



Subject: Business economics (micro)

Chapter: Unit 1 & 2

Category: Assignment 1 solution

Answer 1:

i) Marginal utility for G looks correct, it is decreasing with increasing number of units of G.

Whereas for H it is wrong. The first entry "10" is less than the next.

ii) Any of the following are acceptable

Make the first entry under Good H more than 12

Make the second entry under Good H less than 10

Interchange the first and second entries under Good H

iii) 1 mark for correct total for G 1mark for correct total for H

iv) All combinations of G and H except 6 units of each will cost less than Rs. 100. 6 Units of G and 5 Units of H gives maximum utility of 99.

Answer 2:

i) Price Floor: Government often introduce minimum prices for agricultural produce in order to protect farmers' incomes. If left to the free market. Prices could be very volatile as supply is subject to changeable and unpredictable growing/rearing condition.

Assuming that the price floor is set above the free market equilibrium price P^* , it will have the effect as shown in the Diagram-B.

With a price floor of P_{min} , suppliers want to supply quantity Q_s , but consumers will only demand quantity Q_d . So the quantity traded will be Q_d .

There is a surplus of $(Q_s - Q_d)$. If the government wants to maintain the price floor, it will need to deal with the surplus.

Advantages of price Floor

- The guaranteed price provides farmers with a secure level of income regardless of fluctuations in the free-market price of their produce
- Without this support, farmers would suffer from volatile incomes and might leave the industry for occupations with a more predictable income.
- The public might not wish to see the decline of agricultural sector in a country for fear of being dependent on foreign countries for food and/or because of the consequences for the state of the countryside.
- A surplus could be stored in preparation for possible future shortages. [0.5] [Max 1 mark for advantages]

Disadvantages of Price Floor

- The government has to deal with the surplus, It could
- o buy up surplus and store – Expensive

- o Destroy it or sell it on the world market (at lower price than the floor price)
- o Reduce it by giving producers fixed-production quota
- o Reduce it by encouraging consumers to buy more
- o Reduce it by finding alternative uses for the product and hence increasing demand for it.
- If the government does not buy up the extra supply, some suppliers may be tempted to break the minimum price rule and offer goods for sale at less than the official minimum.
- The support given to the farmers might reduce efforts to improve efficiency.
- High prices for a particular product might discourage producers from producing alternative goods that they could produce more efficiently or which are in higher demand.
- Total consumption is lower than under the free market equilibrium, resulting in a loss of utility to consumers.

ii) Price Ceiling: The Diagram-A shows the situation in which a price ceiling is set at a price level below the free market equilibrium price P^* .

With a price ceiling of P_{max} , suppliers will want to supply Quantity Q_s , whereas consumers will demand quantity Q_d . The quantity traded will be Q_s .

With only this amount available, a shortage of $(Q_d - Q_s)$ will develop.

A price ceiling set below the free market price therefore produces excess demand and shortages.

Advantages of Price Ceiling:

- The lower price means that people will be able to afford the good who could not do so under the free market equilibrium.
- Such ceilings are common in wartime/pandemic when essentials such as food and clothing would otherwise be very expensive and unaffordable for the poor.

Disadvantages of Price Ceiling

- The available supply needs to be rationed, This could be done by
 - o A formal system of rationing organised by government or agencies.
 - o Queuing/waiting list
 - o Random ballots
 - o Firms adopting their own priorities , e.g. regular customers
- A shadow market may develop resulting in illegal sale of goods at a price above the price ceiling.
- Cost of enforcement.
- Total consumption may be lower than under free market equilibrium – with a consequent loss of utility to consumers.
- The lower price deters suppliers and encourage them to produce something else instead, thus reducing suppliers further in future.

Answer 3:

Unit 1 & 2

ASSIGNMENT SOLUTION

i) Aggregate demand is the total amount of real output (real GDP) that consumers, firms, the government and foreigners want to buy at each possible price level, over a particular time period. The aggregate demand (AD) curve shows the relationship between the total amount of real output demanded by the four components and the economy's price level over a particular time period. It is downward-sloping, indicating a negative relationship between the price level and aggregate output demanded.

ii) The reasons behind the downward slope of the aggregate demand are very different from demand in a single market in microeconomics. They include the following:

- The wealth effect. Changes in the price level affect the real value of people's wealth. (Wealth is not the same as income; wealth is the value of assets that people own, including their houses, stocks and bonds, their jewellery, works of art, and so on.) If the price level increases, the real value of wealth falls. People feel worse off and cut back on their spending on goods and services. Therefore, as the price level increases, less output is demanded, leading to an upward movement along the AD curve. If there is a fall in the price level, the real value of wealth increases, people feel better off and increase their spending, thus more output is demanded, causing a downward movement along the AD curve.
- The interest rate effect. Changes in the price level affect rates of interest, which in turn affect aggregate demand. If there is an increase in the price level, consumers and firms need more money to carry out their purchases and transactions. This leads to an increase in the demand for money, which in turn leads to an increase in rates of interest. As interest rates rise, the cost of borrowing increases leading to a decrease in consumer purchases financed by borrowing, as well as investment spending by firms that must borrow to finance their expenditures. Therefore, increases in the price level lead to a fall in quantity of output demanded, or an upward movement along the AD curve. A fall in the price level leads to a rise in quantity of output demanded, or a downward movement along the AD curve.
- The international trade effect. If the domestic price level increases while price levels in other countries remain the same, exports become more expensive to foreign buyers who will now demand a smaller quantity of these. At the same time, goods produced in other countries become relatively cheaper, so domestic buyers increase their purchases (imports) from foreign countries. Therefore, a rising price level produces a fall in exports and a rise in imports so that net exports, $X-M$, fall. Falling net exports represent a fall in quantity of output demanded or an upward movement along the AD curve. A fall in the domestic price level relative to other countries leads to a larger amount of exports demanded and lower amount of imports demanded, so that net exports, $X-M$, rise. Therefore, there is a downward movement along the AD curve.

Answer 4:

i) The difference between the law of diminishing returns and law of diminishing marginal utility:

- The law of diminishing returns applies to the short run production process.
- It states that as you add increasing amounts of a variable factor of production to a given amount of a fixed factor of production, after a certain point the marginal product of the variable factors will decline.
- The law of diminishing marginal utility applies to consumption.

- It states that as a consumer consumes increasing amounts of a given product then the marginal utility derived from the product will decline.

ii) Behavioural economics differs from traditional economics in following ways:

- It uses experiments to test its theories.
- Behavioral economists recognize that people act irrationally.
- It is interested in the way in which people behave in groups.
- It is concerned in the ways in which people cope with imperfect information.

Answer 5:

The five main factors affecting the demand for money are

1. Money national income - An increase in money national income (either arising from an increase in real national income or an increase in prices) will lead to an increase in expenditure on goods and services and hence an increase in the demand for money with which to buy them
2. The frequency with which people are paid - The less frequently people get paid, the greater the demand for money
3. Financial innovations, e.g. the use of credit cards reduces the demand for money; the use of cash machines and debit cards and the payment of interest on current accounts increase the desirability of holding money
4. Speculation regarding the expected returns on financial assets - if returns are expected to fall, there will be an increase in the demand for money; if the domestic currency is expected to appreciate, there will be an increase in the demand for money
5. The rate of interest – The opportunity cost of holding money as an asset is the interest foregone by not holding other higher-earning assets such as shares and bonds, so the higher the interest rate on assets such as bonds, the greater the opportunity cost of holding money and so the lower the demand for money.

Answer 6:

- i) A. Increase in quantity demanded
- B. Increase in supply
- C. Decrease in supply
- D. Decrease in quantity demanded

Answer 7:

- i) Exceptions to Law of demand

According to the law of demand, there exists an inverse relationship between price of a commodity and its quantity demanded. However, there are certain exceptions to this rule which are enumerated below.

Conspicuous consumption

Articles of conspicuous consumption or prestigious goods like diamonds, antique pieces etc. are demanded by very rich people for their social prestige. When the price of such goods rise, their use becomes more attractive and they are purchased in larger quantities. It is also known as the Veblen effect, named after Thorsten Veblen (an economist). Consumers under this effect measure the utility of a commodity based on the price. Higher the price, higher is the utility and vice-versa. Thus, consumers buy more of the commodity at a higher price. Diamonds are an example for this. Higher the price of diamonds, higher is the prestige value attached to them and hence higher is the demand for them.

Giffen goods:

Generally, those goods which are considered inferior by the consumers and occupy a substantial place in the consumer's budget are called Giffen goods. Sir Robert Giffen, an economist, found that the people of Britain consumed more bread when the prices went up. This was not as per law of demand. This was because they could not afford to spend on more expensive food items such as meat. Indirectly, it impacted the purchasing power of the consumer. Thus, even though the price of bread went high, it was still cheaper compared to other foods. This forced them to substitute meat and buy more bread. Thus this is a clear exception to the law of demand and hence, the demand curve has a positive slope. When the price of bread decreases, the real income of the consumers would increase and they can afford to buy a more expensive item (here, meat), thus, the demand for bread decreases. Hence such good which exhibit direct price demand relationship are called Giffen goods.

Conspicuous necessities:

Sometimes, demand is affected by the demonstration effect i.e., by imitating the consumption pattern of a social group to which the individual belongs. These goods have become necessities of life due to their constant usage. Example – Demand for refrigerator, TV sets etc. does not fall even if their price rises. This is because they have become necessities of life due to continuous usage, even though they are luxury goods.

Expectation about future changes in price:

In certain situations, people tend to buy more of a commodity anticipating that in future, the prices will be higher. Example – In case of shares, if the prices are expected to increase in the future, investors will buy more number of shares now, even if the present price is higher.

Emergency:

In cases of emergency, people will buy the goods no matter how high the prices are.

Example – If a person has to undergo a surgery, he has to buy the medicines required even if their prices are high.

Speculation:

The person will buy more stocks if the price of the security is increasing and wait and does not buy when the price is falling.

Other exceptions

- In ignorance of the ruling price of the commodity, consumers may purchase the commodity even at high prices.
- Consumers sometimes tend to be irrational and make impulsive purchases without calculation of the price and the usefulness of the product.

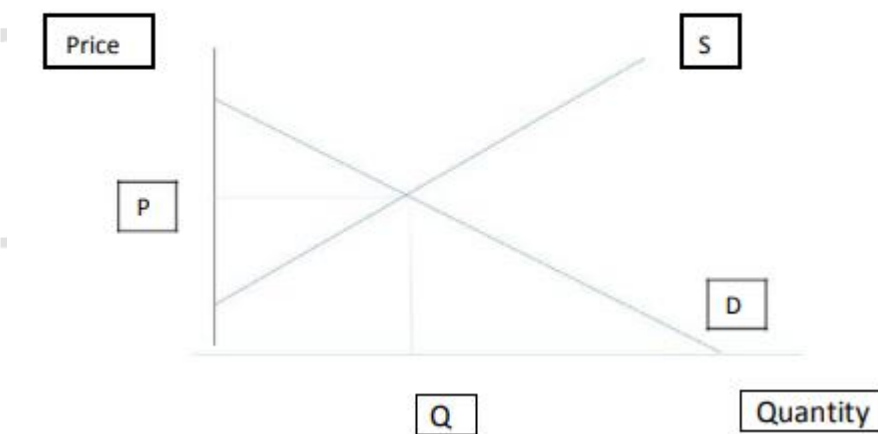
ii) Yes, All Inferior goods are necessities but all necessities are not inferior goods.

If you consume less of a good as income goes up, then it must be true that you spend a smaller fraction of your income on that good as income goes up. Thus, all inferior goods are necessities.

At the same time, it may be the case that the fraction of your income spent on a good declines as your income goes up — but you still buy more of the good. (For instance, suppose your income goes up by 10% and you choose to consume 5% more of a good. Then the fraction of income spent on that good is declining even though you are increasing your consumption of the good as your income goes up.) Thus, necessities could be normal goods.

Answer 8:

i)



Quantity demanded = Quantity supplied; at equilibrium

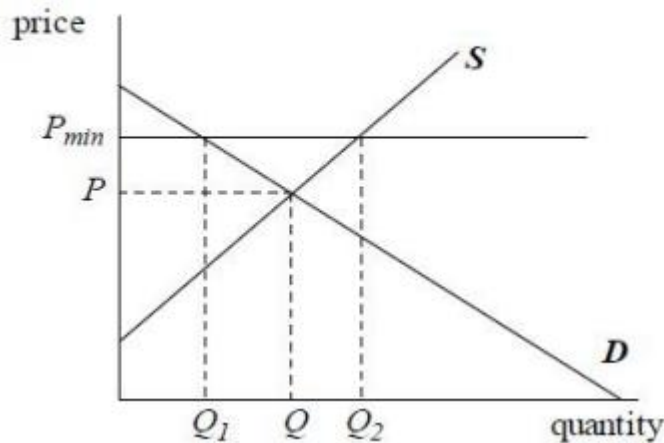
$$20 - P = P - 10$$

$$P = 15$$

Equilibrium Price = \$ 15

Quantity demanded = 5 kg

ii)



Quantity demanded will be now 2 kg and quantity supplied will be 8 kg.
Hence due to minimum price floor, a surplus in supply of $(Q_2 - Q_1)$ will develop.

iii) Reason:

1. To protect the farmer from low price
2. To set minimum wage for workers. Else the workers might be exploited.

iv) Issues:

1. Setting minimum floor price may lead to excess supply. This may result in wastage of natural resources
2. If the equilibrium price is lower than minimum floor price, then it may result in 'black' marketing of goods, where the products are sold at a lower price than minimum floor price.

Answer 9:

i) The income elasticity of demand (IED) measures the sensitivity of the quantity demanded to a change in consumer incomes. It is defined as:

$$\% \text{ change in quantity demanded} / \% \text{ change in income}$$

ii) a) The Company X being a monopolistic firm will maximize its profits at output level for which marginal cost is equal to marginal revenue.

The marginal cost is 50 per unit.

To find the marginal revenue function, first find the total revenue function. Total Revenue equals quantity multiplied by price and so the Company X's total revenue function is given by:

$$TR = PQ = 125Q - Q^3$$

Differentiating this gives the marginal revenue function:

$$MR = 125 - 3Q^2$$

Equating this to the marginal cost and solving for Q gives the profit-maximizing output level:

$$125 - 3Q^2 = 50$$

$$\Rightarrow 75 = 3Q^2$$

$$\Rightarrow Q^2 = 25$$

$$\Rightarrow Q^* = 5$$

Substituting this back into the demand curve, gives profit maximising price as:

$$P^* = 125 - Q^2 = 125 - 25^2 = 100$$

$$\text{b) Profit} = \text{Revenue less Cost} = \text{Variable cost} + \text{fixed cost} = 5 \times 50 + 200 = 450$$

$$\text{Revenue} = \text{Price} \times \text{Quantity} = 100 \times 5 = 500$$

$$\text{Hence, Profit} = 500 - 450 = 50$$

Answer 10:

i) The negative sign means that if price increases, quantity demanded will decrease. The elasticity is - 2, so the quantity demanded will fall by twice the % increase in price.

The price rises from Rs 5 to Rs 5.50, a price rise of 10%, so quantity demanded will fall by 20%.

The quantity demanded of Good X will therefore fall to 320 units

ii) cross-price elasticity of demand = % change in quantity demanded of Good X / % change in price of Good Y.

The positive sign means that if the price of Good Y decreases, the quantity demanded of Good X will decrease, ie Goods X and Y are substitutes.

The cross elasticity is +0.5 so the quantity demanded of Good X will fall by half of the % decrease in the price of Good Y. The price of Good Y decreases from 6 to 4.5, a price fall of 25%, so the quantity demanded of Good X will fall by 12.5%.

The quantity demanded of Good X will therefore fall to 350 unit.

iii) The income elasticity of demand for Good X is defined as % change in quantity demanded of Good X / % change in income ; which is equal to + 0.6.

Since the income elasticity is +ve, then if income of Mr X increases then quantity demanded would also increase. Quantity demanded would increase by 0.6 of the % increase in Mr X income.

Mr X income increased from Rs 10,000 to Rs 12,000, an increase of 20%. Hence the quantity demanded will increase by 12%.

The quantity demanded of Good X is therefore 448.

Answer 11:

i) If $PED > 1$ (in absolute terms), then an increase in price leads to a larger percentage fall in quantity demanded and so total revenue is reduced.

ii) If $PED < 1$ (in absolute terms), then an increase in price leads to a smaller percentage fall in quantity demanded and so total revenue is increased.

iii) If $PED = 0$, which corresponds to a vertical demand curve, then quantity demanded doesn't change with price, so raising the price by a certain percentage will increase total revenue by the same percentage.

iv) If $PED = -\infty$, which corresponds to a horizontal demand curve, then quantity demanded will increase without limit in response to a small reduction in price, but the firm will lose all its sales if it tries to raise its price.