VIJAYABHERI

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MALAPPURAM DISTRICT PANCHAYATH
EDUCATIONAL PROJECT

ECONOMICS

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ആമുഖം

മലപ്പുറം ജില്ലാ പഞ്ചായത്ത് ജില്ലയുടെ സമഗ്ര വിദ്യാഭ്യാസ പുരോഗതി ലക്ഷ്യം വെച്ച് കൊണ്ട് 2001 മുതൽ നടപ്പിലാക്കി വരുന്ന പദ്ധതിയാണ് വിജയഭേരി വിദ്യാഭ്യാസ പദ്ധതി. വിവിധങ്ങളായ പ്രവർത്തനങ്ങളാണ് പദ്ധതിക്കു കീഴിൽ നമ്മൾ നടത്തിവരുന്നത്.

വിജയഭേരിയുടെ ഭാഗമായി കഴിഞ്ഞ വർഷം പ്ലസ്ടു/വിഎച്ച്എസ്സി രണ്ടാം വർഷ വിദ്യാർത്ഥികൾക്കായി ഫോക്കസ് 21 എന്ന പേരിൽ തയ്യാറാക്കിയ സ്റ്റഡി മെറ്റീരിയലുകൾക്ക് അധ്യാപകരിൽ നിന്നും വിദ്യാർത്ഥികളിൽ നിന്നും വളരെ നല്ല പ്രതികരണമാണ് ലഭിച്ചത്. കോവിഡ് മഹാമാരിമൂലം സാധാരണ ക്ലാസുകൾ ലഭിക്കാത്ത വിദ്യാർത്ഥികൾക്ക് പ്രസ്തുത മെറ്റീരിയൽ ഏറെ സഹായകരമായെന്ന് അവർ സാക്ഷ്യപ്പെടുത്തുന്നു.

ഒന്നാം വർഷ വിദ്യാർത്ഥികൾക്കുള്ള പരീക്ഷ സെപ്തംബർ ആദ്യവാരം നടക്കുകയാണ്. ഫോക്കസ് പാഠഭാഗങ്ങൾക്കായി വിജയഭേരി ഫോക്കസ് +1 എന്ന പേരിൽ കഴിഞ്ഞ വർഷത്തേതു പോലെ ഈ വർഷവും വിവിധ വിഷയങ്ങൾക്ക് പ്രത്യേക സ്റ്റഡീമെറ്റീരിയൽ മലപ്പുറം ജില്ലാ പഞ്ചായത്ത് വിജയഭേരി വിദ്യാഭ്യാസ പദ്ധതിയുടെ ഭാഗമായി പുറത്തിറക്കുകയാണ്. മലപ്പുറം ഡയറ്റാണ് പ്രസ്തുത മെറ്റീരിയലിനുള്ള അക്കാദമിക പിന്തുണ നൽകിയിട്ടുള്ളത്. വിവിധ വിഷയങ്ങളുടെ ജില്ലാതല അധ്യാപകരുടെ അസോസിയേഷനാണ് ഈ പ്രവർത്തനങ്ങൾക്ക് ഞങ്ങളുടെ കൂടെ നിന്നത്. എല്ലാവരേയും ഈ അവസരത്തിൽ നന്ദിയോടെ സ്മരിക്കുന്നു.

ഈ ഉദ്യമം അധ്യാപകർക്കും വിദ്യാർത്ഥികൾക്കും ഏറെ ഉപകാരപ്പെടുമെന്ന് പ്രതീക്ഷിക്കുന്നു.

എല്ലാ വിദ്യാർത്ഥികൾക്കും മികച്ച വിജയം കൈവരിക്കാൻ കഴിയട്ടെ എന്നാശംസിക്കുന്നു.

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ECONOMICS

Contents

Unit II: ECONOMIC REFORMS SINCE 1991

Chapter – 3

Liberalisation, Privatisation & Globalisation: An Appraisal

Background: Reasons for Economics Reforms- 1991

1. Political instability in the country
2. Inefficient management of the Indian Economy in 1980,s
3. Foreign exchange was spent on meeting consumption needs
4. Foreign exchange reserve declined to a level that was not adequate to finance import for more than two weeks
5. Gulf war
6. Slow growth of the economy
7. Poor performance of public sector
8. Price rise of essential goods

India approached IBRD and IMF to meet this financial crisis. India received 7 million $ as loan to manage the crisis. These institutions allowed the fund on the basis of certain conditions. The conditions were liberalized and open up the economy and removed all restrictions on trade

New Economic Policy (NEP-1991)

Wide ranging economic reforms were announced in 1991.The government announce a two part programme

I. **Stabilisations measures:** Stabilisation means short term measures to control inflation and to remove balance of payment crisis.

II. **Structural Adjustment Programmes (SAP)** means the long term measures to improve the efficiency of the economy.

The government introduced variety of policies. These can be classifies in to three heads

1-Liberalisation:

Liberalisation means liberating the economy from all restrictions. Major reforms are;

1. Industrial Sector reforms

- Industrial sector deregulated
- Industrial licensing abolished
- Only some industries were reserved for public sector
- Amendments of MRTP and FERA (FEMA)
- Dereservation of goods for small scale sector

2. Financial Sector reforms

- Bank branch licensing liberalised
- Reduced the role of RBI on financial sector
- New generation banks and foreign banks were allowed
- CRR and SLR reduced
- Insurance sector privatised
- Promotion of liberalization of Capital Market.

3. Tax Reforms

- Income tax, Excise duty, customs duty and corporate tax were reduced.
- Introduction of GST. (GST came into effect in July 2017)

4. Foreign Exchange Reforms

- Devaluation of Indian Rupees
- Fixed exchange rate system was replaced by market determined exchange rate

5. Trade and Investment policy reforms

- Quantitative restrictions on imports (quota) removed
- Reduction of Tariff rate.
- Imports liberalised
- Export duties removed

Privatisation

Giving away of ownership of government enterprises to private companies. There are two ways of privatisation

1. Withdrawal of government from the ownership of Public Sector Units
2. **Disinvestment:** It implies selling of government shares of public sector undertakings to the private sector.

Disinvestment aims at:

- Improving the management of PSUs
- Improving the financial performance of PSUs
- To enable companies to raise financial resources from the market
- Raising revenue for the government
- Encouraged FDI

Some profit making PSUs were given autonomy and were given special status. These enterprises were classified as 'Navaratnas' and 'miniratnas'

*__Navaratnas__ - Important among them are: IOC, HPCL, BPCL, ONGC, SAIL

Globalisation

Globalisation means integration of the countries of the world.

Globalisation implies:

- Closure integration of economies
- Free flow of goods and services, Capital and knowledge
- Extension of market

Out Sourcing

Out sourcing means sourcing from outside. This is one of the important outcomes of globalisation. In outsourcing a company hires regular services from external sources. For example, Services like software, IT enabled services, Accounting, Legal services and editing on BPO

India became a **good destination for outsourcing** because of the following favorable conditions.

- Low wage rate of labourers
- Availability of skilled labourers
- Proficiency in English language
- Better time zone

World Trade Organisation (WTO)

WTO was established in 1995 as the successor of GATT (General Agreement on Tariffs and Trade) It was established in 1948.

Aims of WTO

- Provide equal opportunities to all countries in international market
- Remove tariff and non-tariff barriers on trade
- Encourage multi-lateral trade
- Extension of Trade by including services like banking and insurance etc

Indian Economy during reforms of 1991: An Assessment

(Impact of NEP)

Now our nation has completed 28 years of economic reforms. The reforms produced some positive and negative impacts

Positive Impacts

1. GDP was increased from 5.79 % in 1980 to 7.6% in 2016
2. Foreign investment was increased. In 1991 it was 103 million$ during 2005-06 it reached to 20243 million $
3. Foreign exchange reserve was increased
4. Export was increased
5. Poverty rate was decreased to 22% by 2012

Negative Impact

Effects on agriculture: Growth rate of agriculture has been decreased. The agricultural growth rate was only 3%. The reasons for the poor performance of agriculture were the following.

- Reduced agricultural subsidies
- Raise in the cost of production of agriculture
- Fall in the price of agricultural products
- Lack of government investments
- Higher exports of cash crops instead of food crops led to food crisis

Effects on industry

Industrial growth also declined during this period due to following reasons

- Cheap imports
- Foreign competition
- Lack of modern technology
- Lack of infrastructure investment

Effects on Employment

- Even though GDP increased it has not generated sufficient employment opportunities

  So this GDP growth was known as job-less growth

- Mismanagement of disinvestment policy

Effects on Disinvestment

In the name of disinvestment, many PSUs have been undervalued and sold in the market at low price. Really the disinvestment policy became the policy of corruption.

Effects on fiscal policy

- Tax reforms failed to get desired result
- Tax GDP ratio was not impressive
- Loss of social justice and welfare
- New Economic policy resulted to concentration of wealth in to few hands Rich -poor disparity increased

Chapter 4

POVERTY

Poverty is defined as the inability to secure basic necessities of life like food, clothing, shelter, health, etc…

Absolute and Relative Poverty

- Absolute Poverty means the lack of minimum needs.
- Relative Poverty means poverty in comparative sense.

Who are the Poor?

- The people who live in Slums.
- Street Vendors
- Servants
- Beggars.
- People who live in Huts.
- Landless farmers

Features of Poverty in India.

- Malnutrition.
- Illiteracy
- Lack of assets
- Unemployment.
- High Maternal Mortality Rate.
- High Infant Mortality Rate.
- No access to Electricity, Drinking Water, Sanitation.

Jail Cost of Living Index.

It is a Criteria to measure Poverty Line. The items given to a prisoner and the prevailing prices of these items to calculate “a Jail Cost of Living. It was associated with Dadabai Navaroji.

Types of Poverty

I. Chronic Poverty

- Always Poor
- Usually Poor

II. Transient poor

- Churning Poor
- Occasionally Poor

Poverty Line

It is the Imaginary line which divides the people as Poor and Non Poor. Poverty line was defined in Rural areas as 2400 Calories intake for a person and In Urban areas as 2100 Calories for a person per day. Based on this, in 2012 the Poverty Line was defined for Rural areas as consumption worth Rs.816 per person a month and for Urban areas it was Rs.1000.

The Number of Poor in India

❖ Head Count Ratio.

The number of Poor is estimated as the Proportion of people below the Poverty line.

$$HCR = \frac{\text{No. of Poor}}{\text{Total Population}}$$

The official data on poverty is collecting by NSSO and made available by the 'NITI AYOG'

Causes of Poverty.

- Low Income
- Unemployment
- Inequality of income and wealth.
- Exploitation.
- Inflation.
- Stagnation in Agriculture Sector.

- Low Level of Economic Growth.
- Indebtedness
- Social Exclusion.

Policies and Programmes towards Poverty Alleviation

(Three Dimensional Approach)

1. Growth Oriented Approach.

A rapid increase in GDP or PCI. The benefits of economic growth would gradually spread to all sectors of Society –Trickle down theory

2. Employment Generation Programmes.

❖ Self Employment Programmes.

✓ Rural Employment Generation Programmes.(REGP)
✓ Prime Ministers Rozgar Yojana.(PMRY)
✓ Swarna Jayanthi Shagari Rozgar Yojana.(SJSRY)
✓ Swarnajayanthi Gram Swarazgar Yojana.(SGSY)
✓ Jawahar Rozgar Yojana.(JRY)
✓ Nehru Rozgar Yojana .(NRY)

❖ Wage Employment Programme.

✓ National Rural Employment Guarantee Programme(NREGP)

Implemented in 2005, NREGP has now been renamed as Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP). It guaranteed 100 days Employment in a year at a minimum wage. In Kerala this Programme was known as “THOZHILURUPPU PADHATHI”.

✓ National Food for Work programme.(NFWP)
✓ Sampoorna Grameen Rozgar Yojana (SGRY)

3. Providing Minimum Basic Amenities

❖ Food Security Programmes.

✓ Public Distribution System (PDS)
✓ Integrated Child Department Scheme (ICDS)

- ✓ Mid-Day Meal at School.
- ✓ Annapoorna scheme.
- ✓ Antyodaya Anna Yojana (AAY)

❖ Social Security Programmes.

- ✓ Aam Aadmi Bima Yojana.
- ✓ Indira Gandhi National Old Age Pension Scheme.
- ✓ Rashtreeya Swastika Bima Yojana.
- ✓ Atal Pension Yojana.

Critical Assessment of Poverty Alleviation Programmes.

Despite a variety of approaches, programmes and schemes to alleviate poverty, hunger, malnourishment, illiteracy, and lack of basic amenities continue in India. Major Draw backs are;

- Insufficient Amount For Programmes,
- Failure in Implementing programmes.
- The Resources Insufficiently used and wasted.
- Corruption, nepotism, redtapism, etc…

Chapter – 8

INFRASTRUCTURE

Infrastructure means the basic facilities required for the development of the country such as education, health, transportation and communication etc. It is the back bone of the nation

Infrastructure can be classified into two: Economic and Social

Economic Infrastructure

Energy, Transportation, Communication, banking etc.,

Social Infrastructure

Education, Health, Drinking water, sanitation etc.,

Importance (relevance) of infrastructure:

- Supports industrial and agricultural development
- Increase the productivity
- Enhance the quality of life
- Provide better health care system
- Reduce poverty and unemployment

The State of Infrastructure in India

Government's investments in infrastructure are inadequate therefore private sector and joint partnership with public sector plays an important role in infrastructure development.

- Poor rural Infrastructure
- Only 56% of rural households have electricity.
- 43% of rural household still use Kerosene.
- 90 % of rural households use bio-fuels for cooking.
- Tap water availability is limited 24 % only.
- 76 % rural households depend on open sources.

ENERGY

Economic activities require energy. It is essential for industries, agriculture and service sector

Sources of energy

Energy sources can be classified in to Commercial energy and Non-commercial energy:

Commercial energy is used for commercial purposes. Commercial sources are Coal, Petroleum products, natural gas and Electricity.

Non-Commercial energy is used for non-commercial activities like cooking.

Examples: fire wood, Agricultural waste and dried animal dung.

An important difference between commercial energy and non-commercial energy is that the former is exhaustible and the latter is renewable.

Conventional and Non- conventional energy sources:

- Energy can also be classified in to Conventional and non-conventional energy
- Coal, Petroleum and electricity are conventional energy. They are non-renewable and cause pollution.
- Non-Conventional sources of energy are solar energy, wind energy, tidal power and biomass etc., It is renewable and pollution free.

Consumption Pattern of commercial Energy

At present, commercial energy consumption: 65 % of total energy (coal 55%, Oil 31%, natural gas 11%, hydro energy 3%)

Non-Commercial energy: 35 %

Electricity / Power

Important sources of electricity are Hydro, Thermal and nuclear plants. Electricity is generated by utilities like Electricity Board, Corporations. Many companies have their own power generation plants which are called Non-utilities.

Primary energy resources are, Coal, hydro carbons, hydro energy, nuclear energy etc., Electricity is a secondary form of energy produced from the primary energy resources.

Challenges of power sector

- Insufficient power generation capacity
- Transmissions and distribution loss
- Shortage of raw materials
- Frequent power cuts
- Power theft

Measurers to solve the problems of power sector

1. Promote the use of renewable energy sources
2. Find the new supply of raw materials
3. Use energy saving appliances like CFL, and LED
4. Increase government investments
5. Reduction of distribution and transmission loss

HEALTH

Health is an important yard-stick of one`s wellbeing, Healthy population is the most productive resource of a nation,

Health Indicators

- Infant Mortality
- Maternal mortality
- Life Expectancy
- Nutritional levels
- Incidence of communicable and non-communicable diseases

State of Health infrastructure

Government has an important role to Guide and regulate all health-related issues such as medical education, adulteration of food, Drugs, Medical profession, vital statics, etc… Government operates many hospitals and medical facilities for

the welfare of the people. Health infrastructure includes hospitals, Nurses, doctors and para medical staff, beds, medical equipment and adequate medicines

Health care system in India

In India there is a tree tier health care system

1- Primary Health Care system
2- Secondary health care system
3- Tertiary health care system

Primary health care system – PHC`s

- Provide awareness about epidemics
- Maternal and child health care
- Immunisation against certain diseases
- Provision of essential medicines

Secondary health care system

Hospitals with medical treatment and diagnosis using medical facilities like X-Ray, ECG, Scanning and Surgery etc.,

Tertiary health care system

The top health care and medical research institutions come under this system. Eg:- Medical Colleges, AIIMS, NIMHANS etc.,

Role of Private Sector

Public health care system is highly inadequate. To solve this problem our nation, promote private sector participation in the health care system. Private sector controls 70% of hospitals in our country. There has been explosive growth of medical enterprises and medical colleges in the private sector, Pharmaceutical industries dominated by private sector.

Indian System of Medicine (ISM)

ISM comprises of six systems this is called AYUSH

- Ayurvedha
- Unani
- Naturopathy
- Sidha
- Yoga
- Homeopathy

Medical Tourism

Medical tourism is tourism for medical treatment. Foreigners are coming to India for treatment because of:

- India has highly advanced medical infrastructure
- Highly qualified doctors
- Well-developed pharmaceutical industry
- Cost of medical treatment is low

Health care system – A critical Appraisal

1- Urban-rural disparity
2- Rich -poor divide
3- Burden of diseases
4- Problem of privatisation
5- Women`s health problems
6- Lack of government investments
7- Shortage of doctors in rural areas

Women's Health

There are big gender disparities in education, health and employment, for example;

- Female literacy is lower than male literacy
- Female work participation in organised sector is low
- Morbidity level are higher
- Malnourishment is higher among females
- They are anaemic
- Problem of female foeticide

Chapter 9

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Environment - Definition

- Total planetary inheritance and the totality of resources, it includes Biotic and Abiotic factors.
- Biotic Factors: All living elements such as Animals, Birds, Plants, forests, fisheries, etc…
- Abiotic Factors: All non- living elements Land, Air, Water, Rocks, Sunlight, etc…

Functions of the Environment

- Supplies Resources
  - Renewable Resources –Water, Air, etc…
  - Non Renewable Resources –Coal, Petrol, etc…
- Assimilates Waste
- Sustains life by providing genetic and Biodiversity.
- Aesthetic Services like Scenery.

Carrying Capacity and Absorptive Capacity

Carrying capacity is regenerating capacity of the environment. Absorptive capacity is the capacity to absorb degradation by the environment.

Environment Issues.

- Air Pollution.
  - Industrialisation.
  - Heavy Use of Motor Vehicles.
  - Deforestation.
- Water Pollution
  - Dumping of Solid Waste
  - Flow of Industrial Waste

- Heavy Use of Chemical Pesticides and Fertilizers in the land

❖ Global warming

- It is a gradual increase in the average temperature of the earth's lower atmosphere as a result of the increase in greenhouse gases.

Causes

- Deforestation
- Burning of Fossil Fuels.
- Omission of Carbondyoxide and Carbon monoxide
- Industrialisation.

Results

- Climate change.
- Biodiversity Loss
- Melting Polar Ice.
- Rise in Sea level and Flood.

❖ Ozone Depletion

- It refers to the phenomenon of reductions in the amount of Ozone in the Stratosphere.

Causes.

- Industrialisation.
- Heavy Use of CFC, HCF Products like Air Conditioner, Refrigerator, etc…

Results

- Biodiversity Loss.
- More Ultraviolet rays come to earth, responsible for Skin Cancer.

❖ Land Degradation

- Deforestation.
- Encroachment to Forest Land
- Natural Calamities

- Heavy Use of Chemical Fertilisers and Pesticides
- Soil Erosion
- Forest fire and over grazing.
- Improper crop rotation.

State of India's Environment

- ✓ Abundant Natural Resources.
- ✓ Hundreds of Rivers and Tributaries
- ✓ Lush Green Forests.
- ✓ Plenty of Mineral Deposits.
- ✓ Vast Stretch of the Indian Ocean.
- ✓ Ranges of Mountains.
- ✓ The black soil of the Deccan Platue.

Chipko Movement

- ➢ It aimed at protecting Forest in the Himalayas. In Karnataka the similar movement is known as Appiko. Sundarlal Bahuguna started the Chipko Movement

Kyoto Protocol

- ➢ A United Nations conference on Climate change held in Kyoto- Japan, 1997, resulted in an International Agreement to fight against Global Warming.

Sustainable Development

It is an eco-friendly development that sustains itself. According to UNCED "Development that meets the need of the present generation without compromising the ability of the future generation to meet their own needs."

Strategies for Sustainable Development

A. Use of Non-Conventional Sources of Energy

- ▪ Conventional Energy sources are Exhaustible and not Eco-friendly.
- ▪ Promote Non –Conventional Energy sources Such as, Wind Power, Solar, etc…

B. Use LPG, Gobar gas in rural areas.

- To rectify the problem of Deforestation and Air Pollution, we can promote the use of LPG and Gobar Gas in Rural areas.

C. Use CNG in Urban Areas

The use of CNG reduces air pollution.

D. Solar Energy.

Energy stored in Solar *Photovoltaic cells.* It is renewable and pollution free.

E. Wind Power.

Wind turbines move with the help of wind and electricity is generated, it is renewable.

F. Mini-Hydel Plants

Generate power to meet local demands. It is environmental friendly.

G. Traditional Knowledge and Practices.

Traditional knowledge and practices like Ayurveda, Unani and Folk system are to be widely used.

H. Bio Composting

It is compost made from organic waste.

I. Bio pest Control

Bio pesticides are produced from plant products. Neam and Tobacco are good Bio pesticides.

J. Promote Organic Farming

It is an Agricultural system that uses ecologically based controls and Biological fertilizers derived largely from Bio waste.

Merits

- Eco-Friendly
- Maintain Ecological Balance
- Highly Nutritious
- Highest Export Value.
- Labour Intensive.

Limitations

- Low yielding compared to modern Farming.
- More vulnerable to posts

STATISTICS FOR ECONOMICS

Contents

Chapter – 1

INTRODUCTION

What is Economics?

"It is the study of man in the ordinary business of life."

– Alfred Marshal-

The term ordinary business of life includes, the behavior of seller, consumer, producer, service provider etc.

Why economics?

- Human wants are unlimited
- Resources are scarce
- The resources have alternative uses
- There arise problem of choice

So economics studies how to satisfy the unlimited human wants with limited resources which have alternative uses.

Basic economic activities: They are production, consumption and distribution.

Meaning of Statistics

Statistics can be defined in singular and plural sense

Singular Sense

Statistics means different methods used for the collection, classification, analysis, interpretation and presentation of numerical data.

Plural Sense

Quantitative information or data.

Economic data

Two types;

1) Quantitative data

Classification of data based on the quantities that can be measured. Eg: - Height, Weight, Income, Price, Tax etc.

2) Qualitative data

Classification of data based on qualities or attributes. Eg:- Honesty, Intelligence, Aptitude, beauty etc.

What 'statistics' does?

(Importance or Uses of statistics in economics)

- It is helpful to present economic facts in a precise and definite form.
- It is helpful in condensing mass data into a single figure
- It is helpful to understand an economic problem.
- It is helpful to find out the causes of economic problems
- It is helpful to formulate suitable economic policies
- It is helpful in finding relationships between different economic factors
- It is helpful to predict future trends and changes in the economy.
- It is helpful to formulate plans and policies.

Limitations of Statistics

- Statistics does not study individual facts
- Statistics deals only with quantitative data.
- Statistics does not give 100% accurate result
- Statistics can be misused.

Chapter-2

COLLECTION OF DATA

In the collection of data, the following terms are commonly used.

Investigator: - The person or institution which conducts statistical study

Enumerator: - The person who collects data from the field of study

Respondent: - The person who provides data to the investigator or enumerator.

Universe : Area of collecting data

Population : Totality of the items under study.

Sources of data – Two types

a) Primary Data

Data collected directly by the enumerator are called primary data. It is the first hand information & Original.

Eg:- Census

Merits:

- It is More reliable
- It is more accurate
- Data can collects directly
- Original data

Demerits:

- Collection is more expensive & time consuming,
- Trained enumerator required for the collection of data
- Personal bias of enumerator affects the data

b) Secondary data

Data collected from published / unpublished sources are known as secondary data.

Eg:- for published source:

Govt. publications, newspaper, magazine, website, reports of various agencies. etc.

Eg: for Unpublished Source:

Unpublished data from private offices. Research institutions etc.

Merits	Demerits:
▪ Less expensive	▪ Less accurate data
▪ Less time required,	▪ Less reliable
▪ No enumerators required	▪ Low clarity

How do we collect Primary data?

Survey is used for collecting primary data.

Survey

Survey is a method of gathering information from individuals. The tool of survey is questionnaire/ interview schedule**.** **Questionnaire** is a list of questions and possible answers prepared by investigator for conducting survey.

Characteristics or Qualities of a Good Questionnaire

- Questions should be simple and easy to understand.
- Questions does not become too long.
- Avoid personal questions.
- Questions should move from general to specific.
- Questions should not use double negatives.

Methods of collecting primary data

1. Personal interview

The investigator conducts face to-face interviews with the respondents is known as personal interview

Advantages

- High response rate
- Can use all types of questions
- Best for open-ended questions
- Chance for clarification of questions.

Disadvantages

- It is expensive & time consuming
- Possibility of influencing respondents
- Unsuitable when the area of study is large.

2. Mailing a questionnaire.

Questionnaire is sent to each individual by mail with a request to complete and return it by a given date.

Advantages

- Less expensive
- Suitable to remote area
- No influence on respondents
- Best for sensitive questions

Disadvantages

- Cannot be used by illiterates
- Reactions cannot be watched
- Cannot explain ambiguous questions
- Long response time

3. Telephonic interview

The data are collected from the respondents over telephone.

Advantages

- Relatively low cost
- Less influence on respondents
- Relatively high response rate

Disadvantages

- Limited use
- Reactions of respondents cannot be watched
- Possibility of influencing respondents.

Pilot Survey

It is a pre-testing of questionnaire with in a small group. It provides a preliminary idea about the actual survey.

Importance of Pilot Survey

- It helps to know the shortcomings of the questions.
- It also helps to assess the suitability of questions & clarity of instructions,
- It assess the performance of enumerators
- We can measure cost and time involved in the actual survey

CENSUS AND SAMPLE SURVEYS

Census

A survey, which includes every element of the population, is known as Census or the Method of Complete Enumeration

Advantages

- Studies each and every unit
- Accurate & reliable result
- Free from sampling errors
- Useful for further studies

Disadvantages

- Time consuming
- Expensive
- More enumerators needed
- Not applicable for infinite population

Sample Survey

Sampling is the process of selection of sample from the population. A sample refers to a group or section of the population from which information is to be obtained.

Advantages

- Lower cost
- Reliable & accurate information
- Less time
- Smaller team of enumerators required

Methods of sampling

Mainly, there are two methods of sampling.

1. Random sampling
2. Non – random sampling

Random sampling

Every individual of the population has been an equal chance of to be selected as the sample. Two methods of random sampling are;

a) Lottery method
b) Random table number method

Lottery method:- Under this method, all items of the population are numbered on separate paper slips of identical size and shape. Then these paper slips are put in to container and shuffled well. A blind selection of paper slips is made from the container to construct the sample.

Random number table:- Under this method random numbers are generated by specific mathematical method based on probability.

Non random sampling

Every individual of the population has no equal chance of being selected as the sample. Main forms of non-random sampling are;

a) Convenient sampling
b) Judgment sampling
c) Quota sampling

Sampling error

Sampling error is the difference between an actual value (Census method) and a sample value (Sampling method)

Sampling error = size of population – size of sample

Or

Sampling error = Actual value – estimated Value

Sampling error can be minimized by taking large number of samples.

Non Sampling Error

Errors arising at the time of observation, tabulation etc. are called non Sampling errors. It is more serious than sample error. Some of the non-sampling errors are;

- Error in data acquisition
- Mistakes in copy writings
- Non-Response Errors
- Sampling Bias

National and state level agencies for data collection

- **Census of India**

✓ The census of India provides complete demographic records of population.
✓ In India census is carried out every ten years.
✓ Census data collected and published by the Registrar General of India.
✓ The first official census in India was held in 1881.
✓ The last Census of India was held in 2011

- **National Sample Survey Organization (NSSO)**

NSSO was established to conduct nation-wide survey on different socio economics issues like poverty, unemployment etc...**'Sarvekshana'** is the quarterly publication of NSSO

- **Central Statistics Organization (CSO)**
- **Registrar General of India (RGI)**
- **Directorate General of Commercial Intelligence and Statistics (DGCIS)**
- **Labour Bureau, etc.**

Chapter – 3

ORGANISATION OF DATA

Raw Data

Data collected in its original form is called raw data.

Classification of Data

The arrangements of data in to groups or classes according to the similarities are called classification of data.

Types of classification

1. **Chronological classification:-** Classification based on time such as years, months, weeks etc.
2. **Geographical or spatial classification**:- Classification based on area or geographical differences
3. **Qualitative classification:-** Classification based on quality or attributes such as intelligence, beauty etc.
4. **Quantitative classification:-** Classification based on quantities such as height, weight etc.

Variable

Variables are those data, which can be expressed or measured in terms of quantity. These values are capable of changing from unit to unit. Eg:- Height, weight, distance etc.

Variables can be classified into two;

1. Discrete variable.

Discrete variable is those which can take only certain values.

Eg:- 1, 2, 3, 4 etc.

2. Continuous Variable

A Continuous variable is that which can take any numerical value between two values such as fractional, decimal, certain values.

Eg:- 1, 2, 3, 4.5, 5.2, $\frac{1}{2}$, $\frac{2}{3}$, etc.

Methods of arranging data

1. Array (Individual Series)
2. Frequency array (Discrete series)
3. Frequency distribution (Continuous series)

Array

The arrangements of data in ascending or descending order of magnitude.

Example: - Raw **data**: 7,3,5,2,4,1,6 ------> Array: 1,2,3,4,5,6,7.

Frequency array

It is the arrangement of data of a discrete variable. Here, items are arranged with frequencies.

Construct a frequency array for the following data.

Example:-40, 50, 30, 10, 40, 30, 20, 40, 10, 30, 40, 50, 20, 50, 40, 30, 20, 40, 20, 30, 50, 40, 40, 30, 20, 30, 40, 30, 40,

Marks	Frequencies
10	2
20	5
30	8
40	10
50	4

Frequency Distribution

An orderly arrangement of data according to the magnitude of observations in different classes along with their corresponding frequencies is known as frequency distribution.

Example: - Construct a frequency distribution table for following data.

49, 2, 55, 20, 45, 39, 53, 10, 60, 43, 31, 59, 29, 47, 35, 54, 6, 49, 36, 51, 25, 32, 13, 40, 30, 26, 39, 44, 9, 34, 23, 31, 48, 18, 38, 27, 32, 0, 35, 24, 15, 14, 21, 12, 25, 28, 11, 19, 16, 69

Class	Tally Mark	Frequency
0-10	////	4
10-20	𝍸 ////	9
20-30	𝍸 𝍸	10
30-40	𝍸 𝍸 //	12
40-50	𝍸 ///	8
50-60	𝍸	5
60-70	//	2
	Total	50

We have to know the following things while constructing frequency distribution.

- **Selection of class**

A class should not be too big or too small. There should not be too much classes or too short. Eg:- 0-10, 10-20, 20-30 etc.

- **Class Limits**

The class limits are the lowest and the highest values that can be included in the class.

In the class 20 – 30, 20 is the lower class limit **30** is upper class limit.

- **Class interval or Class width**

It is the difference between the upper and lower class limits.

Class interval = upper limit – lower limit

The class interval of the class 50 – 100 is 50 i.e. (100 – 50 = 50)

- **Class mid-point or Class mark**

$$\text{Class Midpoint} = \frac{\text{Upper Limit} + \text{Lower Limit}}{2}$$

➢ Class frequency (f)

The number of values corresponding to a particular class is known as the class frequency.

Example:-

Class	Frequency (f)	Lower class limit	Upper class limit	Class interval	Class midpoint
0-10	5	0	10	10	5
10-20	20	10	20	10	15
20-30	10	20	30	10	25
30-40	25	30	40	10	35
40-50	15	40	50	10	45

How to prepare frequency distribution.

The following points should be kept in mind while preparing a frequency distribution

1. Decide the number of classes.
2. Size of each class
3. Determination of class limits
4. Availability of class frequencies
5. Putting tally mark (/) for each frequency

Question:- Prepare a frequency distribution for the following data.

28	36	15	8	46	39	18	24	34	9
15	19	26	34	42	29	43	27	10	55
13	52	35	41	26	36	20	39	58	6
66	18	25	43	32	21	40	33	50	7
53	35	41	68	22	39	42	10	36	11

Answer:-

Class	Tally Mark	Frequency
0-10	////	4
10-20	𝍸 ////	9
20-30	𝍸 𝍸	10
30-40	𝍸 𝍸 //	12
40-50	𝍸 ///	8
50-60	𝍸	5
60-70	//	2
Total		50

Different methods of constructing frequency distribution

There are two methods;

a) Exclusive method

Under this method, upper limit of one class will be lower limit of next class.

Example:-

Class	Frequency (f)
0-10	5
10-20	20
20-30	10
30-40	25
40-50	15

a) Inclusive method

The upper limit and lower limit of one class includes in that class itself

Example:-

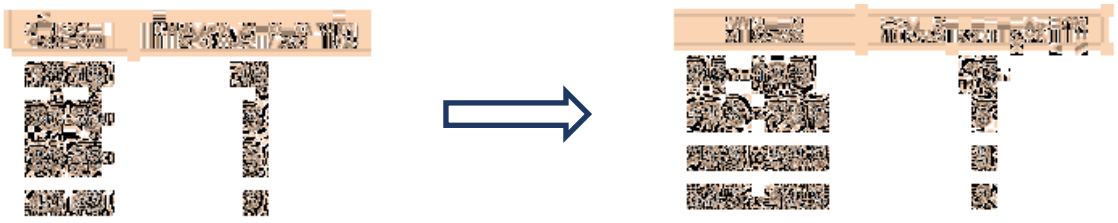
Class	Frequency (f)
0-9	10
10-19	15
20-29	5
30-39	2
40-49	1

Conversion of inclusive class into exclusive class.

- Find the difference between the lower limit of 2^{nd} class and upper limit of 1^{st} class
- Divide the difference by 2
- Subtract the value from lower limits and add to upper limits.

Example:-

Inclusive Method **Exclusive Method**



Univariate & Bivariate distribution

a) Univariate Frequency Distribution

The frequency distribution of a single variable is called a univariate distribution

b) Bivariate Frequency Distribution:

A bivariate distribution is the frequency distribution of two variables.

Chapter – 4

PRESENTATION OF DATA

There are **three forms** of presentation of data:

1. Textual or descriptive Presentation
2. Tabular Presentation
3. Diagrammatic Presentation

Textual or descriptive Presentation of Data

In textual presentation, data are presented in the form of text.

Eg:- *During the second wave of covid 19, a lock down declared in Malappuram town, 82 shops were closed while 7 medical stores were found opened.*

Tabular Presentation of data

It is the systematic organization of data in rows and columns

Types of classification in tabulation of data

1. Chronological classification
2. Geographical or spatial classification
3. Qualitative classification
4. Quantitative classification.

Parts of a table

a) Table number

b) **Title :-** It gives a brief description of contents

c) Unit of measurement

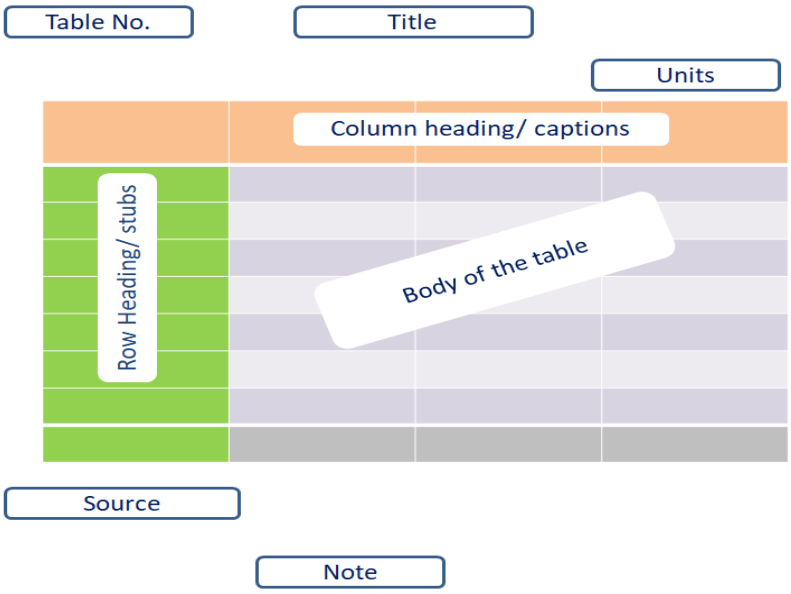
d) **Stubs:-** Row headings

e) **Captions:-** Column headings

f) **Body of the table:-** Numerical information

g) **Source note: -** It is given just below the table. It represents the data sources

h) **Foot note:-** It gives further explanations to the items given in the table.



Diagrammatic Presentation of data

It is more effective method of presenting data than tables. It is impressive and attractive form of presentation.

Types of Diagrams

1) Geometric diagrams
2) Frequency diagrams
3) Arithmetic line graph

A) Geometric Diagram

1. Bar diagram

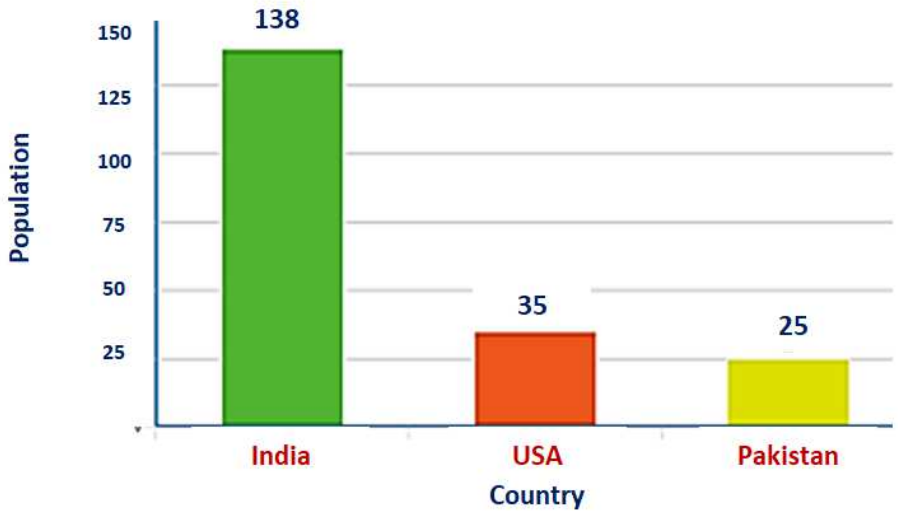
a) Simple bar diagram
b) Multiple bar diagram
c) Component bar diagram

2. Pie diagram

Simple bar diagram

It is used for presenting simple set of data. Example given below;

Country wise population	
Country	Population
INDIA	138
USA	35
PAKISTAN	25



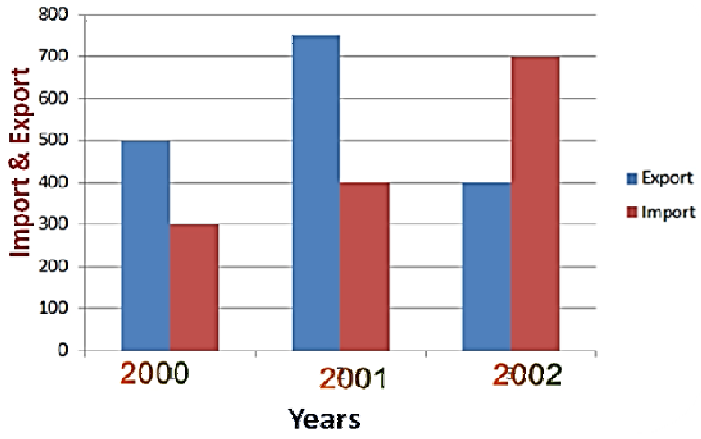
Multiple bar diagram

It is used for comparing two or more sets of data.

Example:-

Export & import 3 years

Year	Export	Import
2000	500	300
2001	750	400
2002	400	700

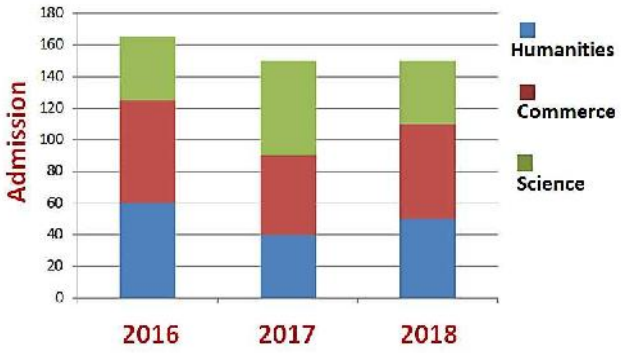


Component Bar Diagram

It is also known as sub divided bar diagram. It is very useful in comparing the size of different parts of each bar. In this diagram the total and sub divisions of total are to be presented.

Example:-

Admission				
Year	humanities	Commerce	Science	Total
2016	60	65	40	165
2017	40	50	60	150
2018	50	60	40	150



Pie diagram

It is a component diagram in which a circle is divided into different parts according to the magnitude of data.

Steps

- Convert the values in to percentage. I.e.,

$$\frac{Value\ of\ the\ component}{Total\ value} \times 100$$

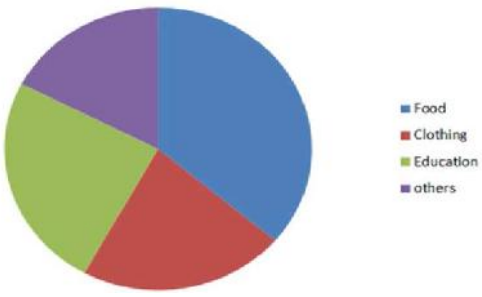
- Convert the percentage into angles (Percentage value X 3.6)
- Draw circle and divide into parts according to magnitudes.

Example:-

Qn. Draw pie diagram for the following data

Monthly Expenditure (in Rs)			
Items	Expenditure	Percentage	Angles
Food	2500	36.23	130.43
Clothing	1500	21.74	78.26
Education	1700	24.64	88.70
others	1200	17.39	62.61
Toal	6900	100.00	360.00

Solution:-



B) Frequency diagrams.

Diagrams which represent grouped frequency distribution are called frequency diagrams.

Important frequency diagrams are:

- Histogram
- Frequency polygon
- Frequency Curve
- Ogive

Histogram

It is a set of rectangles on which class interval plotted on X axis and frequency on Y axis. It is a two dimensional diagram.

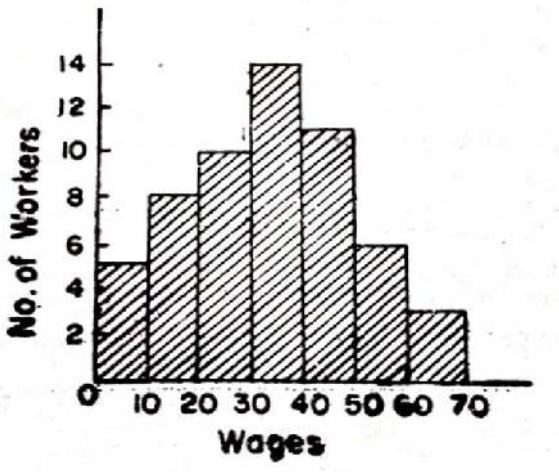
Steps to draw

- ❖ Plot class interval on X axis and frequency on Y axis.
- ❖ Draw rectangles based on class intervals as width and frequencies as heights.

Example:-

Draw a histogram for the following data.

Wages in Rs.	No. of workers
0–10	5
10–20	8
20–30	10
30–40	14
40–50	11
50–60	6
60–70	3

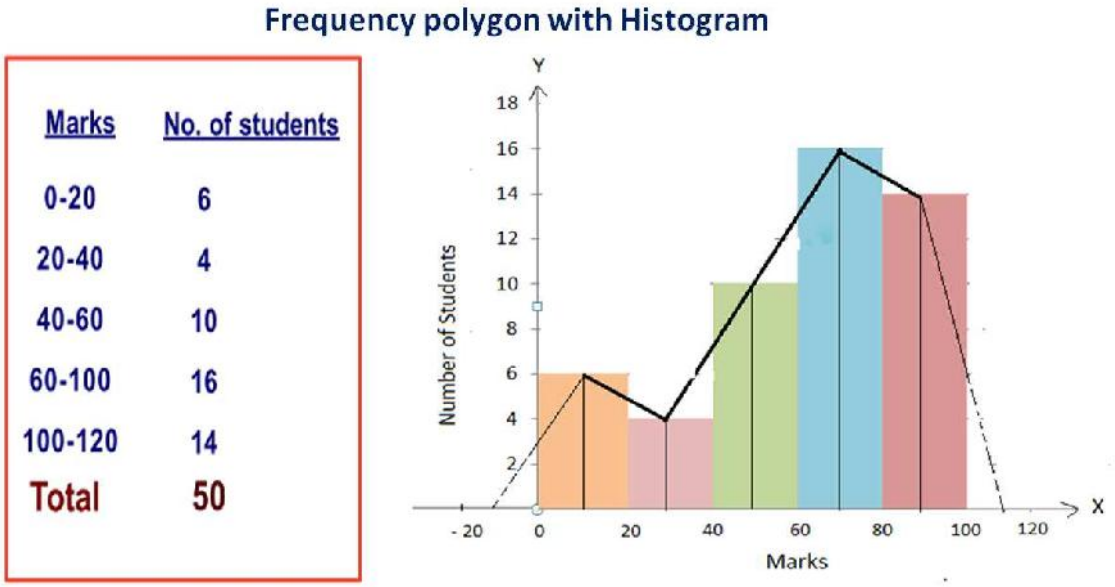


Frequency polygon

By joining the mid points of the top side of the rectangles of the histogram, we get frequency polygon. It can be drawn with or without histogram.

Example:-

Marks	No. of students
0-20	6
20-40	4
40-60	10
60-100	16
100-120	14
Total	50

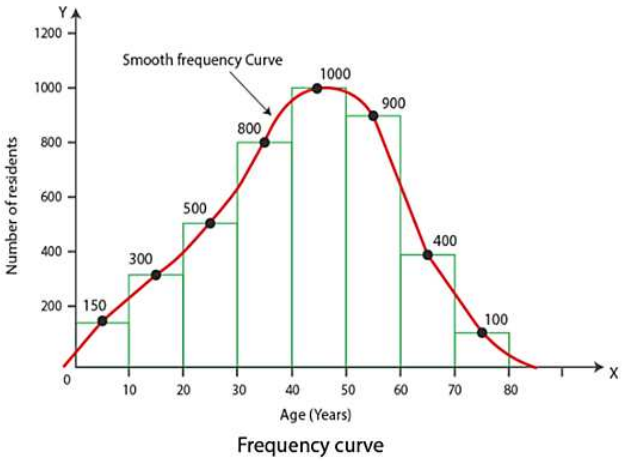


Frequency Curve

Frequency curve is obtained by joining the points of frequency polygon by freehand smooth curve.

Example:

Age (Years)	No. of Residents
0-10	150
10-20	300
20-30	500
30-40	800
40-50	1000
50-60	900
60-70	400
70-80	100



Ogives /Cumulative frequency curves

Ogives are of two types

1. Less than ogive

It is the graph of less than cumulative frequencies. Less than cumulative frequencies are obtained by adding the frequency of a class to its succeeding frequencies.

2. More than ogive

It is the graph of more than cumulative frequencies. More than cumulative frequencies are obtained by adding the frequency of a class to it's preceding frequencies.

Steps to draw less than ogive

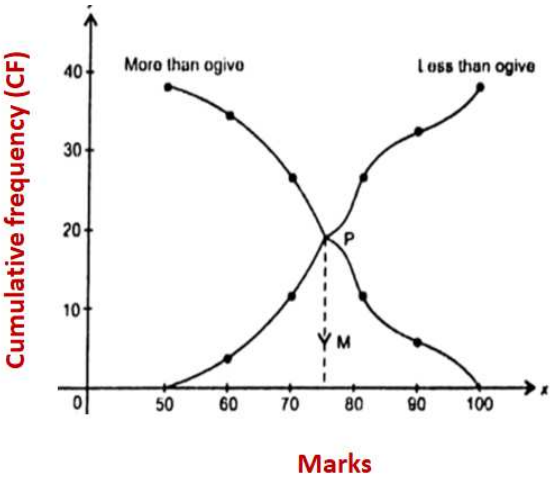
- Take cumulative frequencies (CF) along Y axis and the upper class limit on X axis
- Plot the cumulative frequencies against the upper class limit
- Connect the points with curve.

Steps to draw More than ogive

- Take cumulative frequencies (CF) along Y axis and the Lower class limit on X axis
- Plot the cumulative frequencies against the Lower class limit
- Connect the points with curve.

Example:

Marks	No. of students	CF (Less than)	CF (More than)
50-60	4	4	36
60-70	8	12	32
70-80	12	24	24
80-90	6	30	12
90-100	6	36	6

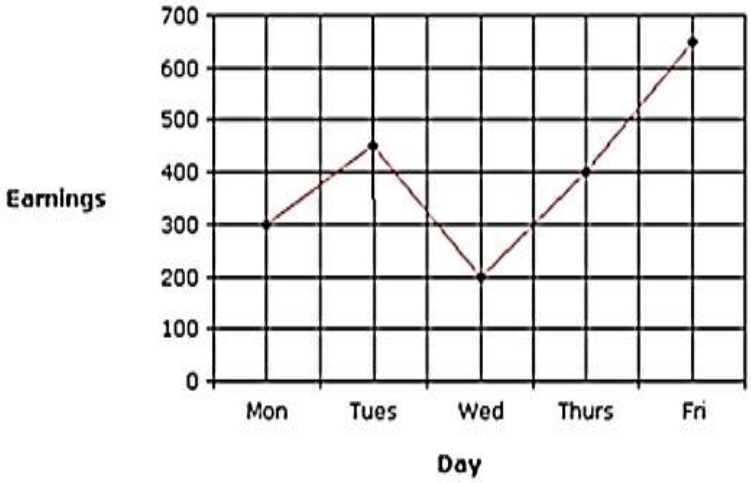


Median value can be obtained by using ogives. The intersection point of two ogives can be extended towards 'x' axis, the corresponding value is the median.

Arithmetic line graph

It is also known as Time series graph. The graph represents different values of variables in different time periods.

Day	Mon	Tues	Wed	Thurs	Fri
Earnings	300	450	200	400	650



Chapter – 9

USE OF STATISTICAL TOOLS

What is a project?

Project means any plan or programme that includes the study of a particular problem, its analysis and solution.

Steps towards making a project

1. Identifying a problem or an area of study

The first step to prepare a project is identifying a problem for study. The purpose of the study should be clearly stated. Problems like poverty, availability of drinking water problems, unemployment etc. may be considered for a project.

2. Choice of target group

The second step is to identify and choose the group from which data are to be collected. If the project is related to drinking water, urban and rural population forms a target group.

3. Collection of data

Data can be collected by using different methods like personal interview, mailing questionnaire, telephone interview etc. Primary and secondary sources are available for this purpose. The objective of survey determines which sources to be selected for the collection of data.

4. Organisation and Presentation of data

The next step is to organize and present data in a systematic manner. The collected data can be presented in the form of tables, graphs, diagrams etc.

5. Analysis and interpretation

Averages, measures of dispersion, correlation etc.. are the important statistical tools for analysis and interpretation.

6. Conclusion

It is the last step. Based on the result, we can predict the future and give suggestions for policy making

7. Bibliography

Bibliography represents the detailed references used in the study.

Structure of a Project Report

A standard project report should have certain essential elements. Such as;

1. Introduction
2. Statement of the problem
3. Objectives
4. Methodology
5. Analysis
6. Limitations
7. Conclusion