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SUGGESTED SOLUTION

SYJC

SUBJECT- ECONOMIC

Test Code - SYJ 6027 A

BRANCH - () (Date :)

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Ans.1

(A)

(03)

1. Utility
2. Negative
3. Marginal

(B)

(03)

1. True
2. True
3. False

(C)

(02)

1. Cardinal measurement – Assumption of the law of DMU
2. Service Utility – Knowledge by teacher.

Ans.2

(A)

(03)

Total utility

- (i) Total utility refers to the **sum of utilities derived from the consumption of all the units** of a commodity consumed.
- (ii) It is an aggregate of utilities from all successive units of a commodity.
- (iii) The formula for calculating total utility is as follows :
$$TU_{(n)} = MU_{(1)} + MU_{(2)} + MU_{(3)} + MU_{(n)}$$

Marginal utility

- (i) Marginal Utility refers to the additional utility derived by a consumer from additional unit of a commodity consumed.
- (ii) It is the utility from the last unit of a commodity. In short, MU is the addition made by last unit to TU.
- (iii) The formula for calculating marginal utility is as follows :
$$MU_{(n)} = TU_{(n)} - TU_{(n-1)}$$

Form utility

- (i) When utility increases due to the change in the shape or structure of existing material, it is called form utility.
- (ii) Toys made out of clay, making furniture from wood, a dress from fabric, etc. are some examples of form utility.

Ans.2

(B)

(03)

Utility is a psychological term.

- (i) Utility is the feeling of a consumer towards a particular commodity.
- (ii) Utility does not have physical existence. It is abstract in nature. Therefore, utility is a psychological concept.

Utility and happiness are different.

- (i) A commodity possessing utility may not necessarily give happiness to the consumer.
- (ii) For example, though **injection possesses utility**, it does not give happiness to a patient, rather it gives pain. Therefore, utility and happiness are different.

Diamonds have more price, though of less use.

- (i) Price of a commodity gets affected by marginal utility.
- (ii) Diamonds are not at all essential for survival. Thus, their value in use is less, but as they are scarce, their marginal utility is quite high. Therefore, diamonds have more price, though of less use.

Ans.3

(A)

(03)

Form Utility and Time Utility

| Point | Form Utility | Time Utility |
|-----------------|---|--|
| Meaning | Utility increased by changing the shape, size colour, etc. of a commodity is called form utility. | Utility increased by changing the time of utilization of a commodity is called time utility. |
| Creation | Form utility is created by changing the structure of an existing material to another structure. | Time utility is created by use of storage facilities. |

Utility and satisfaction

| Point | Utility | Satisfaction |
|----------------|---|--|
| Meaning | The want satisfying capacity of a commodity is called utility. | Satisfaction is the feeling of pleasure which person experiences after completing consumption. |
| Nature | Utility is the starting point of consumption; it is anticipated satisfaction. | Satisfaction is the end point of consumption; it is the actual realization. |

Ans.3

(B)

(03)

A. Paradox of value.

- (i) The law explains 'value paradox' by showing the difference between value in use and value in exchange. Value - in - use refers to usefulness of a commodity. Therese value - in - exchange means rate of exchange of one commodity in terms of another.
- (ii) Some commodities have high value-in-use but low exchange value, for example water. Wherese some commodities have low value in use but high value in exchange due to its scarcity. For example diamonds. Higher TU determines greater value in use and higher MU denotes greater value in exchange of a commodity.

B. Assumptions of the law of the equi - marginal utility.

The assumptions of the law of equi – marginal utility are as follows :

- (i) Utility can be measured cardinally.
- (ii) Consumer's behavior is rational and he aims at maximum satisfaction.
- (iii) Income of a consumer is fixed.
- (iv) A consumer spends his entire income on commodities – A,B & C respectively.
- (v) All units of each commodity are homogeneous.
- (vi) Prices of commodities are constant.
- (vii) MU of money is constant.
- (viii) A consumer knows marginal utility schedule and prices of commodities – A, B & C.

Ans.4

(06)

A. The importance of law of DMU can be explained with the help of the following points :

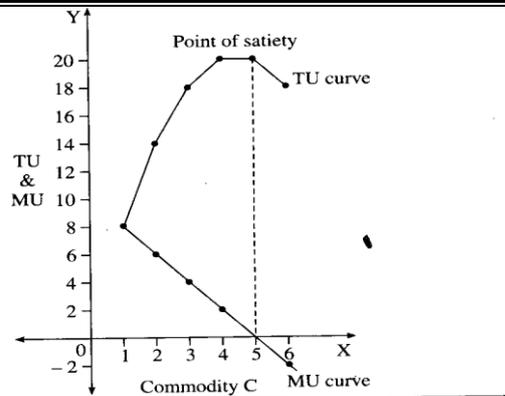
- (i) **To the consumer:** Consumers buy a certain quantity of a commodity whose marginal utility is equal to its price. Thus, law of DMU guides the consumer in planning their budget so that they can achieve the maximum satisfaction from the given income.
- (ii) **To the producer:** The law of DMU helps the producer in determining price and sales policy and thereby maximizing his profits.
- (iii) **To the monopolist:** The law of DMU is helpful to the monopolist to practice price discrimination and thereby maximizing their profits.
- (iv) **To the government:** The law of DMU is helpful to the government in implementing economic policies such as public distribution system, social justice, etc. and to improve the welfare of the society.
- (v) **To the finance minister:** The law of DMU is helpful to the finance minister in framing the progressive tax system and in thereby reducing economic inequality.
- (vi) **To explain paradox of value:** The law of DMU helps in explaining the paradox of value in use and value in exchange in the case of water and diamond. The law of DMU explains how water has less price (value in exchange) though has more value in use. Similarly the law also explains how diamond has more price (value in exchange) though has less value in use.

B.

- (1) Total utility of a commodity refers to the sum total of the utility derived by a consumer from all units of commodity consumed. Marginal utility refers to the net addition made to the total utility by consuming one more unit of that commodity.
- (2) The relationship between TU and MU can be explained with the help of the following schedule:

| Units of Consumption | Marginal Utility | Total Utility |
|----------------------|------------------|---------------|
| 1 | 08 | 08 |
| 2 | 06 | 14 |
| 3 | 04 | 18 |
| 4 | 02 | 20 |
| 5 | 00 | 20 |
| 6 | -2 | 18 |

- (3) Initially on the consumption of the first unit, the total utility is the minimum and the marginal utility is the maximum. From the consumption of second unit onwards, the total utility increases with a diminishing rate and the marginal utility diminishes.



- (4) When the marginal utility is zero, the total utility is the maximum.
- (5) When marginal utility becomes negative, total utility also starts diminishing.

C. The types of utility are as follows:

- (1) **Form Utility:** Utility increased by changing the shape, size, colour, etc. of a commodity is called form utility. It refers to changing the structure of an existing material to another structure, which is more useful. For example, transforming a log of wood into table and chair.
- (2) **Place Utility:** Utility increased by changing the place of utilization of a commodity is called place utility. It refers to transporting commodity from one place where it is available in plenty to another place where it is in scarcity. For example, grapes of Nashik are brought to Mumbai.
- (3) **Time Utility:** Utility increased by changing the time of utilization of a commodity is called time utility. It refers mainly to storage of a product and to use it during the time of need or scarcity. For example, selling preserved crops at high prices during their scarcity.
- (4) **Service Utility:** Utility obtained from the services of professional is called service utility. For example, a utility obtained from the services of teachers, doctors, chartered accountant, etc.
- (5) **Knowledge Utility:** Utility obtained from acquiring knowledge is called knowledge utility. For example, after completion of training, a person finds more utility in computers.
- (6) **Possession Utility:** Utility obtained from transfer of ownership rights of goods from one person to another, it is called possession utility. For example, consumers find more utility in food grains, when they actually purchase those food grains from a retailer.

(Students can write any four points)

Ans.5

(06)

A. When MU is zero, TU diminishes.

No, I do not agree with this statement.

Reasons :

- (1) When MU is zero, total utility is the maximum. This point is considered as the point of satiety.

| Units of Consumption | Marginal Utility | Total Utility |
|----------------------|------------------|---------------|
| 1 | 08 | 08 |
| 2 | 06 | 14 |
| 3 | 04 | 18 |
| 4 | 02 | 20 |
| 5 | 00 | 20 |
| 6 | -2 | 18 |

- (2) From the above table it can be seen that when at 5th unit, the marginal utility is zero and total utility is the maximum, i.e. 20.
- (3) From the above table it can be seen that only when the marginal utility diminishes from zero to – 2, then only the total utility diminishes from 20 to 18.

Thus, when MU is zero, TU does not diminish, but remains the maximum.

B. Law of DMU is important in practice.

Yes, I agree with this statement.

Reasons:

- (i) The law of DMU helps consumers in **deriving the maximum satisfaction from the given income**. Similarly the law also helps the producer in determining price and sales policy and thereby maximizing his profits.
- (ii) The law of DMU is helpful to the monopolist to practice **price discrimination** and thereby maximizing his profits.
- (iii) The law of DMU is helpful to the government in **implementing economic policies** such as public distribution system, social justice, etc. The law is helpful to the finance minister in framing the progressive tax system and thereby **reducing economic inequality** and to improve the welfare of society.

C. The law of diminishing marginal utility can be explained with the help of schedule and diagram.

Yes, I agree with this statement.

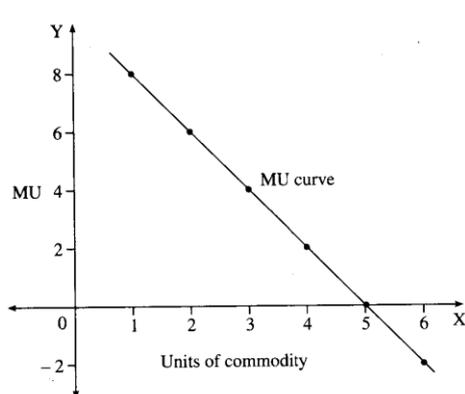
The law of DMU can be explained with the help of the following points :

- (1) The law of DMU was first proposed by **MR. Gossen**. Therefore, this law is also known as 'Gossen's First Law.' However, this law was further explained by **Dr. Alfred Marshall** in his famous book, 'Principles of Economics' in 1890.
- (2) **Statement of Law :** According to **Dr. Alfred Marshall**, "**Other things being equal, the additional benefit which a person derives from the increase in the stock of a thing diminishes with every increase in the stock that he already has.**"

- (3) The law of DMU can be explained with the help of the following schedule :

| Units of Commodity | Mu |
|--------------------|----|
| 1 | 8 |
| 2 | 6 |
| 3 | 4 |
| 4 | 2 |
| 5 | 0 |
| 6 | -2 |

- (4) From the above schedule it can be seen that as the stock of commodity increases from 1 to 6, the marginal utility diminishes from 8 to -2.
- (5) The law of DMU can be explained with the help of the following diagram :



- (6) In the above diagram, the Y – axis represents the marginal utility and the X – axis represents the units of consumption. From the above diagram it can be seen that, the consumer derives the maximum utility from the first unit of the consumption. As consumer keeps consuming the further units, the marginal utility keeps falling.
- (7) On the consumption of the 5th unit, the marginal utility becomes zero. Therefore on the consumption of 5th unit, the marginal utility curve touches the X – axis. At this point the total utility is maximum. Therefore, this point is called the point of satiety.
- (8) On the consumption of the 6th unit, the marginal utility becomes negative. As its effect the total utility also starts diminishing.

From beginning to end the marginal utility curve slopes downwards from the left to the right.

Ans.6

(08)

A.

(A) The law of DMU can be explained with the help of the following points :

- (1) The law of DMU was first proposed by **MR. Gossen**. Therefore, this law is also known as 'Gossen's First Law.' However, this law was further explained by **Dr. Alfred Marshall** in his famous book, 'Principles of Economics' in 1890.
- (2) **Statement of Law** : According to **Dr. Alfred Marshall**, "Other things being equal, the additional benefit which a person derives from the increase in the stock of a thing diminishes with every increase in the stock that he already has."

(B) **Limitations** : The limitations of law of DMU are as follows :

- (1) **Unrealistic assumptions** : The law of DMU is based on various assumptions such as homogeneity of units, continuity in consumption, rationality of the consumer, etc. But in fact it is difficult to fulfill all these conditions at a time.
- (2) **Cardinal measurement** : The law of DMU assumes that utility can be measured in numbers. In fact, utility is an abstract and psychological concept. So it cannot be measured cardinally. It can only be measured ordinally in the form of degree of comparison.
- (3) **Indivisible goods** : The law is not applicable in case of bulky and indivisible goods like T.V., cars, houses, etc. Normally, such indivisible goods are not purchased more than one unit at a time. So the law of DMU becomes inapplicable to such goods.
- (4) **Constant marginal utility of money** : The law of DMU assumes that the marginal utility of money remains constant. In fact marginal utility of money differs from person to person and from time to time. Similarly, the marginal utility of money also differs as the stock of money and the prices of goods change.
- (5) **A single want** : The law of DMU assumes that a person wants to satisfy a single want at a time. In fact, a person satisfies many wants at a time.

B. There are no real exceptions for law of DMU. In the following some cases it is considered that the law of DMU is not valid :

- (1) **Hobbies (rate collection)** : In certain hobbies like collection of stamps, rare coins, precious paintings etc. the law is not applicable because every additional increase in stock gives more pleasure, which increases MU. But it violates homogeneity condition.
- (2) **Misers** : In case of miser, every additional rupee gives him more and more satisfaction, because he is an irrational person. So his MU tends to increase with an increase in the stock of money. However, it ignores rationality assumption.
- (3) **Drunkards** : It is said that, in case of drunkards, the level of intoxication increases with every additional quantity of liquor consumed. So MU received by drunkards may increase. This condition is similar to all addicts. But here, rationality condition is violated.

- (4) **Music** : Some people are fond of music. It is experienced that, a repeated of hearing of music, gives more and more satisfaction. It increases MU of music. SO the law is not applicable. However, it does not fulfill the assumptions like homogeneity and continuity.
- (5) **Reading** : Since, more reading gives deeper knowledge, a scholar may receive more and more satisfaction, when he reads various books again and again, and therefore Marginal Utility tends to increase. But, here homogeneity and continuity conditions are not satisfied.
- (6) **Money** : It is observed that MU of money never becomes zero. It increases when the stock of money increases. It is because money is a medium of exchange is used to purchase various goods and services to satisfy various wants. Therefore the law is not applicable in case of money.

Thus, in fact there are no real exceptions to the law of DMU. It has universal applicability.