TERM I Part - A

XI -Economics (Statistics for economics)

Chapter - Concept of Economics and Significance ofStatistics in Economics

Learning Objectives:

- **Students will be able to understand the meaning of economy.**
- **Students will be able to identify economic activities.**
- **Students will be able to explain the importance of statistics in economics.**

Previous knowledge testing

Students will be asked to define economy,activities they do as love, affection, social responsibilities, and religious sentiments. They will be asked what your parents do.

Vocabulary used and spellings

Data, census, homogeneity, sample, aggregates, numerator, descriptive, inferential, classification, quantitative.

Method

Zoom app and share screen

Procedure

Meaning of economic activities will be explained with example. Term economy will be defined. Concept of consumption, production, savings, and investment will be explained. Concept of scarcity and economic problem will be taken up and why do problems arise will be explain. Meaning of statistics as plural nouns as singular noun will be taken up. Features of statistics will be explained. Aggregate of facts, numerically expressed, multiple causes, reasonable accurate, placed in relation to each other, estimated.

Scope of statistics, nature, subject matter, limitations will be explained. Importance of statistics will be explained, students will be briefed about collection of data and method of collection of data. Student are told how to

make a good question here.

Organization of data will be taken up.Meaning of classification will be explained. Concept of variable will be taken up as discrete variable and continues variable will be explained. Students will be given practice of converting raw data into individual series, discreet and continuous series. Inclusive and exclusive concept will be explained, convergence of inclusive into exclusive, less than or more than series will be taken up.

Difference between frequency Array and frequency distribution will be told. Conversion of mean values to class intervals will be done.

Participation of the students

The student should be told to make a list of economic activities and non-economic activities being done by their parents.Students will be asked to make a questionnaire to

find out about eating and habits of 10 classmates in the class and find the conclusion.

Recapitulation

Concepts and knowledge based questions will be discussed in the class to revise the topics done.

Assignment

Numerical questions of chapter 4 question number 1 to 11 and NCERT textbook questions will be given as home assignment.

Learning Outcomes:

- Students will be able to understand the meaning of economy.
- Students will be able to identify economic activities.
- Students will be able to explain the importance of statistics in economics.

Chapter- Organisation of data.

Learning objectives:

- To enable the students to understand Meaning and objective of organisation of data.
- To enable them to make series from raw data.

P.K testing:

- What is data?
- What are different types of series?

Aids and innovative methods:

- Zoom meetings, screen sharing, images sent on whatsapp.

Procedure:

Students will be explained Meaning and objectives of organisation of data. Types

of organization Geographical classification, chronological classification qualitative classification and quantitative classification will be explained.
Meaning of Variable (discrete and continuous).
Meaning of Raw data and type of series will be explained -

- Individual series.
- Discrete series.

- Continuous series.

Students will be given raw data and will be explained procedure of making series using Tally bars.
Practice questions will be given.

Student participation:

- Students will solve numerical questions.

Recapitulation:

- Name various types of continuous series.
- What is raw data?
- Why do we make series?

Assessment:

Assignment questions and numerical will be given to students to solve.

Learning outcome:

Students will be able to convert raw data into series using practical life data on a small scale.

Chapter- TEXTUAL AND TABULAR

PRESENTATION OF DATA

Objective:-

- To make students understand the need of presentation of data
- To discuss the relevance of presentation of data
- To explain textual presentation of data
- To explain tabular presentation of data and help them to convert raw data into a table

Previous knowledge testing:-

- Would you be able to understand a data which is a vague and not presented?
- Would that kind of vague data meaningful?
- Do you realise that data must be presented systematically?

Vocabulary:-

- Head note
- Stubs
- Footnotes
- Rows
- Caption
- Quantitative

Important Spellings:-

- Spatial classification
- Reference tables
- Manifold table

Explanation With Innovative Methods:-

- SCREEN SHARING
- Zoom meeting
- PICTURES

Procedure- Challenges How To Address Them:-

- Students will be explained that data should be presented in a systematic manner. Students will be explained that this presentation can be either

textual or tabular. Students will be described the textual presentation of data. Students will be explained tabular presentation of data. They will be explained in detail the procedure to construct a table. They will be told fundamentals of an ideal table.

Students Participation:-

- Students participation will be aroused by making a few students construct tables on the Blackboard. Students will be divided into groups and group leaders will be asked to see the tables of their group and correct the mistakes. Students efforts will b e appreciated.

Recapitulation/Assignment:-

- Students will be given a set of questions and they will be asked to construct tables of given set of questions. These questions will be discussed in the class the next day. Students will be asked the labelling of table one by one.

Art Integration With Other Domain:-

- Students will be asked to draw a blank table and label it using different colours.

Learning Outcome:-

- Students will be able to understand the need to present the data. Students shall be able to write the data in textual form. Students shall be able to construct the given set of data in tabular form.

Resources:-

- Book
- SCREEN SHARING
- Zoom meeting

Co-Scholastic Activities:-

- Students will be asked to write an “Essay" on relevance of Presentation of Data. The best essay will be recommended for Annual School Magazine.

Assessment:-

- Class test will be conducted
- Objective type questions test will be conducted

Chapter: Diagrammatic presentation of data bar diagram and Pie diagrams

Learning outcomes

- To be able to understand diagrammatic presentation of data.
- Students will be able to draw bar diagrams
- Students will be able to differentiate between various methods of diagrammatic presentations.
- Students will be able to identify the types of bar diagrams and their importance.
- Students will be able to draw and understand Pie diagrams.

Previous knowledge testing

- Defines statistics in singular sense.

- What are various ways of Collection of data?
- How do we organise data?
- How can we present the data?

Vocabulary

- Percentage bar diagram, subdivided bar diagram coma deviation bar diagram, pie diagram.

Important spellings

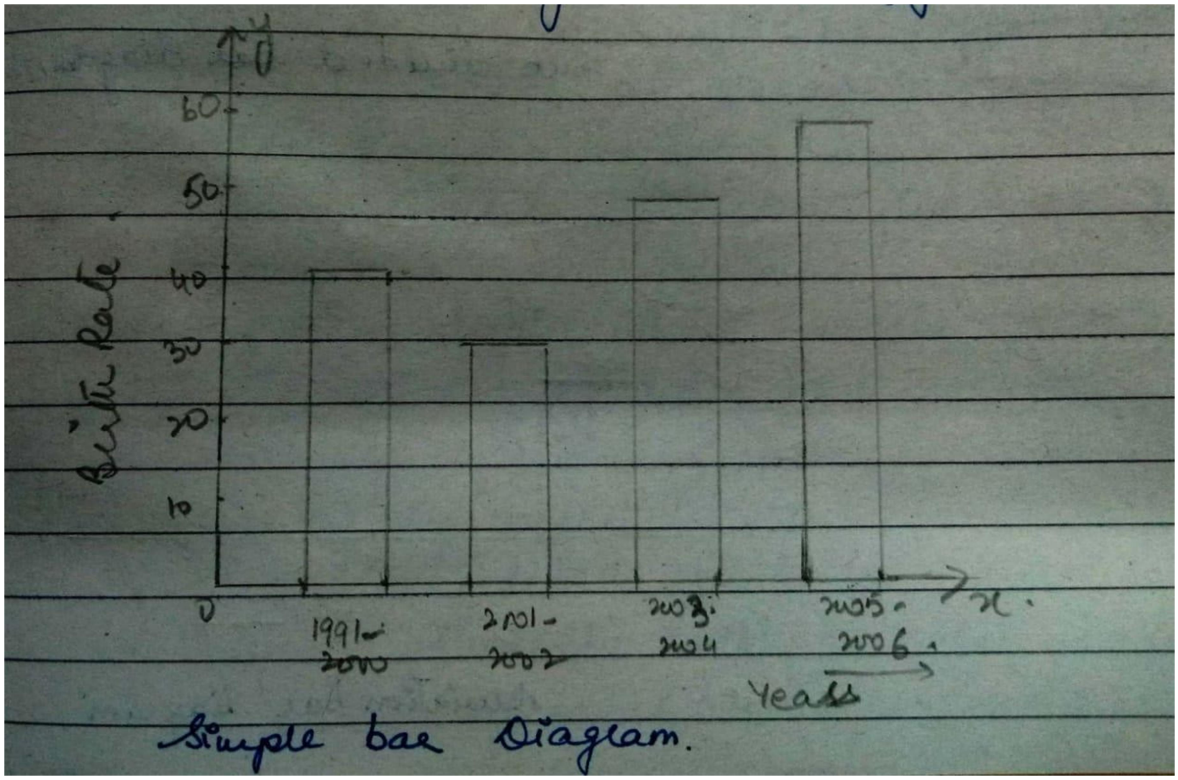
- Geometric form, deviation, rectangle.

Aids/ innovative methods used

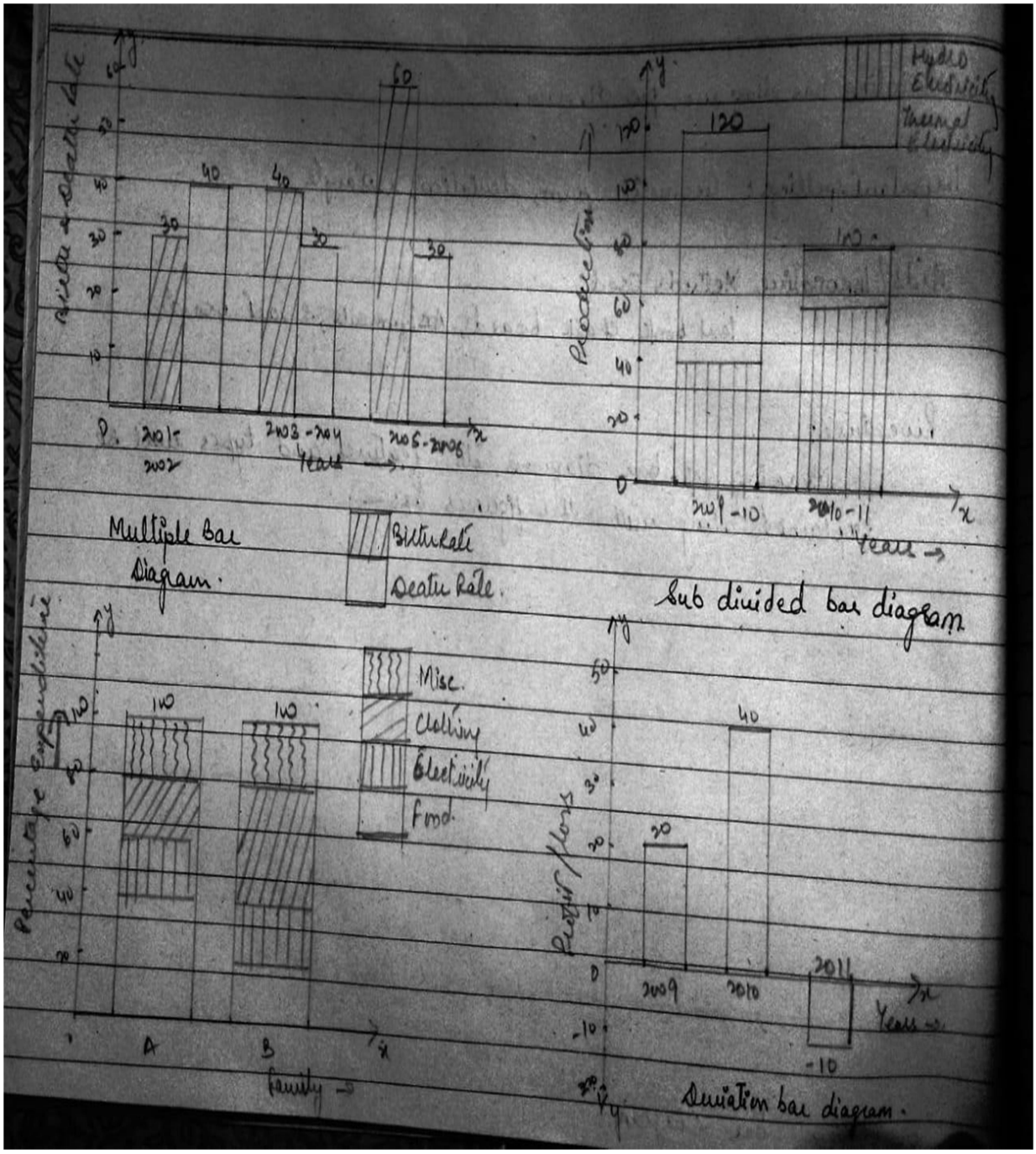
- Text book, Zoom App, Screen Sharing, assignments.

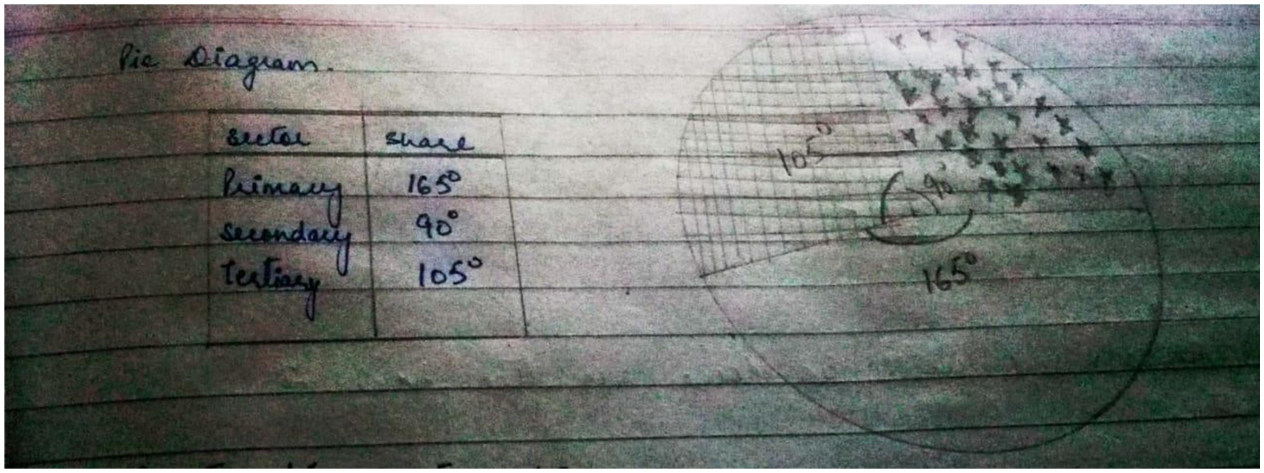
Procedure

- Meaning of bar diagram its feature and type will we explain along with the figures as:



Single bar diagram


Hydro Electricity
Thermal Electricity
Production
Years
2009-10
2010-11
Multiple Bar Diagram.
Birth rate
Death Rate.
Sub divided bar diagram
Misc.
Clothing
Electricity
Food.
Percentage expenditure
Family
A
B
Profit/Loss
Years
2009
2010
2011
Deviation bar diagram.



Participation of students

- Students will be given more numerical for practice.
- Students will be asked to aggregate their expenditure and draw pie diagram.

Recapitulation/ assignment

- Students will be given assignments for practice

Integration with other domains

- Integration with maths and fine arts

Learning outcomes

- Students will be able to draw bar diagrams

- Students will be able to highlight the importance and difference between various types of bar diagrams.

Resources

- T.R Jain,NCERT.

Co – scholastic activities

- Fine arts

Assessment

- Assessment will be done on the basis of tests.

Chapter : Frequency diagrams histogram and polygon and

Ogive

Learning objectives

- To enable students to relate frequency diagram with frequency distribution
- To be able to identify three important forms of frequency diagrams
- Students will be able to explain the histogram is a graphical presentation of currency distribution.

- To enable the students to understand that ogives are graphical presentation of cumulativefrequency.

Previous knowledge testing

- What does statics mean in singular sense?
- What is meant by organisation of data?
- Which is the third stage of statistical study?
- How do we present frequency distribution graphically?

Vocabulary

- Histogram, polygon, frequency, ogive.

Important spellings

- Histogram, ogive, polygon

Aids

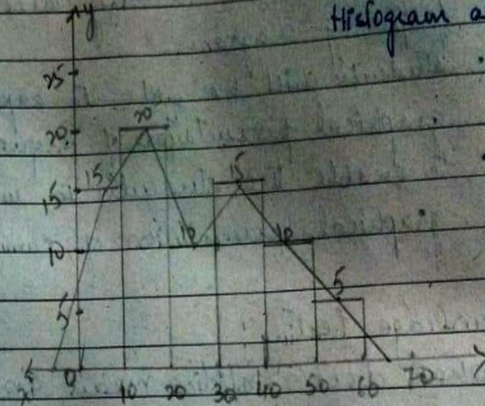
- Text book, Zoom App, Screen Sharing, assignments

Procedure

- Frequency diagrams related to diagrammatic presentation of frequency distribution will be explain along with the two three important forms of frequency diagrams and their figure as:

Marks	No. of students
0 - 10	15
10 - 20	20
20 - 30	10
30 - 40	15
40 - 50	10
50 - 60	5

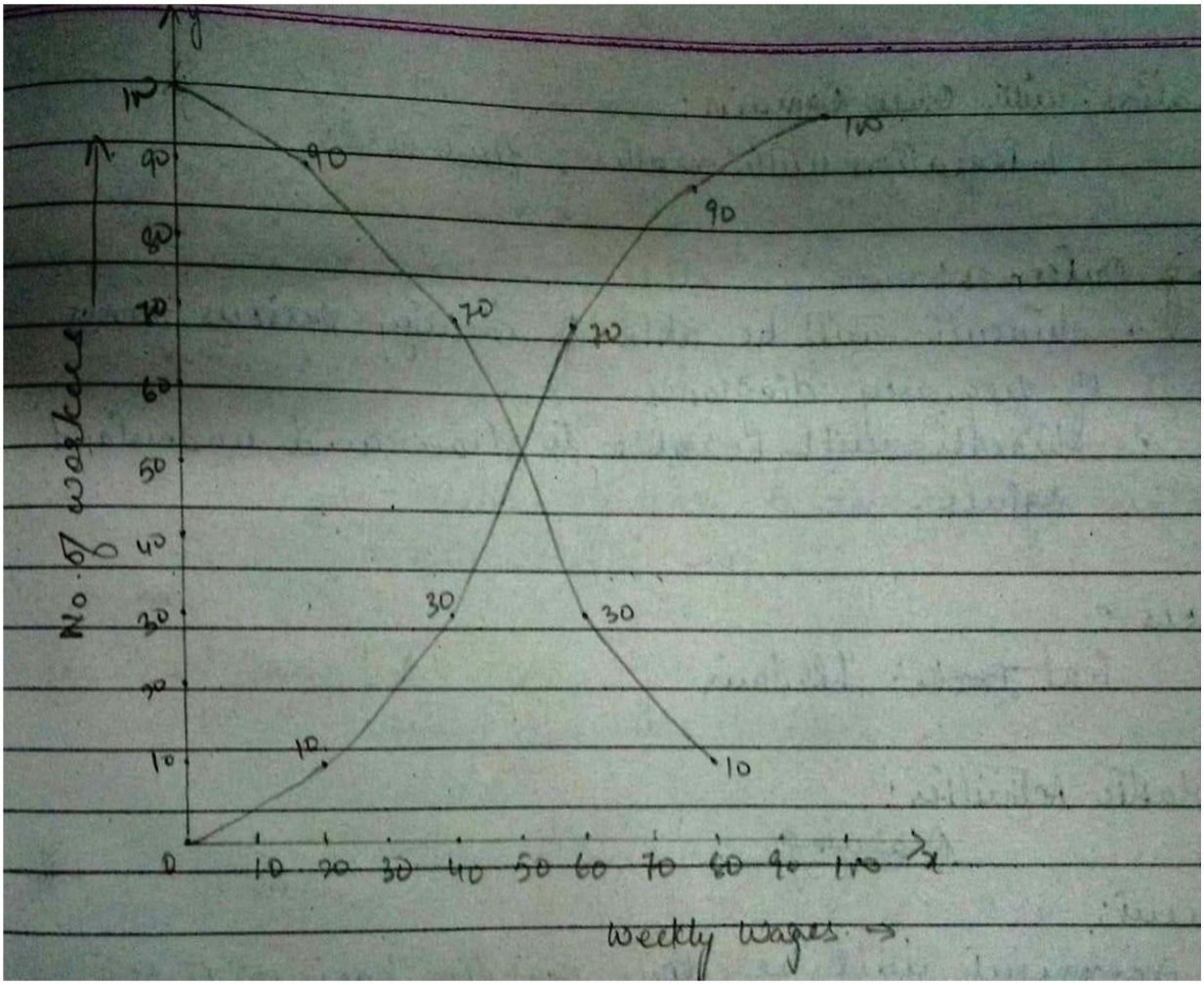
Histogram and Polygon.



Ogives:

Less than & More than Ogives.

Weekly Wages	No. of workers	less than	No. of workers	more than	No. of workers
0 - 20	10	20	10	0	100
20 - 40	20	40	30	20	90
40 - 60	50	60	70	40	70
60 - 80	20	80	90	60	30
80 - 100	10	100	100	80	10


y
No. of workers
90
80
70
60
50
40
30
20
10
90
70
30
10
90
70
30
10
0
10 20 30 40 50 60 70 80 90 100
x
Weekly wages

Participation of students

- More questions on similar pattern will be given the practice

Assignment/ recapitulation

- Students will be given assignments for practice.

Integration with other domain

- Integration with maths, fine arts

Learning outcomes

- Students will be able to identify various forms of frequency diagrams.
- Students will be able to draw and understand ogives.

Resources

- Textbook TR Jain,NCERT.

Co scholastic activities

- Drawing

Assessment

- Assessment will be done on the basis of tests

Chapter-Arithmetic Line

Graphs

Learning objectives

- To enable students to understand constitution of a graph.
- To enable students to identify a graph showing arithmetic values of variable is called automatic line graph.
- To enable students to classify one variable and two or more variables graphs.

Previous knowledge testing

- What are the various ways of presenting the data?
- How can we graphically represent the data?

Vocabulary:

- Quadrants, athematic line, variables.

Important spellings

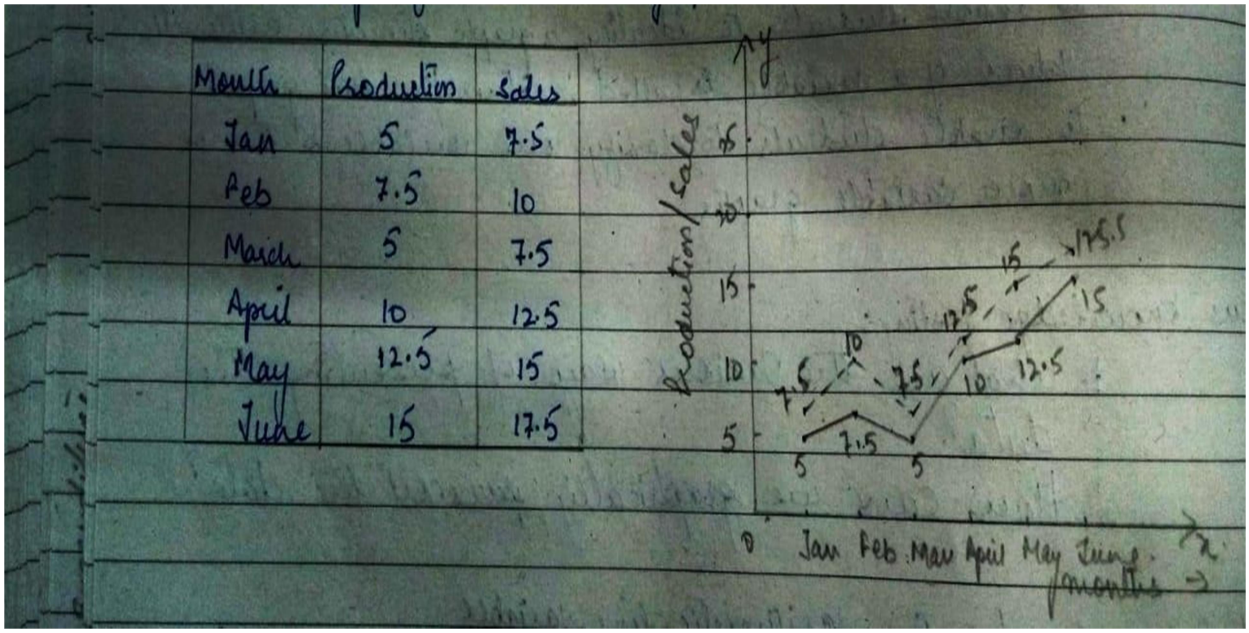
- Variables, quadrants, arithmetic line.

Aids/ innovative methods

- Zoom App, screen Sharing.

Procedure

- Presentation of data on the graph paper will be discussed construction of graph, rules for construction will be also be taken up as:
- Plotting of variables on graph will be taken up as:



Participation of students

- More questions of similar Pattern will be given for practice.
- Students will be asked to Note price of 5 fruits on a weekly basis and present them through line graphs.

Assignment/recapitulation

- Students will be asked to note prices of five vegetables from wholesale and retail markets on a weekly basis and present it through arithmetic line graphs.

Integration with other domains

- Integration with maths fine arts

Learning outcomes

- Students will be able to understand and content arithmetic line graphs

Resources

- Textbook TR Jain,NCERT

Co scholastic activities

- Fine arts and Maths

Assessment

Assessment will be done on the basis of class test

Chapter - MEASURES OF CENTRAL TENDENCY

ARITHMETIC MEAN

Objective:-

- To explain the concept and definition of Central Tendency – Arithmetic mean
- To explain the method of computing Arithmetic mean in three types of statistical series
- To explain different cases of calculating Arithmetic mean
- To explain Combined, Weighted and Corrected Arithmetic mean

Previous Knowledge Testing:-

- When we say that average weight of student of class XI G is 60kg, what do we mean?
- What is the relevance of this average number?
- Is this value important?
- Does it give meaningful conclusion?

Vocabulary:-

- Step-deviation
- Analysis
- Algebraic
- Extreme
- Partitional value
- Weighted

Important Spellings:-

- Arithmetic

- Weighted
- Algebraic
- Appropriate

Explanation:-

- ZOOM MEETINGS
- BOOK
- ASSIGNMENT QUESTIONS
- SCREEN SHARING

Procedure:-

- Students will be explained the procedure of computing mean in individual series. They will be explained the ways to calculate mean with the help of step-deviation and assumed mean method. Students will be explained the procedure to calculate mean in discrete and continuous series using formulas. Students will be explained the procedure to calculate mean in different cases. They will be explained Combined, Weighted, and Correct mean.

Students Participation:-

- Students will be divided into group and group members will be asked to solve these questions on the blackboard. Meanwhile round will be taken in the class to check the work of the students. Students work will be appreciated.

Recapitulation/Assignment:-

- Students will be given a set of extra questions and they will be asked to solve these questions in their register. These questions will be discussed in the class the next day. Students will be checked for numerical errors. They will be reminded formulas repetitively.

Art Integration With The Other Domain:-

- Students will be asked to make a colourful collage average height of students of different sections of class XI.

LearningOutcome :-

- Students shall be able to calculate the average in an individual series. Students shall be able to calculate the average in discrete and continuous series. Students shall be able to calculate mean in different cases without errors in reasonable time.

Resources:-

- Book
- SCREEN SHARING
- Zoom meeting

Co-Scholastic:-

- Students will be asked to create a poem on importance of calculating average of the given distribution. These poems will be read in the class while appreciating efforts of students. Few poems would be recommended for Annual School Magazine.

Assessment:-

- Class test will be conducted
- MCQ test will be conducted

Chapter 10-MEASURES OF

CENTRAL TENDENCYMEDIAN AND

MODE

Objective:-

- To explain the concept of positional average- median
- To explain the concept of most frequent value in distribution- Mode
- To explain the ways to complete Median in the Statistical series
- To explain the ways to complete Mode in the Statistical series
- To explain the ways to complete Median and Mode in different cases

Previous Knowledge Testing:-

- Can the given distribution be divided into different parts?
- Is there any relevance of such point that divides distribution into parts?
- Is there any value in the distribution that occurs most frequently?
- What is that value referred to as?

Vocabulary:-

- Ogive
- Corresponding
- Inclusive
- Positional

- Cumulative
- Dispersion

Important Spellings:-

- Percentile
- Asymmetrical
- Decile
- Distribution
- Bimodal
- Variable
- Marginal
- Dispersion

Explanation:-

- SCREEN SHARING
- Zoom meeting
- PICTURES

Procedure:-

- Students will be explained the procedure to calculate median in individual, discrete and continuous series. Students will be explained the way to calculate mode in individual, discrete and continuous series. Students will be explained the method to proceed if the series is Bimodal.

Students Participation:-

- Students will be divided into groups and questions would be given to them. The group leaders will be asked to come up with the answers. Students efforts will be appreciated.

Recapitulation/Assignment:-

- Students will be given a set of extra questions and they will be asked to solve these questions in the register. These questions will be discussed in the class the next day. Students will be checked for numerical errors. They will reminded formulas repetitively.

Art Integration:-

- Students will be asked to draw a flower shaped diagram of different types of series and formulas for these different series of both median and mode.

Learning Outcome:-

- Students shall be able to compute Median in all three statistical series and in all different cases. Students shall be able to compute mode in all three statistical series and in all different cases. Students will be able to learn the formulas and do all the calculations speedily and without least errors.

Resources:-

- PICTURES
- SCREEN SHARING
- Zoom meeting
- BOOK

Co-Scholastic Activities:-

- Students will be helped to write an essay on the procedure to compute median and mode of given distribution.

Assessment:-

- Class test will be conducted
- MCQ test will be conducted

PART-B

Chapter : - Introduction; Central Problems of an economy.

Learning Objectives:

- Students will be able to understand the meaning of scarcity.
- Students will be able to identify the central problems of economy; what to produce,how to produce and for whom to produce.
- Students will be able to explain normative and positive economics.

Previous knowledge testing

The students will be asked the following questions:

- How do they choose a product when they go to market?
- Do you always have sufficient money with you?
- Do you make a list of things you want according to some priority?

Vocabulary and spellings

Scarcity, Normative science, Macroeconomics, Labor intensive, capital intensive.

Method

Zoom app and share screen

Procedure and explanation

Meaning of economy will be explained to the students. Concept of scarcity and choice will be described. Meaning of microeconomics and macroeconomics will be explained and how it is used and what is the subject matter will be told to the students. Economics as a positive science will be explained that it

explains economics as what is, what was what, what will be?

Economics as a normative science will be explained as associated with value judgements and suggestions which means what should be?

Meaning of economy will be told to the students. Different types of economic activities will be explained with the help of examples and students will be told the difference

between economic and non-economic activities. Meaning of economic problem will be explained. What causes economic problem will be done in the class -

- Unlimited wants
- Limited resources
- Different priorities
- Alternate uses

Central problems of an economy will be explained as

- What to produce
- How to produce
- For whom to produce

Solution to these problems in all three types of economies that is capitalistic economy socialistic economy and mixed economy will be discussed.

Students participation and art integration-students will be asked to write the difference between microeconomics and macroeconomics. Positive economics and normative economics on the chart paper with colored pens.

Recapitulation

Students will be asked to make a group and act as doctors, teachers, household help, home maker, administrators, and ministers, so as they get to know what are the various activities which are performed to earn income.

Assignment

Very short answer type questions, multiple-choice questions and back exercises of NCERT will be given as home assignment.

Learning Outcomes:

- **Students will be able to understand the meaning of scarcity.**
- **Students will be able to identify the central problems of economy; what to produce,how to produce and for whom to produce.**
- **Students will be able to explain normative and positive economics**

CONSUMER EQILIBRIUM-USING CARDINAL ANALYSIS

Objective:-

To make student understand:

- The concept of utility.
- The concept of measuring cardinal and ordinal utility.

- Total(TU) and Marginal Utility(MU)
- Law of Diminishing Marginal Utility.

- Concept of consumer equilibrium in:
  - One Commodity case
  - Two Commodity case
- Assumption and concept of Consumer equilibrium.

Previous Knowledge Testing:-

The basic limitations of utility analysis.

Do a good has want satisfying capacity?

Can this utility be measured?

Can this utility be ranked?

What will happen to commodity when it is continuously consumed?

Vocabulary:-

1) Satiety
2) Equilibrium
3) Hypothetical
4) Cardinal
5) Equi-Marginal
6) Ordinal

Important Spelling:-

1) Satiety
2) Algebraically
3) Rationality
4) Struck
5) Geometrically
6) Psychological

Explanation:-

1) Zoom meeting

2) Screen sharing
3) Pictures

Procedure:-

Students will be explained the concept of utility in detail. They will be introduced with the concept of cardinal and ordinal utility with examples. They will be explained the concept of Total Utility and Marginal Utility. They will be explained the consumer equilibrium with diagrams.

Student participation:-

Student attention will be aroused by giving them appropriate examples to understand the concept of Diminishing Marginal Utility. They will be asked to design assumptions of consumer equilibrium.

Recapitulation:-

- Define Marginal Utility. State the law of diminishing Marginal Utility.
- What is meant by Consumer equilibrium? State its conditions in one commodity case.
- What is relationship between Total and Marginal Utility?

Art Integration with Other Domain:-

Students will be asked to design colorful different cartoons that show that customers' desire for good decreases when he consumes more and more of a commodity.

Learning outcomes:-

- Students shall be able to understand the concept of Total Utility and Marginal Utility diagrammatically.

- They shall be able to apply law of Diminishing Marginal Utility into their daily lives.
- They shall be able to understand and explain the assumptions conditions and limitations of consumer equilibrium.

Resources:-

1) Book
2) Screen sharing
3) Zoom meetings

Co-Scholastic:-

Each student will be given time and will be asked to write an essay on consumer behavior in 200-300 words.

Assessment:-

Class test will be conducted.

MCQ test will be conducted.

CONSUMER EQUILIBRIUM-USING ORDINAL ANALYSIS

Objective:-

To make students understand:

- Assumption of IC analysis of consumer equilibrium.
- Indifference set and indifference curve.
- Properties of Indifference curve
- Consumer Budget- Budget set and budget line.
- Consumer Equilibrium

Previous Knowledge Testing:-

Is consumption of two goods related?

Will a consumer buy more with more income?

Can a consumer buy beyond budget line?

Can budget line shift?

Can budget line rotate?

Is Indifference curve convex or concave?

Vocabulary:-

(1) Attainable
(2) Constraint
(3) Convex
(4) Monotonic Preferences
(5) Feasible
(6) Price line
(7) Indifference
(8) Diminishing

Important Spelling:-

(1) Indifference
(2) Equilibrium
(3) Substitution
(4) Hypothetica

Explanation:-

Screen sharing, Zoom meeting, pictures

Procedure:-

Students will be explained Consumers Equilibrium with the help of Indifference Curve. They will be explained the assumptions of Indifference Curve. Properties of Set and IC will be explained. Students will be explained Budget Set and Budget

Line in detail. Students will be explained the assumptions, conditions and limitations of the law. All concepts will be supplemented with diagrams.

Recapitulation/Assignment:-

State the properties of Indifference Curve.

What do you mean by Monotonic Preferences?

Explain the conditions of Consumers Equilibrium with the help of IC Analysis.

Explain the meaning of Budget Set and Budget Line

Art Integration with other domain

Students will be asked to design cartoons of different customer preferences. Meanwhile they will be explained that customers will always prefer more without sacrificing other. Student's efforts will be appreciated.

Learning Outcome

Students shall be able to understand IC Analysis.

Students shall be able to understand Indifference Set and Indifference Curve and its properties.

They shall be able to explain Budget Set and Budget Line

They shall be able to understand IC Analysis diagrammatically.

Resources:-sum

Book

Screen sharing

Zoom meeting

Co-Scholastic:-

The class will be divided into 5 groups and students will be asked to prepare a "Speech" on consumers behaviour in about 200 to 300 words. Students efforts will be appreciated and best speech will be recommended for annual school magazine.

Assessment:-

Unit test will be conducted.

Open book test will be conducted.

Chapter - THEORY OF DEMAND

Objective:-

To make student understand:

- Concept of demand and quantity demanded.
- Demand curve and its slope.
- Demand function- Demand and its Determinants.
- Movement along the demand curve & shift in demand curve.
- Cross price effects of demand.

Previous Knowledge Testing:-

Will the same quantity of goods be produced if its price is reduced?

Will the decrease in price of good increase income of consumer?

Will the decrease in price of good increase the real income of consumer?

Vocabulary:-

1) Substitute good
2) Complementary good
3) Article of distinction

4) Irrational
5) Substitution
6) Slope
7) Hyperbola
8) Inelastic

Important Spelling:-

1) Substantially
2) Postponement
3) Efficient
4) Appliances
5) Insignificant
6) Flatter
7) Infinite
8) Giffen Goods

Explanation:-

1) Screen sharing
2) Zoom meeting
3) Pictures

Procedure:-

Students will be explained the concept of demand and quantity demanded. Several examples will be given. They will be explained normal and inferior goods an substitute and complementary goods. They will be explained Law of Demand with its diagram. They will also be explained the assumptions and limitations of law of demand. Students will be explained all the movements and shifts in demand curve.

Student participation:-

Students attention will be aroused by asking them open ended questions that will help them to understand inverse relationship between price and quantity demanded. Students will be asked think a few exceptions to law of demand.

Recapitulation:-

1) Define demand. State the factors affecting demand for
2) Explain the law of demand with help of demand schedule.
3) Why does demand curve for normal good downward from left to right?
4) Define increase in demand and explain its causes.
5) Define decrease in demand with its causes.
6) State determinants of market demand.
7) Distinguish between Normal Goods and Inferior goods.

Art Integration with Other Domain:-

Students will be given time and will be asked to draw a market scenario in there registers. Their efforts will be appreciated.

Learning outcomes:-

- Students shall be able to understand the concept of demand and quantity demanded.
- They shall be able to draw demand curve and its scopes.
- They shall be able to recognize the law of demand and its exceptions.
- They shall able to understand movements and shift in demand curve.

Resources:-

(1) Book
(2) Screen sharing
(3) Zoom meeting

Co-Scholastic:-

Following quotes will be discussed in class with students to make the understanding more clear-

“People don’t but for logical reasons. They buy for emotional reasons.”

“Everything is worth what its purchaser will pay for it”

Assessment:-

Class test will be conducted.

Quiz will be conducted.

MCQ test will be conducted.

Chapter - ELASTICITY OF DEMAND

Objective:-To make students understand

- Concept of Price Elasticity of Demand
- Measurement of Price Elasticity of Demand – Percentage method
- Distinct situations of Elasticity of Demand
- Factors affecting price elasticity of demand

Previous knowledge testing:-

- Will the Quantity Demanded and Price change in the same percentage?
- Can this change in Quantity demanded and Price be numerically measured?
- Can this inverse relation be expressed in the form of a formula?

Vocabulary:-

- Substitute Goods
- Complementary Goods
- habituated
- Postponement
- Proportionate
- Hyperbola

Important Spelling:-

- Flatter
- Adjoining
- Tariff
- Exhibit
- Unitary
- Hyperbola

Explanation:-

- Screen sharing
- pictures
- Zoom meeting

Procedure:-

- Students will be explained the concept of Elasticity of demand. They will be made clear that this concept is valid numerically. They will be explained the distinct situations of Elasticity of Demand and factors affecting Elasticity of Demand. Students will be explained Percentage/Proportionate Method of measuring Elasticity of demand.

Student Participation:-

The students will be divided into three groups and given three sets of different numerical questions. Students efforts will be appreciated and students will be encouraged for proactive classroom response.

Recapitulation:-

- Explain factors affecting Price Elasticity of Demand
- Why is demand for water inelastic?
- “Flatter the curve , greater the Elasticity Demand” Comment.

Art Integration With Other Domain:-

- Students will be asked to give a rhyme to the groups discussed for Elasticity of Demand. Students efforts will be appreciated.

Learning Outcomes:-

- Students shall be able to understood the concept of Price Elasticity of Demand .
- They shall be able to understand the degrees of Price Elasticity of Demand .
- They shall be able to understand the factors affecting Price Elasticity of Demand .

Resources :-

- Book
- SCREEN SHARING
- Zoom meeting

Co-Scholastic Activities:-

- Students will be asked to draw a colorful and innovative diagram of all degrees of Elasticity of Demand in a same diagram.

Assessment:-

Class test of numerical will be conducted

TERM II- PART A

Chapter- Measures of dispersion

Learning objectives:

- To enable students to understand meaning and application of measures of dispersion.
- To enable them to calculate standard deviation.

P.k testing:

- What is meaning of consistency?
- What is meaning of variability?

Vocabulary:

- Consistency, variability, SD, CV.

Teaching Aids:

- Zoom meetings, screen sharing, images sent on whatsapp.

Procedure:

Students will be taught to calculate standard deviation. Numerical questions will be solved.

Students will be taught how to draw Lorenz curve using screen sharing.

Numerical questions of each one will be solved and also their application will be taught.

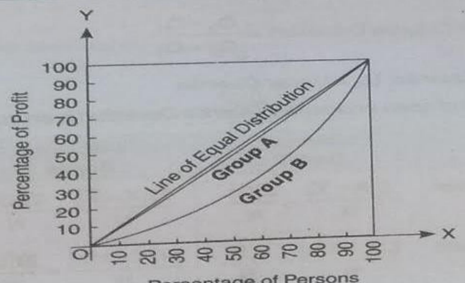
Lorenz curve will be taught on screen sharing.

Example 55. From the following table, draw Lorenz curve for number of persons in Group A and B and interpret the result.

Profit Earned (₹ in '000)	20	30	40	50	60
No. of Persons (Group A)	6	8	10	12	14
No. of Persons (Group B)	15	10	9	11	5

Solution:

Profit Earned (₹ in '000)	Cumulative Profit (₹)	Cumulative (%)	Group A			Group B		
			No. of Persons	Cumulative No.	Cumulative (%)	No. of Persons	Cumulative No.	Cumulative (%)
20	20	10	6	6	12	15	15	30
30	50	25	8	14	28	10	25	50
40	90	45	10	24	48	9	34	68
50	140	70	12	36	72	11	45	90
60	200	100	14	50	100	5	50	100



distribution. So, Group B shows greater

Students will be taught to comment upon consistency or variability.

Student participation:

Numerical questions of each topic will be solved by students.

Recapitulation:

- How is dispersion different from average?
- Why should we measure dispersion?
- Which is mostly used measures of dispersion?

Assessment:

A test of numerical questions will be conducted by sending through whats app.

Learning outcome:

Students will be able to use the knowledge and ability of S.D in commenting on consistency or variability.

Chapter: correlation

Learning objectives:

- To understand meaning of correlation. Understand objectives of correlation. To learn to calculate correlation coefficient.

P.K testing:

- Is Price and Demand related to each other?
- Is price and supply related to each other?

Vocabulary:

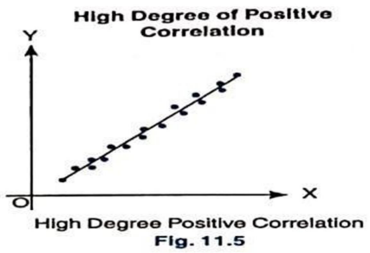
Degree of correlation, simple correlation and multiple correlation.

Teaching Aids:

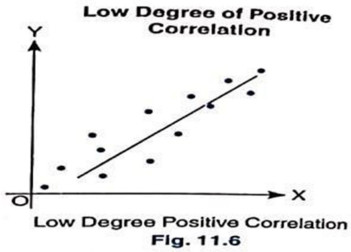
- Zoom meetings, screen sharing, images sent on whatsapp.

Procedure:

- Students will be taught meaning and type of correlation.
- Degree of correlation will be explained.
- Scattered diagram method will be done.

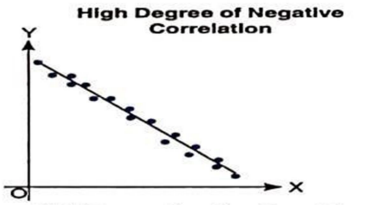


High Degree Positive Correlation
Fig. 11.5

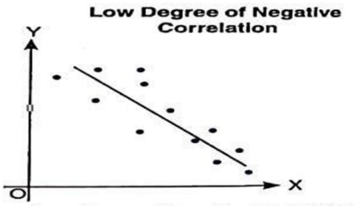


Low Degree Positive Correlation
Fig. 11.6

4. Negative Correlation: When all the points of scatter diagram cluster around a straight l with negative slope, the correlation is said to be negative as shown in (Fig. 11.7 and 11.

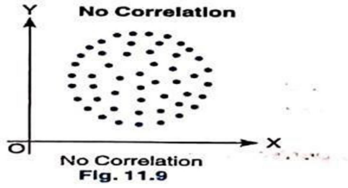


High Degree Negative Correlation
Fig. 11.7

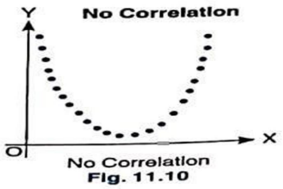


Low Degree Negative Correlation
Fig. 11.8

5. No Correlation: If the points are scattered in a haphazard manner, then it is a case of zer or no correlation (see Fig. 11.9 and 11.10).



No Correlation
Fig. 11.9



No Correlation
Fig. 11.10

- Numerical questions of karlpearsions coefficient of correlation will be done.

Student's participation:

- Students will be make a list of variable related to each other positively or negatively.
- They will solve numerical questions.

Recapitulation:

- What is linear correlation?
- What is negative correlation?
- Formulas will be asked.

Assessment:

Class test of numerical questions will be conducted.

Learning outcome:

Students will be able to calculate correlation and apply it in practical situation.

Chapter- Index numbers

Learning objectives:

- To enable students to understand meaning and objectives of constructing index number.
- To learn how to calculate index numbers.

P.K testing:

- What is inflation?
- Is price level increasing or decreasing?

Vocabulary:

Base year, current year, price relative,CPI

Teaching Aids:

Zoom meetings, screen sharing, images sent on whatsapp.

Procedure:

Students will be taught various methods of constructing index numbers.

- Simple methods.
- Weighted methods

Various numerical questions will be given to students to solve. Following methods will be used:

- Simple aggregative.
- Simple average of price relative.
- Weighted aggregative.
- Weighted average of price relative.
- CPI will be done.

Student's participation:

Numerical questions will be solved by the students.

Recapitulation:

Assignment questions will be given to solve through whatsapp.

Assessment:

A class test of numerical questions will be conducted. Students will be asked to send the solutions through whatsapp.

Learning outcome:

Students will be able to construct index numbers.

PART B

Chapter: **Production function**

Objectives:

- To understand concept of production function
- to understand Concept of TP, MP, AP.
- To understand the relation of TP, AP, MP.

P.K testing:

- What is production?
- Name the factor of production.

Teaching Aids:

Zoom meetings, screen sharing, images sent on whatsapp.

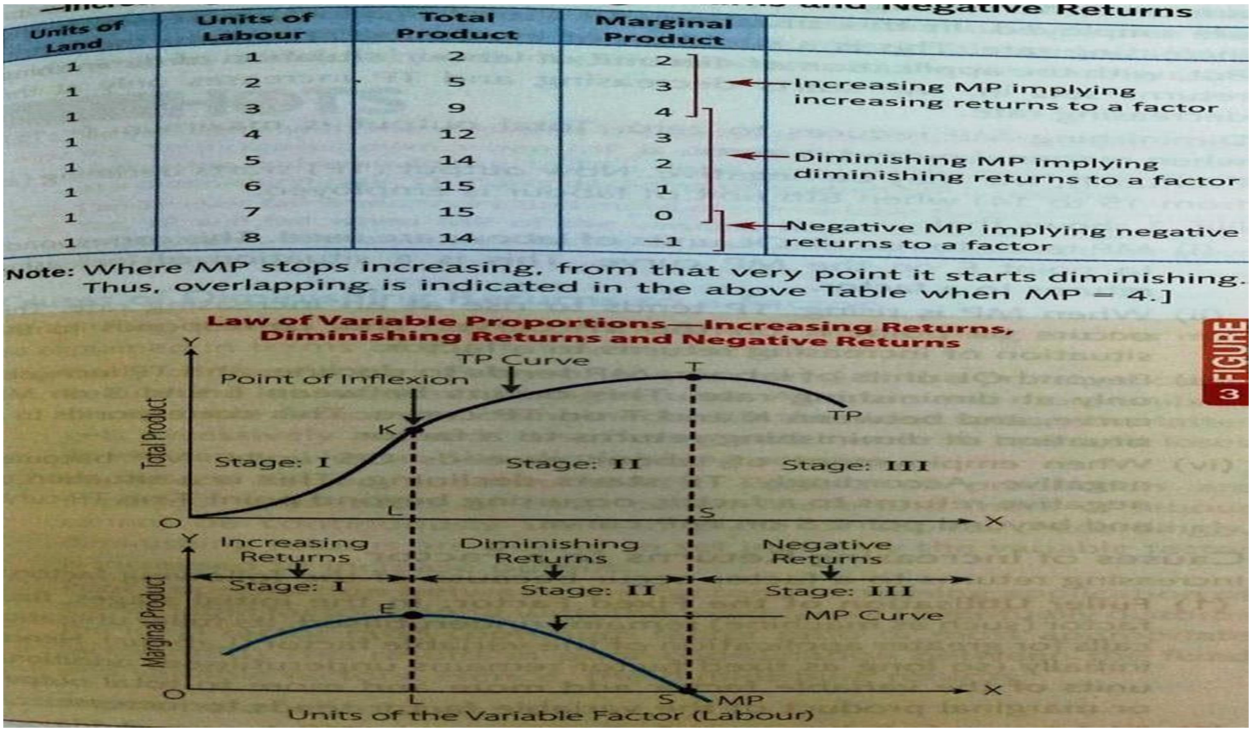
Vocabulary:

Short run, long run, fixed factor and variable factor.

Content and procedure:

Students will be explained the following topics in detail.

- Meaning of production function.
- Fixed and variable factors.
- Short and long run.
- TP, AP, MP meanings and relationship.
- Numerical questions will be solved.
- Law of variable proportion (topic will be explained with the schedule and diagram).



Units of Land	Units of Labour	Total Product	Marginal Product	
1	1	2	2	
1	2	5	3	← Increasing MP implying increasing returns to a factor
1	3	9	4	
1	4	12	3	
1	5	14	2	← Diminishing MP implying diminishing returns to a factor
1	6	15	1	
1	7	15	0	
1	8	14	−1	← Negative MP implying negative returns to a factor

Note: Where MP stops increasing, from that very point it starts diminishing. Thus, overlapping is indicated in the above Table when MP = 4.]

- Causes and postponement of the law will be explained.

Student's participation:

Students will be made to draw diagram in Notebook.

Recapitulation:

Questions will be asked like MCQS true and false type etc.

Assessment:

Verbal questions will be asked from the students. An assignment of question will be given to solve through whatsapp.

Learning Outcomes:

>students will be able to understand the concept of production function.

> students will be able to explain TP,AP,MP and their relationship.

Chapter- Concepts of cost

Learning objectives:

- To enable students to understand concept of costs.
- To understand short and long run costs.
- To understand fixed and variable cost.
- Relationship between various concepts of cost

P.k testing:

- To produce output, what does a producer need?
- What does he pay for getting this inputs?

Vocabulary:

Explicit cost, implicit cost, variable cost, fixed cost.

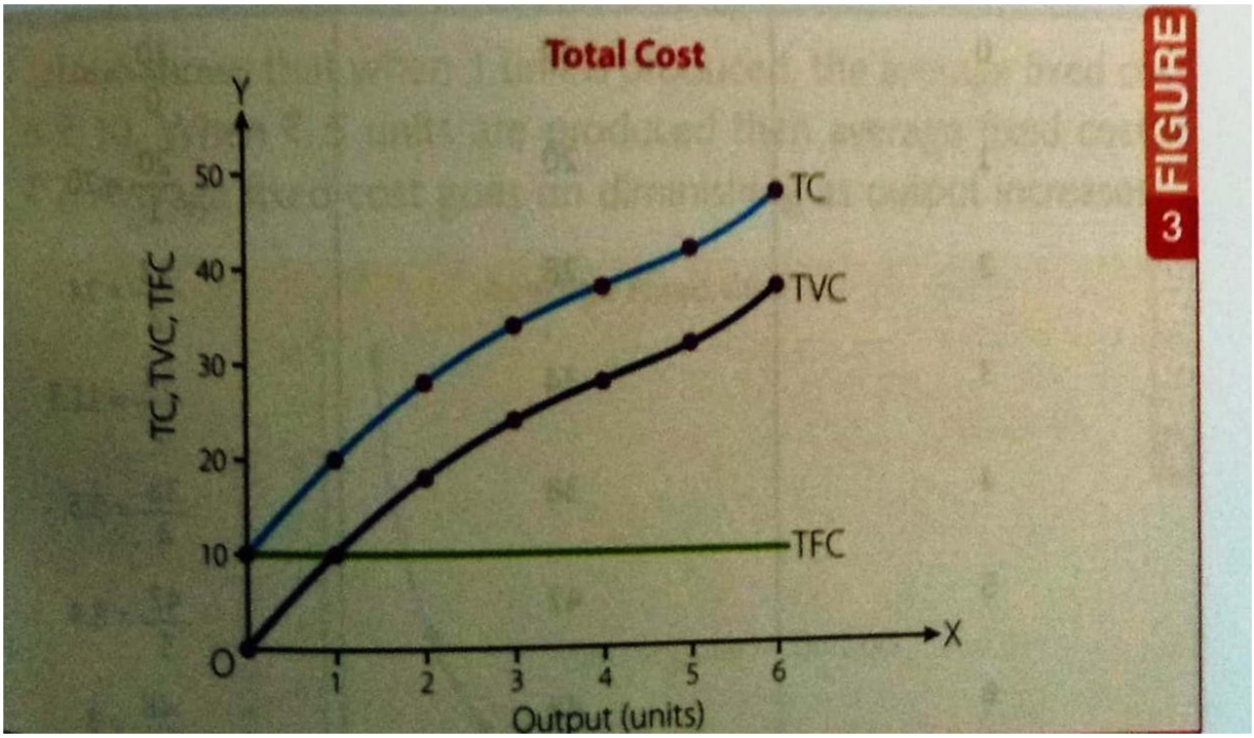
Teaching Aids:

Zoom meetings, screen sharing, images sent on whatsapp.

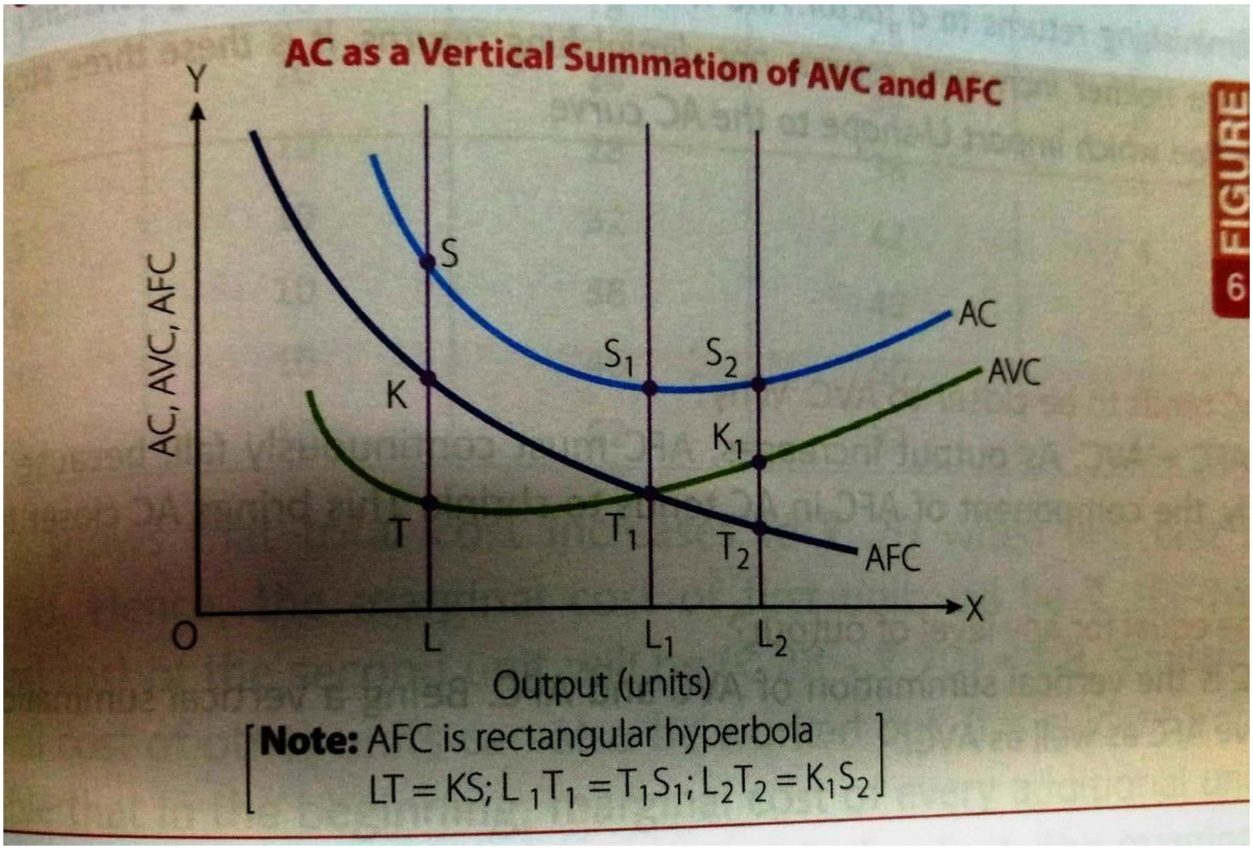
Content and procedure:

Students will be explained the following topics.

- Meaning of cost.
- Implicit cost and explicit cost.
- Fixed cost and variable cost with examples.
- TFC, TV, TC with schedule and diagram.



- Their behaviour and relationship will be discussed in detail.
- AFC, AVC AND AC will be e explain with schedule and diagram.



- Their behaviour and relationship will be discussed in detail.
- Nature and meaning of MC will be explained and its relationship with other costs. With schedule and diagram.
- Numerical questions will be taught.

Student participation:

- Students will be made to draw diagrams in their note books.
- They will make a list of examples of fixed and variable cost.

Recapitulation:

- Give examples of fixed cost and variable cost.
- Give the relationship between MC and AC
- Why is short run AC curve u-shaped?

Assessment:

Assignment will be given to the students to solve.

Learning Objectives:

- To enable students to understand concept of costs.

- To understand short and long run costs.
- To understand fixed and variable cost.
- Relationship between various concepts of cost

Chapter- Concept of revenue

Learning objectives:

- To enable the students to understand meaning of revenue.
- To understand TR, MR, AR and their relationship.

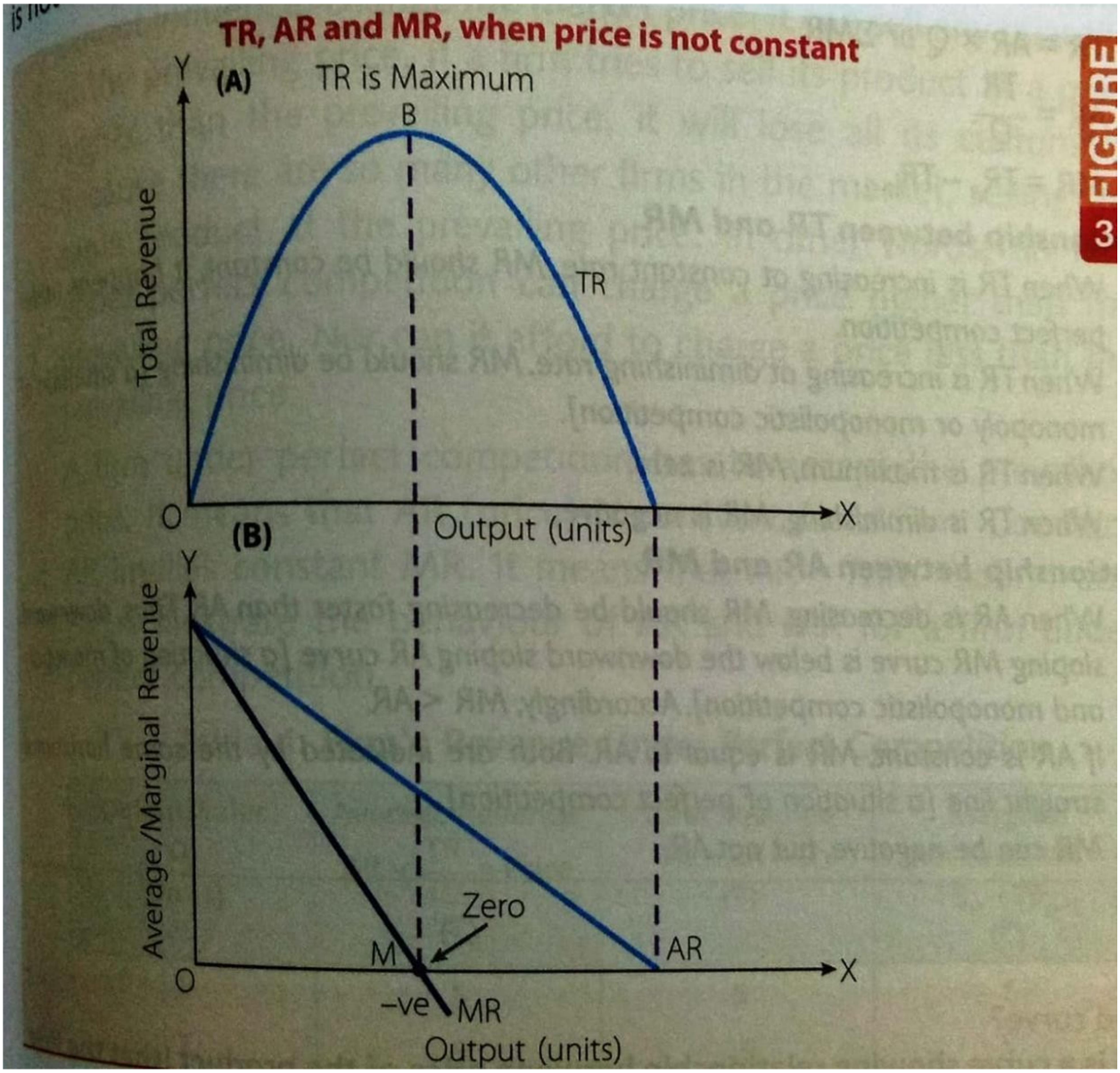
P.K testing

By selling the output what does the seller get in return?

Content and procedure

Students will be explained the following topics.

- Concept of revenue (TR, MR, AR).
- Behaviour of TR, AR and MR (with schedule and diagram).
- Relationship between TR AR, MR will be explained with diagram.



- Numerical questions will be solved by the students.

Participation students:

- Students will draw the diagram in their notebooks.
- Student will solve numerical questions given in back exercise.

Recapitulation:

Following questions will be asked-

What is the difference between revenue and cost?

- Revenue = cost +_____(fill up)
- Revenue - profit =_____(fill up)

Learning Objectives:

- To enable the students to understand meaning of revenue.
- To understand TR, MR, AR and their relationship.

Chapter: Producer's equilibrium.

Learning objectives.

- To enable students to understand producer's equilibrium.
- To understand shutdown point and break-even point

P.K testing :

- Who is a producer?
- What is profit?
- What is objective of production?

Vocabulary:

Producer's equilibrium, break-even point, shut down.

Teaching Aids:

Zoom meetings, screen sharing, images sent on whatsapp.

Content and procedure:

Students will be explained the concept of production, meaning of producer.

- Concept of gross and net profit.
- Normal profit, supernormal profit, subnormal profits.
- Conditions of producer equilibrium with schedule and diagram (using TR, TC Approach).

Let us understand this with the help of Table 8.3, where market price is ... per unit.

Table 8.3: Producer's Equilibrium (When Price remains Constant)

Output (units)	*Price (₹)*	*TR (₹)*	*TC (₹)*	*Profit = TR – TC (₹)*	*Remarks*
0	10	0	5	– 5	Profit rises with increase in output
1	10	10	8	2	
2	10	20	15	5	
3	10	30	21	9	
4	**10**	**40**	**31**	**9**	**Producer's Equilibrium**
5	10	50	42	8	Profit falls with increase in output
6	10	60	54	6	

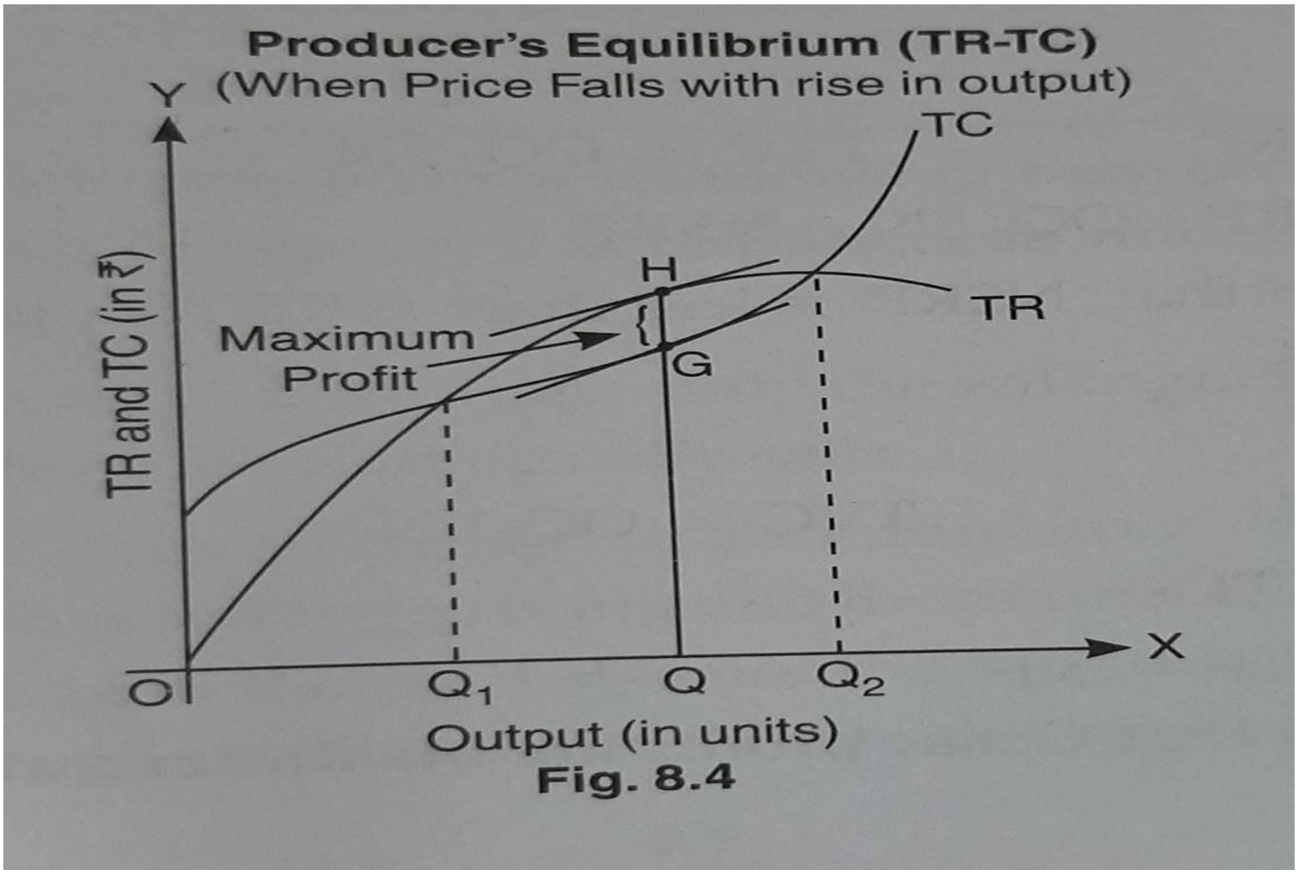

Producer's Equilibrium (TR-TC)
(When Price Falls with rise in output)
Y
TC
TR and TC (in ₹)
H
TR
Maximum
Profit
G
O
Q_1
Q
Q_2
X
Output (in units)

Fig. 8.4

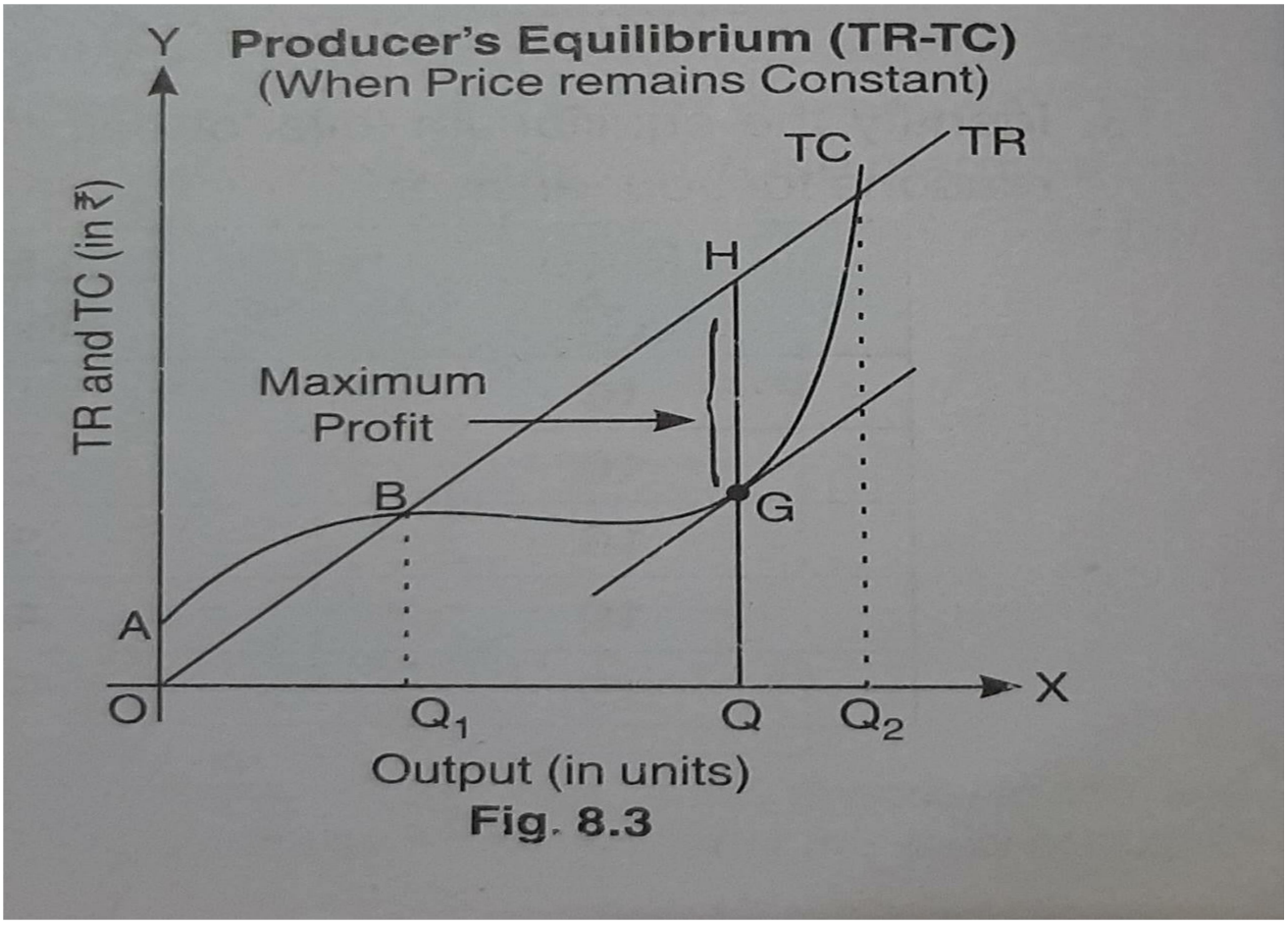


Fig. 8.3

...with the help of Table 8.4:

Table 8.4: Producer's Equilibrium (When Price Falls with rise in output)

Output (units)	*Price (₹)*	*TR (₹)*	*TC (₹)*	*Profit = TR – TC (₹)*	*Remarks*
0	10	0	2	– 2	
1	9	9	5	4	Profit rises with increase in output
2	8	16	9	7	
3	7	21	11	10	
4	**6**	**24**	**14**	**10**	**Producer's Equilibrium**
5	5	25	20	5	Profit falls with increase in output
6	4	24	27	– 3	

...will be at equilibrium at 4 units of output because at this level both

- Break-even point and shutdown point will be explained with the help of above diagram.

- Numerical questions will be solved using TR, TC schedule.

Student's participation:
A class quiz will be conducted through on zoom meeting verbally.

Recapitulation (TR, TC approach).

- What are conditions of producer equilibrium?
- What is shut down point?
- What is break-even point?
- What is normal profit?

Assessment:

Students will be asked to solve back exercise questions.

Learning Objectives:

- To enable students to understand producer's equilibrium.
- To understand shutdown point and break-even point

Chapter: Theory of

supply

Learning objectives

- Students will be able to understand the concept of supply.
- Students will be able to draw supply curve.
- To Enable the students to identify determinants of supply
- To enable students to explain law of supply
- To enable students to differentiate between quantitative supplied and change in supply.

Previous knowledge testing

- Who produces good services?

- What is given to Buy goods and services?

Vocabulary

- Supply, stock, quantity supplied, market supply price elasticity of supply, supply function.

Important spellings

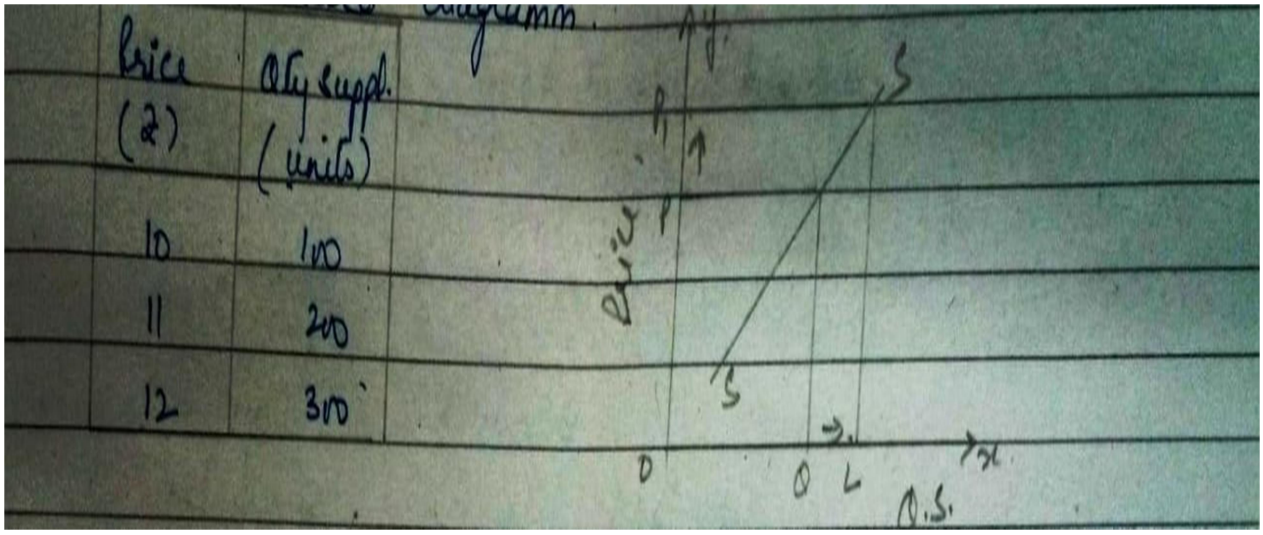
- Stock, quantitative supplied determinants, Technology Extension and contraction

Innovative aids methods

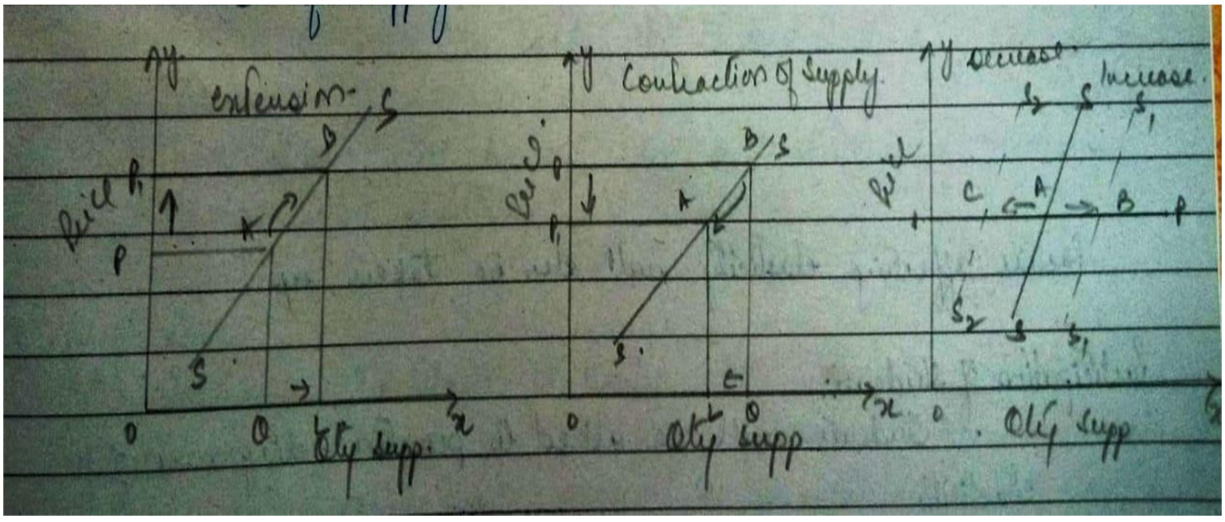
- Text book, Zoom App, Screen Sharing, activities.

Procedure

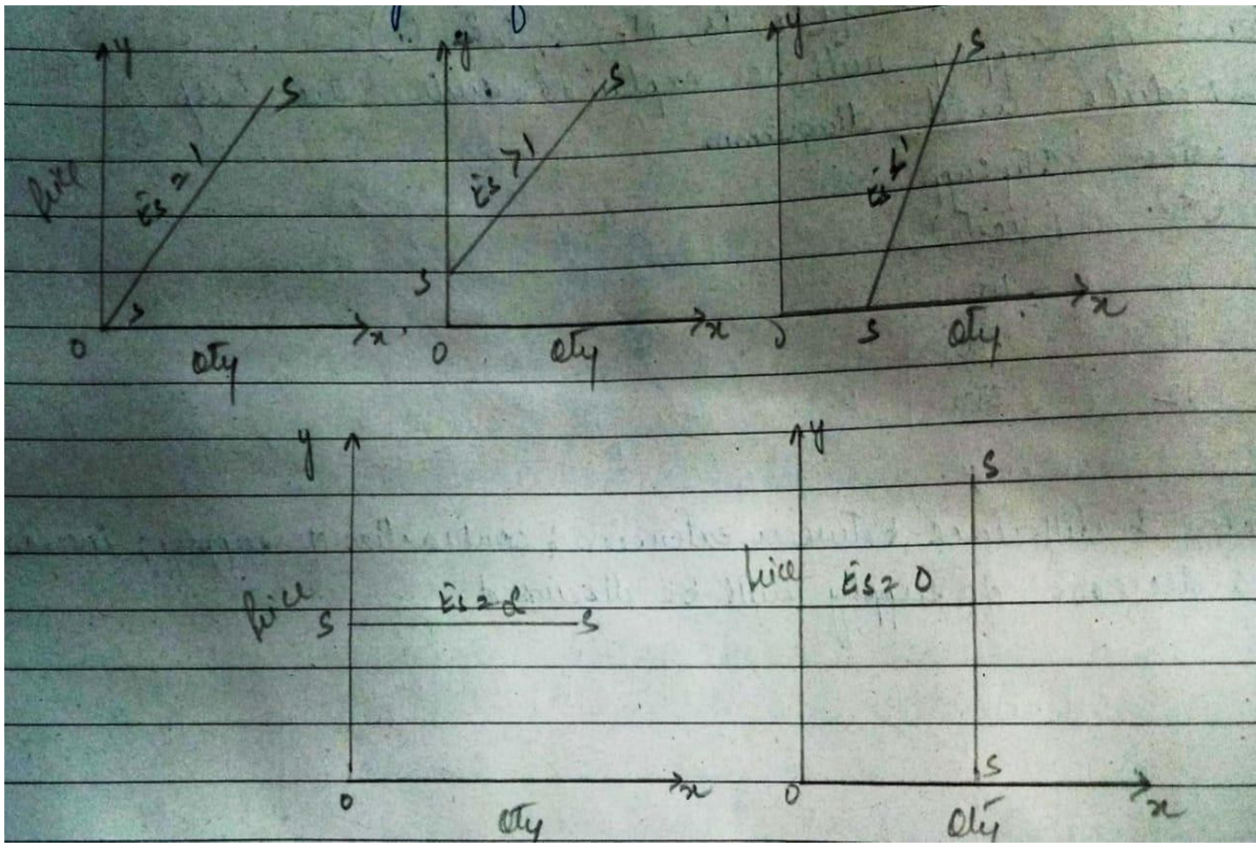
- Concept of supply along with its determinants will be explained
- Sx = f(px,pr,np,c,t,ex,gp)
- Law of supply will be explained with the help of schedule and diagram



- Meaning and difference between Extension and contraction of supply and increase and decrease of supply will be discussed



- Measurements of price elasticity of supply will be discussed along with the degree of price elasticity of supply.



- Factors affecting elasticity will also be taken up

Participation of students

Students will be asked to practice diagrams of elasticity

Student will be asked to show the effect of the following on supply with the help of diagrams

- GST
- Increase in price of related goods

Recapitulation/ assignment

- Students will be asked to show the effect of
- Increase in taxes
- Change in technology on supply

Integration with other domains

- Integration with maths, fine arts.

Learning outcomes

- Students will be able to understand the concept of supply
- Students will be able to understand and measures degree of elasticity

Resources

- Textbook TR Jain, NCERT

Co scholastic activities

- Fine Arts,Maths.

Assessment

- Assessment will be done on the basis of class test

Chapter -Forms of

market

Learning objectives

- Students will be unable to understand the concept of market
- To enable student various forms of market to be able to classify markets

Previous knowledge testing

- One who produces goods and services is called?
- One who consumes goods and services for satisfaction of want is called?
- Where does buying and selling take place?
- What is market?

Vocabulary

- Perfect competition.

Imported spellings

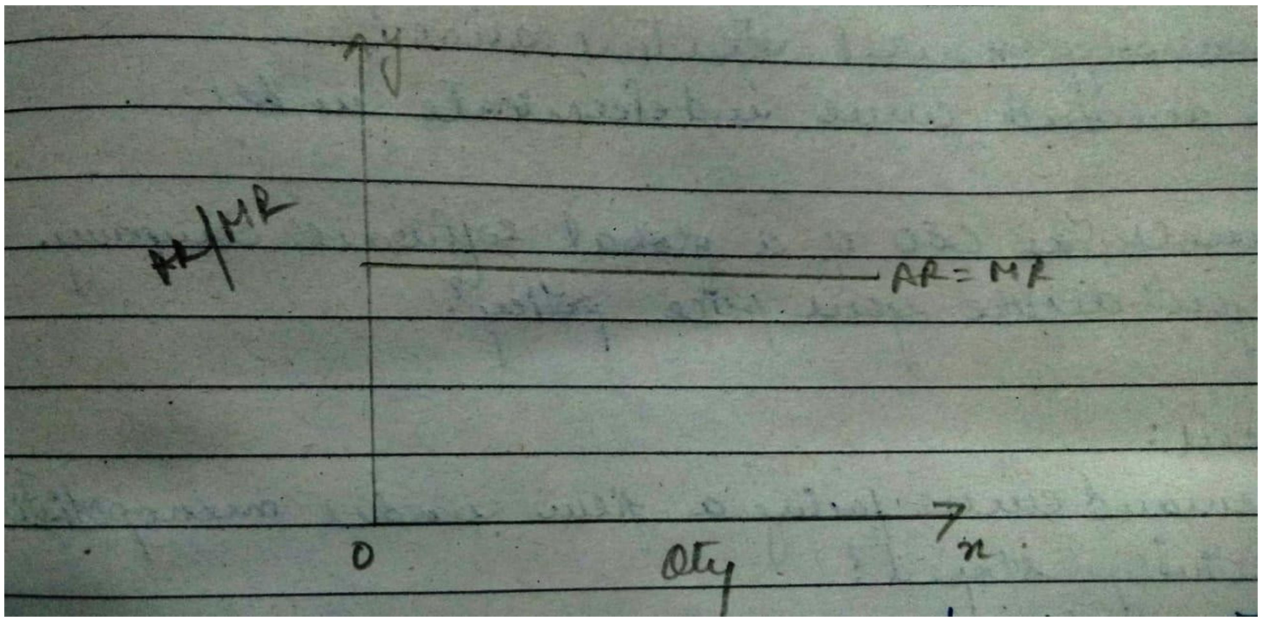
- Homogenous.

Aids innovative methods

- Textbook, Zoom App, Screen sharing, activities

Procedure

- Concept, meaning and elements of market will be explain long with the factors on which forms of market depend
- Meaning and features of perfect competition along with the shape of ER Mr curve will be discussed.



- Similarly oligopoly will be explained

Participation of students

Students will be asked to write answers for the following

- What is firm's demand curve in perfect competition?
- Imagine yourself as CEO of global software company how will you decide your price policy?

Recapitulation/ assignment

- Name the market in which there are few large sellers selling differentiated products. Give an example.
- Why firms under Perfect Competition are price takers?

Integration with domains:

- Integration with maths fine arts

Learning outcome

- Students will be able to identify and classify various forms of market

Resources

- Textbook TR Jain NCERT

Co scholastic activity

- Assignment

Assessment

- Student will be assessed on the basis of class test.

Chapter: Market equilibrium under perfect competition and effects of shifts in demand and supply

Learning objectives

- To enable students to understand market equilibrium and its determination
- Students will be able to analyse the effect of change in demand and curve on market equilibrium
- Students will become familiar with the price ceiling and price flooring

Previous knowledge testing

- Define demand
- Define supply
- What happens when demand of good is equal to its supply?

Vocabulary

- Equilibrium, determination, excess demand excess supply, market equilibrium, price ceiling, price flooring.

Important spellings

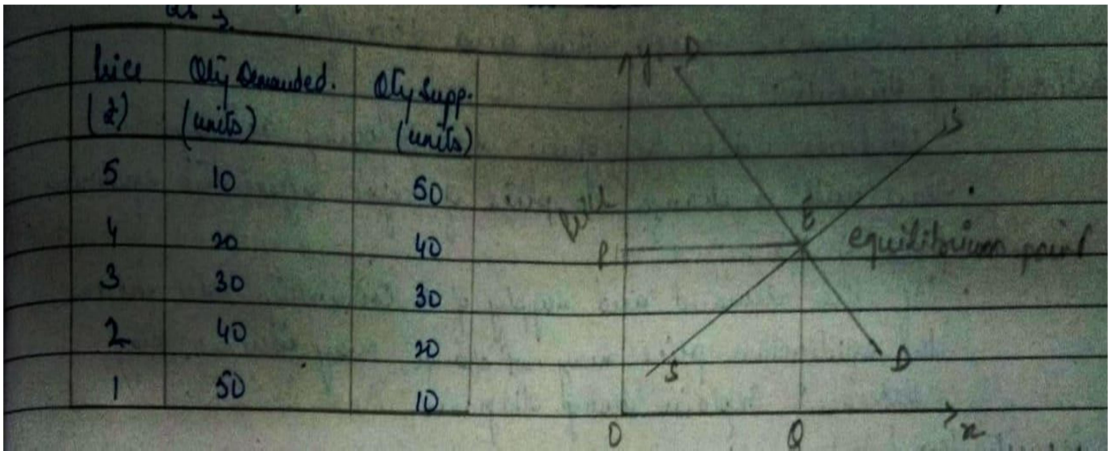
- Equilibrium price, equilibrium quantity, determinations, price ceiling, price flooring

Aids/Innovative methods

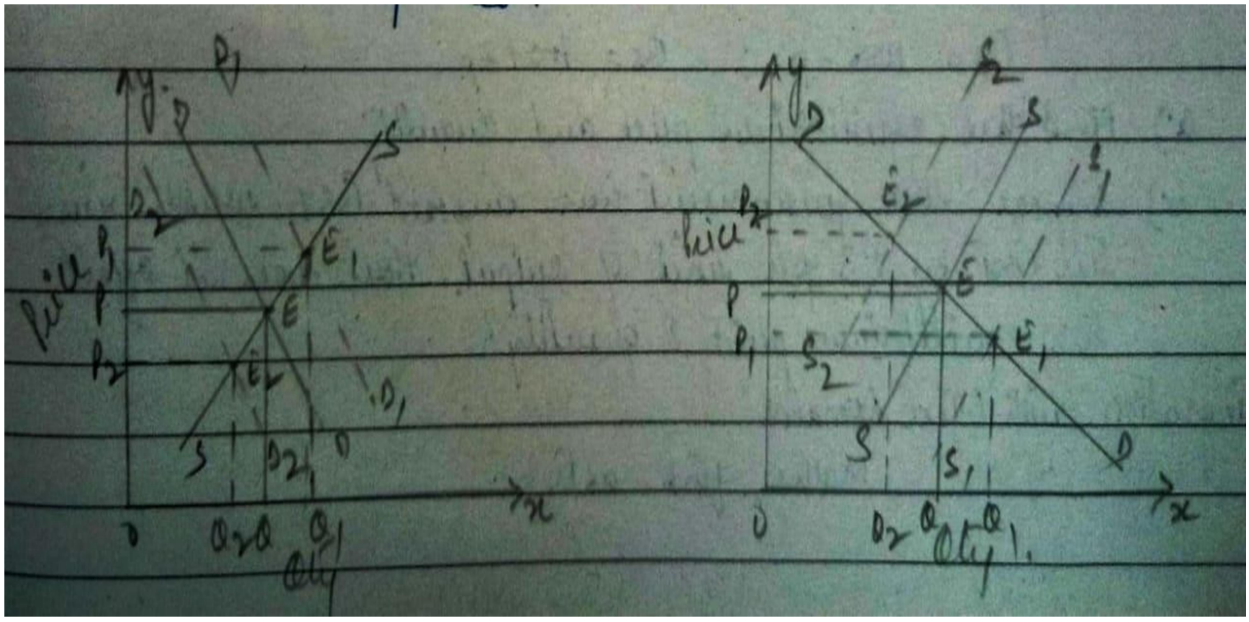
- Text book, activity, Zoom App, screen sharing

Procedure

- Concept of equilibrium price, equilibrium quantity along with the market equilibrium and its determination will be explained as



- Effect of shift in demand and supply on equilibrium price and quantity will also be explained



- Effect of change in supply on equilibrium price and quantity in case of perfectly elastic and inelastic demand and vice versa will also be taken up along with simultaneous increase and decrease in supply and demand, price ceiling and price floor.

Participation of students

Students will be given the following activity

- How will a change in price of coffee affects the equilibrium price of tea?

- If the demand and supply of commodity both increase the equilibrium price may not change, Mahan crease, may decrease explain using diagram.

Recapitulation/ assignment

- Post demand and supply curve of salt are given by
- Qd=1000-p
- Qs=700+2p.

a) Find the equilibrium price and quantity

b) Sports the government has composed GST which raises the cost bye rupees 3 per unit of output how does it affect the equilibrium price and quantity?

Integration with other domain

- Maths fine arts

Learning outcome

- Students will be able to understand the concept and determination of market equilibrium
- Students can analyse the effect of change in demand and supply on market equilibrium

Resources

- TR Jain, NCERT

Co scholastic

- Activity

Assessment

- Students will be assessed on the basis of class test