Delhi Public School Guwahati
"Under the aegis of the Delhi Public School Society, Delhi"

Class XI, 2021-22

Sub: Economics

Part A- Introductory Microeconomics
Chapter 2: Consumer's Equilibrium and Demand
Part B – Statistics for Economics
Chapter 5: Measures of Central Tendency (Till Mean)
(40 mins per class)

Cycle 5: 16th Aug. 2021 to 10th Sept. 2021

Week 1

	Chapter 2
Step 1	Study the following topic from the text book: • Consumer's equilibrium with two commodity • Ordinal Utility Approach (Indifference curve approach) • Meaning of Indifference Curve • Monotonic Preferences • Indifference Map • Marginal Rate of Substitution • Assumptions of Indifference Curve • Properties of Indifference Curve
Step 2	If you have any doubts clear them with your subject teacher**(please check name and number of the subject teacher from the school website)**
Step 3	**Revise using the following bullet points:** **Consumer equilibrium for two commodities**: • In this case Law of Equi Marginal Utility helps the consumer in optimum allocation of his income. • According to this law the consumer gets maximum satisfaction when ratios of MUs of two commodities and their respective prices are equal and MU falls as consumption increases. • Condition of Equilibrium: a) The ratio of MU to Price is same for both the goods. MUx/Px=MUy/Py=Mum b) MU falls as consumption increases. **Ordinal Utility Approach (Indifference curve approach)** a) Real elaboration is made by J. R. Hicks and R.G.D. Allen, popularly known as Hicks and Allen. b) Modern economists does not use cardinal values like 1,2,3,4 etc. Rather it makes use of ordinal numbers like 1st, 2nd,3rd etc. which can only be used for ranking. c) Such a method of ranking is known as Ordinal Utility Approach which is expressed in ranks. **Meaning of Indifference Curve**

	a) Indifference curve refers to the graphical representation of various alternative combinations of bundles of two goods among which the consumer is indifferent. **Monotonic Preferences** a) Monotonic Preference means that a rational consumer always prefers more of a commodity it offers him a higher level of satisfaction. **Indifference Map:** a) Indifference map refers to the family of indifference curves that represent consumer preference over all the bundles of the two goods. b) Higher indifference curve means higher level of satisfaction. **Marginal Rate of Substitution** a) MRS refers to the rate at which the commodities can be substituted with each other so that total satisfaction of the consumer remains the same. b) MRS $_{AB}= \Delta B/\Delta A$ c) MRS measures the slope of indifference curve. d) MRS falls because of diminishing MU. **Assumptions of Indifference curve:** a) Two commodities b) Non Satiety c) Ordinal Utility d) Diminishing MRS e) Rational Consumer **Properties of indifference curve:** a) Indifference curves are always convex to the origin. b) Indifference curve slopes downwards c) Higher Indifference curve means higher level of satisfaction. d) Indifference curves can never intersect with each other.
Step 4	**Solve the following questions:** 1. State the Law of Equi- Marginal Utility. Also write the equilibrium conditions 2. State true false with reason: a) The bundles of budget set lie either on or below the budget line. b) Two indifference curves intersect with each other when they represent the same level of satisfaction. c) The slope of indifference curve is different at different points of the indifference curve. 3. Define the MRS. Explain why is an indifference curve convex? 4. What are monotonic preferences? Explain why an indifference curve to the right shows a higher level of satisfaction. 5. Define the terms a) Indifference Curve b) Indifference Map c) MRS
Week 2	
Step 1	Study the following topic from the text book: • Budget Line • Budget Set • Diagrammatic presentation • Slope of Budget Line • Price Ratio or Marginal Rate of Exchange

	• Properties of Budget Line • Shift in Budget Line • Consumer's Equilibrium by indifference curve Analysis
Step 2	If you have any doubts clear them with your subject teacher**(please check name and number of the subject teacher from the school website)**
Step 3	**Revise using the following bullet points:** **Budget Line** a) Budget line is a graphical representation of all possible combinations of two goods which can be purchased with a given income and prices, such as the cost of each of these combinations is equal to the money income of the consumer. b) It is also known as Price Line. **Budget Set:** a) It is the set of all possible combinations of the two goods which a consumer can afford given his income and prices in the market. b) Budget set includes all the possible bundles which cost less than or equal to consumer's money income at given prices. But budget line represents all the bundles that the consumer can purchase by spending his entire income at given prices. **Diagrammatic Presentation:** a) The budget line slopes downward as the consumer increases the consumption of one commodity he has to reduce the consumption of the other commodity as he has limited income. b) The budget line can be expressed as an equation: M= Pa.Qa+Pb.Qb **Slope of Budget Line**: a) The slope of budget line is the number of units of one commodity that the consumer is willing to sacrifice for an additional unit of another commodity. b) The slope of budget line is equal to 'Price Ratio' of two goods. c) Price ratio is the price of the good on the horizontal axis or X axis divided by the price of the good on the vertical axis. **Properties of Budget Line**: a) It is downward sloping. b) It is a straight line. **Shift in Budget Line**: a) Effect of change in the income of the consumer- When income increases the budget line shift upward and vice versa. b) Effect of change in prices- When the prices of both the goods changes the budget line will shift upward or downward. When the price of commodity on the X-axis changes the new budget line meets the Y-axis at the same point but will touch X-axis to a different point. When the price of commodity on the Y-axis changes the new budget line meets the X-axis at the same point but will touch X-axis to a different point. **Consumer's Equilibrium:** a) A situation when consumer gets maximum satisfaction with no intention to change it with given prices and income. b) Conditions: - MRSxy=Px/Py - MRS continuously falls. **a)** The point of equilibrium will be reached when the indifference curve is tangent to a budget line.
Step 4	**Solve the following questions:**

	Chapter 2 1. What is Budget Set? Explain what can change in Budget Set. 2. Explain the conditions of Consumer's equilibrium with indifference curve. Also explain the rationale behind it. 3. Explain the distinction between the slope of budget line and budget set. 4. What is indifference curve? Explain its properties. 5. What are monotonic preferences? Explain why an indifference curve is downward sloping and convex
	Week 3
Step 1	Study the following topic from the text book: • Demand • Demand Function • Law of Demand • Movement along demand curve • Shift in demand • Elasticity of Demand • Price elasticity of demand (Percentage method) • Degrees of elasticity of demand
Step 2	If you have any doubts clear them with your subject teacher**(please check name and number of the subject teacher from the school website)**
Step 3	**Revise using the following bullet points:** **Demand** • Meaning of Demand • Determinants of Demand(Individual Demand) a) Price of Given Commodity b) Price of related goods (Substitute and complementary) c) Income of the consumer d) Tastes and preferences e) Expectation of change in prices in the future • Determinants of Market Demand (All the above mentioned points will be included) a) Size and composition of population b) Season and weather c) Distribution of Income • **Demand Function** a) Individual Demand Function b) Market Demand Function • **Demand Schedule**- Individual and market demand schedule • **Demand Curve**- Individual and Market demand curve • **Law of Demand**- States the inverse relationship between price and quantity demanded. • Important facts about demand • **Movement along the Demand Curve** (Change in Quantity Demanded)- Expansion and Contraction of Demand. • **Shift in Demand Curve** (Change in Demand)- Increase and Decrease in Demand.

- **Elasticity of Demand**- Refers to the percentage change in demand for a commodity to percentage changes any of the factors affecting demand for that commodity.
- There are three quantifiable determinants of demand
  1. Price Elasticity of Demand
  2. Cross Elasticity of Demand
  3. Income Elasticity of Demand
- Price Elasticity of Demand: It means the degree of responsiveness of demand for a commodity reference to change in the price of such commodity.

Percentage Method:

- Ed= $\frac{Percentage\ change\ in\ Quantity\ of\ Demand}{Percentage\ change\ in\ Price}$

1. **Percentage change in quantity demanded=**
   Change in Quantity(ΔQ)/Initial Quantity(Q) x 100
2. **Change in Quantity (ΔQ)** = Q1-Q
3. **Percentage change in Price =**
   Change in Price (ΔP)/ Original Price (P) x 100
4. **Change in Price (ΔP)** =P1-P

Proportionate Method

- **Ed=** $\frac{\Delta Q}{\Delta P}$ **x** $\frac{P}{Q}$

Degrees of Elasticity of Demand

- When the prices of different commodities change, the quantity demanded of each commodity reacts in a different manner.
- The degree of responsiveness of quantity demanded to a change in price may differ and hence the elasticity of demand may differ.
- Price Ed may be expressed in numbers which ranges from 0 to infinity.
- Types:
  a. Perfectly Elastic Demand , Ed = ∞
  b. Perfectly inelastic Demand, Ed = 0
  c. Highly Elastic Demand, Ed>1
  d. Less Elastic Demand, Ed<1
  e. Unitary Elastic Demand, Ed = 1

Step 4

Solve the following questions

1. Define demand for a good.
2. Define complementary good and substitute good.
3. Define demand schedule.
4. Explain three factors that can bring change to market demand for a commodity.
1. Explain the determinants of individual demand for a commodity.
2. What is demand function?
3. What is law of demand?
4. Define change in quantity demand.
5. What is meant by expansion of demand?
6. When the demand for a good falls due to an unfavorable change in consumer preferences what is the change in demand called?
7. Explain the law of demand with the help of demand schedule.
8. Consider a market where there are only two consumers and suppose their demands for the good are given as follows:

Price	Demand 1	Demand 2

1	9	24
2	8	20
3	7	18
4	6	16
5	5	14
6	4	12

Calculate the market demand for the good.

9. Explain the Price Elasticity of Demand?
10. Consider the demand for a good. At price Rs.4, the demand for the good is 25 units. Suppose price of the good increases by Rs.5 and as a result, the demand for the good falls to 20 units. Calculate the price elasticity.

Week 4

Step 1 Study the following topic from the text book:

- Arithmetic Mean

(Statistics for Economics)

Step 2 If you have any doubts clear them with your subject teacher**(please check name and number of the subject teacher from the school website)**

Revise using the following bullet point:

Arithmetic Mean Calculation:

- **Arithmetic Mean for Ungrouped Data**

A) **Direct Method**- It is calculated by dividing the sum of observations by the number of observations.

B) **Assumed Mean Method**- If the number of observations in the data is more or the figures are large then it is difficult to calculate Arithmetic Mean by Direct Method. The computation can be made easier by Assumed Mean Method.

C) **Step Deviation Method**: The calculations can be made further easier by diving all deviations taken from Assumed Mean by the common factor "c".

- **Arithmetic Mean for Grouped Data**
  - **Discrete Series:**
    - A) **Direct Method**- Here the frequencies against each observation are multiplied by the value of the observation. The values so obtained are summed up and divided by the total number of frequencies.
    - B) **Assumed Mean Method**–Here also the calculations can be made easier with this method.
    - C) **Step deviations method**: Here the deviations are divided by a common factor to simplify the calculations further.
  - **Continuous Series**- Here class intervals are given. Here we have to find out the mid value of each class. Here also we have to find out mean with direct method, assumed mean method and step deviation method.
- **Properties of Arithmetic Mean:**

A) The sum of deviations of items about Arithmetic Mean is always equal to 0.

B) Arithmetic Mean is affected by extreme values.

Solve the following questions:

1. Qn no 1, 2 and 5 of NCERT Textbook.
2. What do you mean by Measures of Central Tendency?
3. Give the meaning of Arithmetic Mean.
4. If 5 students obtained 10,20,30,40 and 50 marks, what is their average mark?
5. Find Mean-(by using all methods)

	100,120,80,85,95,130,200,250,225,275 6. Compute Arithmetic Mean from the data given below by all methods: Marks: 5 15 25 35 45 55 65 No. of students: 4 6 10 20 10 6 4 7. Compute Mean: Marks: 5-15 15-25 25-35 35-45 45-55 55-65 No. Of students: 8 12 6 14 7 3