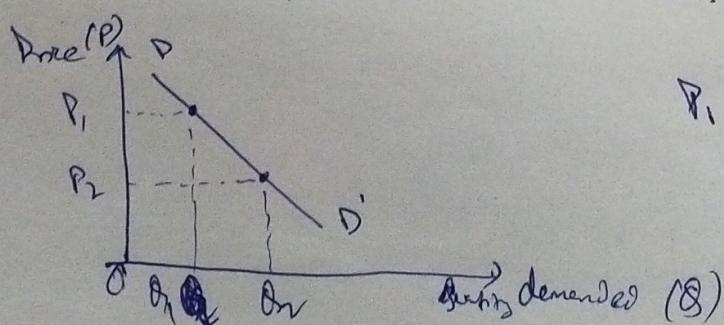


NAME OF THE EXAMINATION :- MID-TERM EXAMINATION.  
 NAME OF THE SUBJECT :- ECONOMICS.  
 SUBJECT CODE :- HUS601  
 DATE :- 21/4/21  
 NAME OF THE STUDENT :- GANESH SONI.  
 EXAMINATION ROLL NO :- 510818026.  
 Student ID :- 510818026 General

(1)(a) Assumptions of law of demand are :-

- No change in consumer's income & consumer's income must remain unchanged because if income increases, consumer can buy more even at a higher price.
- No expectations of future price change
- No change in price of related goods :- law assumes that prices of substitutes & complementary goods remain same
- No change in the tax policy of Govt. :- the level of direct & indirect tax imposed by the government on income and on commodities goods & services should remain constant.
- No change in the size & composition of population
- No change in consumer's taste, preference, habits and fashion :- If the taste changes then consumer's preference also changes which affect demand.

The law of demand :- It states that other factors, remaining constant (*ceteris paribus*), price & quantity demanded by any goods and services are inversely proportional (*negative*) to each other. Price ↑ demand ↓ & vice versa.



$$P_1 > P_2 \text{ but } Q_1 < Q_2$$

The graph above shows the demand curve ( $DD'$ ) showing the inverse relation between Price & quantity demanded. And logically, when the price increases the purchasing power of a consumer decreases as income remains constant and the hence downward sloping.

- (b) A Giffen Good is a special variety of an inferior good such that if the price of the good increases the demand of the good also increases because the consumers believe the price
- (b) A Giffen good is a special variety of an inferior good such that if the
- (b) A Giffen good is a special variety of an inferior good. So R. Giffen observed in the 1800s century that
- (b) A Giffen good is a special variety of an inferior good such that if the price of the good increases the demand of the good also increases. If the price of the giffen goods once increases, the consumer spends less on other items & buys more of a giffen good. Whereas,

A Veblen goods are luxury goods that are demanded by consumers regarded as snobs. This is due to the fact that at higher income of the consumer, consumers like to buy goods that are more expensive in order to show off in society so as a result even if the price of these goods increases, demand for the Veblen good keeps increasing by the snob consumers.

The graph above shows the demand curve (DD') showing the inverse relation between Price & quantity demanded. And logically, when the price increases the purchasing power of a consumer decreases as income remains constant and hence downward sloping.

- (b) A Giffen Good is a special variety of an inferior good such that if the price of the good increases the demand of the goods also increases because the consumers believe the price
- (b) A Giffen good is a special variety of an inferior good such that if the
- (b) A Giffen good is a special variety of an inferior good such that if the price of the good increases the demand of the goods also increases. So R. Giffen observed in the 19th century the
- (b) A Giffen good is a special variety of an inferior good such that if the price of the good increases the demand of the goods also increases. If the price of the giffen goods once increases, the consumer spends less on other items & buys more of a giffen good.

Whereas,

A Veblen goods are luxury goods that are demanded by consumers staged as snobs, this is due to the fact that at higher income of the consumer, consumers like to buy goods that are more expensive in order to show off in society so as a result even if the price of these goods increases, demand for the Veblen goods keeps increasing by the snob consumers.

(c) The Limitations of Cardinal utility theory is :-

- The satisfaction derived from various commodities cannot be measured objectively. It is not measurable in real terms as it is difficult to give a value to a level of satisfaction one gets.
- Marginal utility is not additive.
- It makes unrealistic assumptions which do not really apply in reality.
- As income increases, the Marginal Utility of money changes so the assumption of constant utility of money is unrealistic.
- Lastly, the law of diminishing ~~marginal~~ marginal utility has been established from introspection, it is a biological law which must be taken for granted.

(2) (a) Different types of elasticity of demand are :-

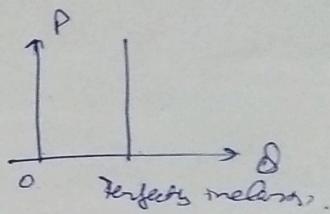
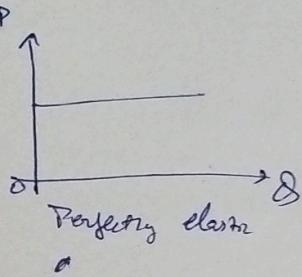
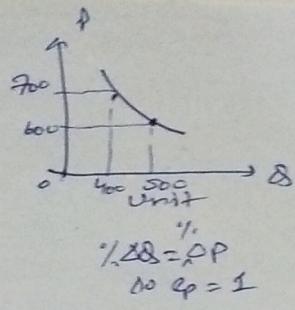
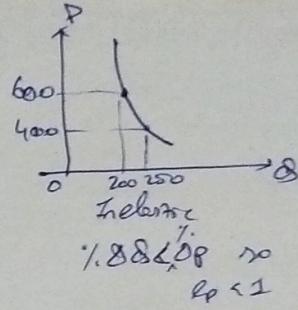
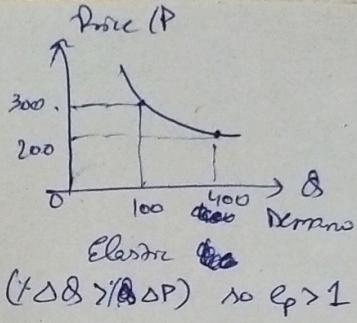
• Elastic ( $e_p > 1$ ) :- If the price elasticity of demand is greater than 1 then it is called elastic.

• Inelastic ( $e_p < 1$ ) :- If the price elasticity is  $< 1$  then it is called inelastic demand.

• Unit elastic ( $e_p = 1$ ) :- If the price elasticity = 1 then it is called unit elastic demand.

• Perfectly elastic ( $e_p = \infty$ ) :- When demand = 0, (Parallel to the x-axis)

• Perfectly in elastic ( $e_p = 0$ ) :- When the price elasticity of demand is not defined. (Parallel to the y-axis).



### (b) Mid Point Method :-

Price Elasticity of demand :- 
$$\frac{\% \text{ change in quantity demand}}{\% \text{ change in price}}$$

Using Mid-Point Method we can calculate the changes in the above formula of price elasticity.

We will use the average Percentage change in both quantity & price & this method is termed as Mid-point method of elasticity & is represented by the following equation:-

$$E_P = \frac{\% \text{ change in quantity}}{\% \text{ change in price}} = \left( \frac{\frac{Q_2 - Q_1}{Q_1 + Q_2} \times 100}{\frac{P_2 - P_1}{P_1 + P_2} \times 100} \right) \%$$

$$E_P = \left( \frac{\frac{Q_2 - Q_1}{Q_1 + Q_2}}{\frac{P_2 - P_1}{P_1 + P_2}} \right) \times 100 \%$$

Now these two values are used to determine the price elasticity of demand by Mid-point which is equal to

$$E_P = \left| \frac{A}{B} \right|$$

$\therefore$  Price elasticity of demand =

$$\frac{\frac{Q_2 - Q_1}{Q_1 + Q_2}}{\frac{P_2 - P_1}{P_1 + P_2}}$$

(c) Given  $P_1 = Rs 4$ ,  $P_2 = Rs 5$ ,  
 $Q_1 = 25$  units,  $Q_2 = 20$  units.

$\therefore$  By, price elasticity of demand formula

$$E_p = \left| \frac{\frac{Q_2 - Q_1}{Q_1 + Q_2}}{\frac{P_2 - P_1}{P_1 + P_2}} \right|$$

$$= \frac{(20 - 25) \times 4/5}{20 + 25}$$

$$\left| \frac{20 - 25}{4/5} \times \frac{9/2}{1} \right| = \left( -\frac{5}{4/5} \times \frac{9}{1} \right)$$

$$= -1 = 1$$

The type of elasticity is unit elastic as price elasticity  
 of demand is 1 i.e., for % decrease in demand,  
 there is a increase of price by %.

(3) (b)  $e_D = (-1) \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}$

$$= -1 \frac{(10)}{(50)} = 2$$

$$P = 10 \text{ ltrs} \\ P_1 = 12 \text{ ltrs}$$

$$\Delta P = P_1 - P = 22 \text{ units}$$

$\Delta Q = 40 \text{ units}$ ,  $\Delta Q_1 = ?$

$$\Delta Q = Q_1 - 40 \text{ units}$$

$$\therefore Q_1 = (-) \frac{P}{\Delta Q} \times \frac{\Delta Q}{\Delta P}$$

$$\therefore Q_1 = (-) \frac{12}{40} \times \frac{(Q_1 - 40)}{2}$$

$$\Rightarrow 16 = -Q_1 + 40$$

$$\Rightarrow Q_1 = 40 - 16 = 24 \text{ units.}$$

$\therefore$  Consumer will buy 24 units. Ans.

(c) One should describe the 2 goods as substitute goods

As the cross price elasticity of demand is positive (1.2).

If the price of one good rises by 5%, it will be substituted by the other good so that the quantity demanded of this other good will rise.

With gross price elasticity being equal to 1.2, the quantity demanded of the other good will increase by  $1.2 \times 5\% = 6\%$ .

(g) The Ordinal Utility of consumer behavior states that a consumer is said to have attained equilibrium when he maximizes his total utility for the given level of income.

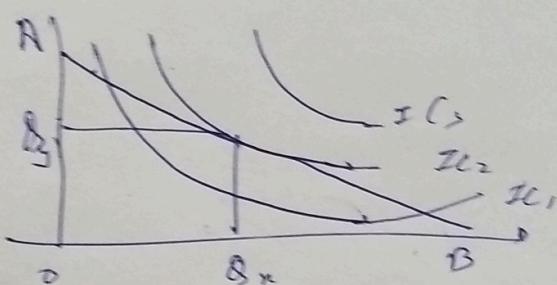
If existing prices of goods & incomes - the consumer reaches to state of equilibrium when the following two conditions are satisfied:-

(i) The Marginal rate of Substitution should be equal to the ratio of the commodity prices.

$$MRS_{xy} = \frac{MU_x}{MU_y} = \frac{P_x}{P_y}$$

(ii) The above condition is necessary condition for a consumer to reach equilibrium, but it's not the sufficient condition.

Therefore the above condition, says that the condition must be accomplished at the higher possible IC on the indifference map.



In the figure above there are 3 ICs -  $IC_1, IC_2, IC_3$   
AB is the hypothetical budget line.

At point E price & the budget line AB intersect.

$D \in$  None of  $IC_2$  at  $E = AB$  (slope)

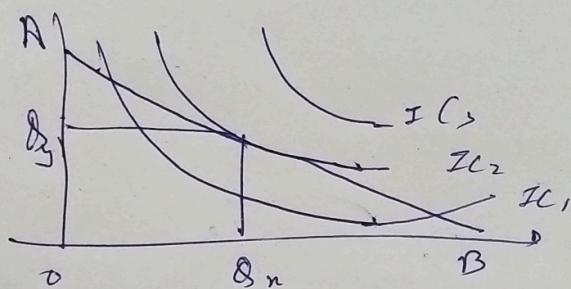
the point E both the necessary & the sufficient condition gets fulfilled as a result of which a consumer attains equilibrium at E. gaining maximum utility at a given budget.

(ii) The Marginal rate of substitution should be equal to the ratio of the commodity prices.

$$MRS_{xy} = \frac{MU_x}{MU_y} = \frac{P_x}{P_y}$$

(iii) The above condition is necessary condition for a consumer to reach equilibrium, but it's not the sufficient condition.

Therefore the second condition, says that the earning must be accomplished at the higher possible IC on the indifference map.



In the figure above there are 3 ICs -  $IC_1, IC_2, IC_3$   
AB is the hypothetical budget line.

At point E, the  $IC_2$  & the budget line AB intersect.

At this point E, the slope of  $IC_2$  at E = AB (slope).

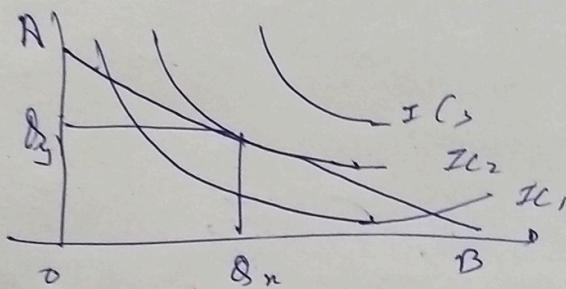
At this point E both the necessary & the sufficient condition gets fulfilled as a result of which a consumer attains equilibrium at E. gaining maximum utility at a given budget.

(i) The Marginal rate of Substitution should be equal to the ratio of the commodity prices.

$$MRS_{xy} = \frac{MU_x}{MU_y} = \frac{P_x}{P_y}$$

(ii) The above condition is necessary condition for a consumer to reach equilibrium, but it's not the sufficient condition.

Therefore the Sufficient condition, says that the consumer must be compensated at the higher possible IC on the indifference map.



In the figure above there are 3 ICs -  $IC_1, IC_2, IC_3$   
AB is the hypothetical budget line.

At point E, the  $IC_2$  & the budget line AB intersect.

$\Delta$  = Slope of  $IC_2$  at E =  $A_B$  (slope)

This point E satisfies the necessary & the sufficient condition gets fulfilled as a result of which a consumer attains equilibrium at E. gaining maximum utility at a given budget.