई रूप से करने के लिए पड़ती है इसमे विभिन्न कृषि यन्त्र खाद खरीदना सिचाई पर व्यय करना तथा घरेलू कार्यों जैसे शादी-विवाह जन्म मरण आदि अवसरों पर होने वाले खर्चों के लिए कृषि साख की जरूरत पड़ती है।
3. - गैर नर्तकणीय संसाधनों के प्रयोग का त्याग करती है।
   - पर्यावरण मित्र
- मृदा उपजाऊ पन को बनाए रजती है।
- स्वास्थ्य विद्या एवं स्वादिष्ट भोजन
- छोटे और सीमान्त किसानों के लिए सस्ती प्रौढ़ोंगकी

4. किसानों को समय पर अधिक साख सुनिश्चित करना।
- ग्रामीण अर्थव्यवस्था में महान के प्रभाव को हटाना।
- देश के सभी क्षेत्रों को साख सुविधाएं उपलब्ध कराना।
- विशेष कार्यक्रम के अनगित आने वाले क्षेत्रों को पय्यति मात्रा में साख उपलब्ध कराना।

दीर्घ उत्तरीय प्रश्नों के उत्तर (6 अंक)

1. ग्रामीण विकास का अर्थ है ग्रामीण क्षेत्रों के सामाजिक एवं आर्थिक उत्थान के लिए एक नियोजित कार्य विधि नियोजित कार्यविधि - ग्रामीण क्षेत्रों में लटकती और उभरती चुनौतियाँ पर ध्यान केन्द्रित करती है।
- ग्रामीण क्षेत्रों में साख सुविधाओं को उपलब्ध कराना।
- ग्रामीण विपणन का विकास करना।
- यातायात के साधनों का विकास करना।
- कृषि और गैर कृषि क्षेत्रों लिए विजली की उपलब्धता।
- सिचाई के रूपी सफाई।

2. कृषि साख के स्थ्रोतों का वर्गीकरण संस्थागत और गैर संस्थागत स्थ्रोतों में किया जाता है।
- संस्थागत स्थ्रोत - सहकारी साख समितियाँ
- स्टेट बैंक आफ इण्डिया तथा व्यापारिक बैंक
- क्षेत्रीय ग्रामीण बैंक तथा भूमि विकास बैंक
- कृषि तथा ग्रामीण विकास का राष्ट्रीय बैंक

गैर परम्परागत स्रोत - परम्परागत रूप से किसान की साख संबंधी जस्तों को पूरा करती है। पंचवार्षिक योजनाओं के आरंभिक वर्षों में गैर संस्थान साधन किसान की साख संबंधी 93 प्रतिशत आवश्यकताओं को पूरा करते थे।

अध्याय 8
आधारिक संरचना
आधारिक संरचना आधारिक और सामाजिक परिवर्तन के उन मूल तत्वों को प्रकट करती है जो अर्थव्यवस्था की उत्पादन गतिविधियों में एक सहयोगी व्यवस्था के रूप में कार्य करते हैं।
आधारिक आधारिक संरचना से अभिप्रयाव आधारिक परिवर्तन के उन सभी तत्वों (जैसे शक्ति, परिवहन, तथा संचार) से है।
सामाजिक आधारिक संरचना से अभिप्रयाव सामाजिक परिवर्तन (जैसे स्कूल, कॉलेज, अस्पताल, नर्सिंग होम) के मूल तत्वों से है।
भारत में आधारिक संरचना की स्थिति - ऊर्जा (परम्परागत स्रोत), तथा गैर परम्परागत स्रोत दो भागों में विभाजित है।
स्वास्थ्य - स्वास्थ्य संपूर्ण शारीरिक, मानसिक तथा सामाजिक कल्याण की अवस्था है।
स्वतंत्रता प्राप्ति के बाद स्वास्थ्य सेवाओं का विकास -
- मृत्युदर में कमी
- शिशु मृत्यु दर में कमी
- औसत जिवन अवधि में वृद्धि
- जननेता बीमारियों पर नियंत्रण
- बच्चों की मृत्यु दर में कमी

अति लघु उत्तरीय प्रश्नोत्तर (१ अंक)

1. आधारिक संरचना क्या है?
   आधारिक संरचना आर्थिक और सामाजिक परिवर्तन के उन मूल तत्त्वों को प्रकाश करती है जो अर्थव्यवस्था की उत्पादन गतिविधियों में एक सहयोगी व्यवस्था के रूप में कार्य करते हैं।

2. आधारिक संरचना कितने भागों में विभाजित किया गया है?
   - सामाजिक आधारिक संरचना।
   - आर्थिक आधारिक संरचना।

3. वाणिज्यक ऊर्जा के दो उदाहरण दीजिए।
   - कोयला
   - बिजली

4. मैर पर्यावरण ऊर्जा के दो उदाहरण दीजिए।
   - सौर ऊर्जा
   - वायु ऊर्जा

5. बिजली उत्पादन के दो स्रोत कौन से?
   - जल बिजुल स्टेशन
   - ताप बिजुल स्टेशन

लघु उत्तरीय प्रश्न (३-४ अंक)

1. आर्थिक आधारिक संरचना को समझाइए।
   आर्थिक आधारिक संरचना से अभिप्राय आर्थिक परिवर्तन के उन सभी तत्त्वों से है जो आर्थिक संवृद्धि की प्रक्रिया के लिए एक आधारशिला का कार्य करते हैं। अति एवं शक्ति स्फूर्ति की प्रचुर उपलब्धता उत्पादन प्रक्रिया की गति में वृद्धि लाती है।

2. ऊर्जा के पर्यावरण स्थितों की व्याख्या कीजिए।
   कोयला - १९५०-५१ में भारत में कोयले का उत्पादन ३२८ लाज रन था जो २००६-०७ में बढ़कर ४,३०८ लाखटन हो गया।
   पेट्रोलियम - सन २००६-०७ में १,३२९ लाजरन की मांग की तुलना में पेट्रोलियम का कुल उत्पादन ३३० लाखटन था।
3. ऊर्जा के गैर परस्परागत स्रोतो को समझाइए।
   - सौर ऊर्जा
   - वायु ऊर्जा
   - वायोमान ऊर्जा
   - जियोर्मल ऊर्जा

दीर्घ उत्तरीय प्रश्नोत्तर (5 अंक)

1. ऊर्जा के परस्परागत स्रोतो तथा गैर परस्परागत स्रोतो का समझाइए।
   परस्परागत स्रोत –
   कोयला, पेट्रोलियम तथा बिजली शामिल है।
   पिछले कई दशकों से कोयला तथा पेट्रोलियम का प्रयोग वातावरण की परवाह कराने के लिए लोकप्रिय है।
   वाणिज्यिक ऊर्जा के विभिन्न स्रोतों के रूप में इसका प्रयोग लम्बे समय से किया जाता है।
   ऊर्जा के गैर परस्परागत स्रोत –
   - इनके सौर ऊर्जा, वायु ऊर्जा, वायोमान आदिशामिल है।
   - इनमें अधिकतर (अभी भी प्रायोगिक अवस्था में है।
   - वातावरण प्रदूषण को रोकने के दृष्टिकोण से प्रयोग।

2. भारत में शक्ति क्षेत्र कैसे एक आधारित संरचना चुनौती है?
   - बिजली का अपयोग उत्पादन
   - क्षमता का कम उपयोग
   व्याख्या करें
   - बिजली बोड्डों को घाटे

3. स्वतन्त्रता प्राप्ति के बाद स्वास्थ्य सेवाओ के विकास का आवश्यकता कीजिए।
   - मृत्युदर में कमी
   - शिशु लौंग दर में कमी
   - औसत जीवन अवधि में वृद्धि
अध्याय ९
पर्यावरण एवं धारणीय विकास
पर्यावरण के अन्तर्गत जल वायु और भूमि को तथा जल भूमि मनुष्यों और अन्य जीवित प्राणियों पौधों, सूक्ष्म जंतुओं तथा संपत्ति में पाए जाने वाले अन्तर्वेशन को शामिल किया जाता है।

पर्यावरण के महत्त्व/कार्य

१. पर्यावरण उत्पादन के लिए संसाधन प्रदान करता है।

२. पर्यावरण जीवन धारणा का सहायक है।

३. पर्यावरण अपशिष्टों को आत्मसात करता है।

४. पर्यावरण जीवन की गुणवत्ता को बढ़ाता है।

पर्यावरण संबंधी दो मौलिक संस्थाएं

१. प्रदूषण की समस्या

२. प्राकृतिक संसाधनों के अत्यधिक शोषण की समस्या

- प्रदूषण - वायु, प्रदूषण, जल प्रदूषण, ध्वनि प्रदूषण

प्राकृतिक संसाधनों का अत्यधिक शोषण

* * *

प्राकृतिक साधनों से अभिप्राय वन, खनिज, भूमि आदि से हैं।

- वन विनाश - भूमि की अवनति
पर्यावरण अवनति के कारण

1. जनसंख्या विस्तार
2. लोगों की निर्धनता
3. बढ़ता हुआ नगरीकरण
4. कीटिनाशक तथा परासायनिक उर्वरको का अधिक प्रयोग
5. तीव्र औद्योगीकरण
6. यातायात के साधनों का विविधिकरण
7. नागरिक मान दण्डों की अवमानना

पर्यावरण संरक्षण कैसे किया जाए

1. सामाजिक जागरूकता
2. जनसंख्या नियन्त्रण
3. पर्यावरण संरक्षण कानून का .......... पालन
4. वृक्षारोपण अभिमान
5. औद्योगिक तथा कृषि प्रदूषण पर नियन्त्रण
6. स्वच्छ जल का प्रबंध

पर्यावरण पर वर्तमान तथा प्राचीन विचार धारा
- धारणीय विकास की अवधारण

अतिलघु उत्तरीय प्रश्न-उत्तर (१ अंक)

1. पर्यावरण की परिभाषा दीजिए!

पर्यावरण उन सभी अवस्थाओं और उनके प्रभावों को कहा जाता है जो मानव जीवन को प्रभावित करते है।

2. पर्यावरण के जैविक तत्वों के दो उदाहरण दीजिए।
पौधे एवं जीवजन्तु (जैविक तत्व)

3. पर्यावरण संबंधी दो भौतिक संस्थाएं कौन रहे?

प्रदूषण की समस्या

प्राकृतिक संसाधनों के अत्यधिक शोषण की समस्या

4. पर्यावरण अवनति के दो कारण लिखो –

- जनसंख्या विस्तार
- लोगों की निर्धारता

लघु उत्तरीय प्रश्न उत्तर (३/४ अंक)

1. ग्लोबल वर्मिंग अवधारणा का वर्णन कीजिए।

यह एक ऐसी अवधारणा को सृजित करता है जहां पर्यावरण प्रदूषण एवं बनो-मूल्य के कारण विश्व के तापमान में लगातार वृद्धि होती जा रही है। धृती बायोस गैसों के उत्सर्जन के कारण विश्व बाहरी भाग का तापमान बढ़ता जा रहा है जिसके कारण पिछले दशक में विश्व के तापमान में ०.६ सेल्सियस की वृद्धि हुई है। तापमान में वृद्धि ध्रुवीय तरफ बांटे दिखाई में सहायक सिद्ध हो रही है जो सामाजिक जल स्तर में वृद्धि का कारण है।

2. पर्यावरण अवनति के चार कारणों की व्याख्या कीजिए।

- जनसंख्या विस्तार
- लोगों की निर्धारता
- बढ़ता हुआ नगरीकरण
- तीव्र औद्योगीकरण
- कटिनाशक तथा रासायनिक उर्जाकरण का अधिक प्रयोग

3. भारत में जल प्रदूषण के प्रमुख कारण कौन रहे?

- घरेलू सीवरेज जो नदियों तथा नालों में मिल जाता है।
- उद्योगों का सस्ता खजन रसायन नदियों में जाकर गिरता है।
- कृषि में छिड़की कीटनाशक पदार्थ व दवाओं मिट्टी के साथ बहकर नदियों में मिल
जाती है।
- ठर्मल पावर हाउस द्वारा छोड़ी राख पानी में मिल जाती है।

**दीर्घ उत्तरीय पर्यावरण उत्तर (6 अंक)**

1. पर्यावरण संरक्षण करने के लिए कौन 2 से उपाए किए जाने चाहिए?
   - सामाजिक जागरूकता
   - जनसंख्या नियन्त्रण
   - पर्यावरण संरक्षण कानून का सही से पालन
   - वृक्षारोपण अभियान
   - स्वच्छ जल का प्रबन्ध
   - वृक्षारोपण अभियान
   - ओषधियोगिता तथा कृषि प्रदूषण पर नियन्त्रण

2. धारणीय विकास की प्रमुख विशेषताएं कौन=2 है संक्षेप में समझाए।
   - वास्तविक प्रति व्यक्ति आय तथा आर्थिक काल्याण में धारणीय वृद्धि
   - प्राकृतिक साधनों का विचार पूर्वक प्रयोग
   - प्रदूषण में वृद्धि न होना
   - भावी पीढियों की अपनी आवश्यकताओं को सन्तुष्ट करने की योग्यता में कभी न हो।
Part - C [ 10 Marks ]
सांख्यिकीय विधियों का प्रयोग : अर्थशास्त्र में परियोजना की रचना परियोजना का अर्थ

एक ऐसी गतिविधि जो एक निश्चित उद्देश्य की प्राप्ति के लिए किया जाता है।

परियोजना रिपोर्ट तैयार करने के आवश्यक चरण:–

1. उद्देश्य
2. प्रश्नावली की सपरखा
3. एक प्रतिदर्श की रचना
4. आंकड़ों का संकलन
5. आंकड़ों का वर्गीकरण
6. आंकड़ों का प्रस्तुतीकरण और विश्लेषण
7. आंकड़ों का निर्विच्छ