INSTITUTE OF DISTANCE EDUCATION IDE

Rajiv Gandhi University

(Formerly Centre for Distance Education)
Rajiv Gandhi University
Rono Hills, Doimukh

ASSIGNMENT RESPONSE FORMAT

Name : Mr./Ms. Mai Tagar

ERN*/Roll No. : MAECO 11

Class : M.A 1st Sem.

Subject : Mathematics & Statistics.

Paper : MAECO 404

Marked Obtained : 67/100

Instruction :

The assignments are to be written neatly in his/her own handwriting. Every candidate must submit completed assignment booklets **within the specified date.** It is one of the essential components of examination. The students are supposed to **obtain minimum 40%** of marks in assignment as per University rules.

In case one is not able to submit assignment she/he will be automatically declared absent and ineligible.

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(N.B.: ERN*- Enrolment Number)

Section-A.

Q.1 What is Straight line? Discuss the different forms of Straight line equation in detail.

Ans A Straight line is defined by a linear equation whose general form is, $Ax + By + C = 0$, where A and B are not not both equal to zero. The graph of the equation is a Straight line can be represented by an equation of the above form.

Different form of equations of a Straight line.

- We shall start by finding the equation of a Straight line in different forms. The equation of a Straight line, is the relation between x and y which is satisfied by the co-ordinate of each and every point on the line and by those of no other point.

(1) Equation of a line parallel to the axes.

- Let AB be a line parallel to the y-axis, at a distance a form it, Also let AB be on the right of y-axis. Then abscissa of any point on the line AB will be a. And so $x = a$ for all points on the line AB and for no other point.

Hence, equation of the line AB is $x = a$. If the line was on the left of y-axis, it's equation would have been $x = -a$.

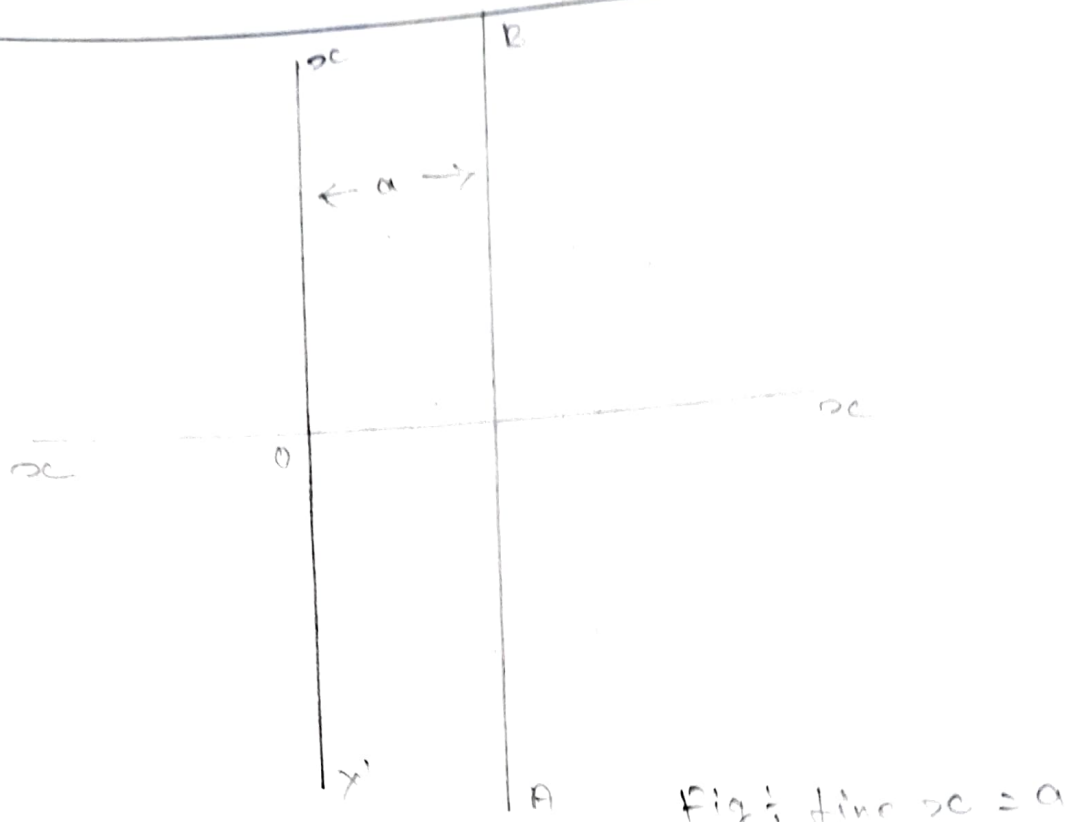

Fig: line $x = a$

Similarly, the equation of a line parallel to x-axis is $y = b$ and $y = -b$

It may be noted here that the equation of a curve does not necessarily contain both x and y.

Corollary: The equation of x-axis is $y = 0$

The equation of y-axis $x = 0$

② Slope of a line.

- When we say that a line makes an angle θ with the x-axis, it means that θ is the angle through which a ray coincident with the positive direction of the x-axis is to revolve in the anti-clockwise direction to coincide with the line. So this angle θ is a +ve Angle lying between $0°$ and $180°$ as shown in the figure.

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ASSIGNMENT RESPONSE FORMAT

Name : Mr./Ms. MANGRIA TARI

ERN*/Roll No. : MAECO17

Class : M.A economics 1st semester

Subject : MATHEMATICS AND STATISTICS

Paper : MAECO 404

Marked Obtained : 61/100

Instruction :

The assignments are to be written neatly in his/her own handwriting. Every candidate must submit completed assignment booklets **within the specified date.** It is one of the essential components of examination. The students are supposed to **obtain minimum 40%** of marks in assignment as per University rules.

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Q1

What is Binomial Expression? prove that $(x+y)^n = x^n + {}^nC_1 x^{n-1}y + {}^nC_2 x^{n-2}y^2 + \dots + {}^nC_n y^n$ when n is positive integer.

⇒

Any expression of the type $x \pm y$ is called Binomial expression, x is called first term and y, second term. By elementary algebra, we know that $(x+y)^2 = x^2 + 2xy + y^2$; $(x+y)^3 = x^3 + 3x^2y + 3xy^2 + y^3$. In this section we developed a formula for the n^{th} power of $x+y$, n being a positive integer. We shall make use of principle of Mathematical Induction in proving the expansion of $(x+y)^n$.

If n is a positive integer, then

$$(x+y)^n = x^n + {}^nC_1 x^{n-1}y + {}^nC_2 x^{n-2}y^2 \dots + {}^nC_n y^n.$$

proof. Clearly for $n=1$, LHS $= x+y$,

and RHS $= x + {}^1C_1 y = x+y$,

so that result is true for $n=1$.

Let $n+1 > 1$ and the result be true for n.

$$(x+y)^n = x^n + {}^nC_1 x^{n-1} y + \dots + {}^nC_n y^n.$$

Consider $(x+y)^{n+1}$

$$= (x+y)^n (x+y)$$

$$= (x^n + {}^nC_1 x^{n-1} y + \dots + {}^nC_n y^n)(x+y)$$

$$= x^{n-1} + ({}^nC_1 x^n y + x^n y)$$

$$+ ({}^nC_2 x^{n-1} y^2 + {}^nC_1 x^{n-1} y^2 \dots$$

$$+ ({}^nC_{n-1} x y^n + {}^nC_n x y^n) + {}^nC_n y^{n+1}$$

$$= x^{n+1} + ({}^nC_0 + {}^nC_1) x^n y + ({}^nC_1 + {}^nC_2) x^{n-1} y^2$$

$$+ ({}^nC_2 + {}^nC_3) \times x^{n-2} y^3 + \dots$$

$$+ ({}^nC_{n-1} + {}^nC_n) x y^n + {}^nC_n y^{n+1}$$

But ${}^nC_r + {}^nC_{r-1} = {}^{n+1}C_r$ for all $1 \leq r \leq n$.

Hence we get that

$$(x+y)^{n+1} = x^{n+1} + {}^{n+1}C_1 x^n y + {}^{n+1}C_2 x^{n-1} y^2 + \dots$$

$$+ {}^{n+1}C_n x y^n + {}^{n+1}C_{n+1} y^{n+1}.$$

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ASSIGNMENT RESPONSE FORMAT

Name : Mr./Ms. ANJAN NINI

ERN*/Roll No. : 19A1062

Class : MA (economics) FIRST SEMESTER

Subject : MICRO ECONOMIC THEORY-I & MICRO ECONOMIC THEORY-II

Paper : 401 & 405

Marked Obtained : 46/100

Instruction :

The assignments are to be written neatly in his/her own handwriting. Every candidate must submit completed assignment booklets **within the specified date.** It is one of the essential components of examination. The students are supposed to **obtain minimum 40%** of marks in assignment as per University rules.

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(N.B.: ERN*- Enrolment Number)

SECTION - A

Q no. 1 Briefly discuss law of diminishing marginal utility? Discuss the properties of indifference curves.

Sol" **Introduction :** The law of diminishing marginal utility Explain by the "H.H. Gossen" in the year "1864." Hence, it is called "H.H Gossen" first equation. marshall this law and explained it in "nice scientific manner."

Explanation : This law explain the "common experience of every consumer." The "additional utility" is derived from the additional unit "goes on diminishing". So, it is called the law of diminishing marginal utility

Two Concepts in this law :

i) Total utility. ii) Marginal utility.

i) **TOTAL UTILITY :** It is the total amount of satisfaction derived by the consumer from consumption of the total utility of commodity.

MATHEMATICALLY : $Tu_n = F(Q_n)$

Hence, Tu_n means total utility of (n) units

F means functional relationship.

Q_n means quantity of (n) units of commodities

ii) **MARGINAL UTILITY :** The additional derived by the consumer from the consumption of additional unit of commodities.

MATHEMATICALLY : $MU_n = TU_n - TU_{n-1}$

Hence, MU_n = marginal utility derived from the consumption of 'n' units.

TU_n = Total utility derived from the consumption of 'n' units.

TU_{n-1} = Total utility is derived from the consumption of 'n-1' units of commodities.

TABLE :

Total number of apples.	Total utility (TU)	Marginal utility (MU)
1	30	~~30~~ —
2	50	~~30~~ 20 {50-30 =20}
3	65	~~15~~ 15 {65-50 =15}
4	75	10
5	80	5
6	82	2
7	82	0
8	80	-2

In this above table total no. of apples are increase total utility 1st to 5th numbers are increased total utility 6th and 7th numbers are equal total utility 8th number are decreased. marginal utility are decreased.

GRAPH EXPLANATION :

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ASSIGNMENT RESPONSE FORMAT

Name : Mr./Ms. SIMA BAGANG

ERN*/Roll No. : MAECO22

Class : 1st Sem

Subject : MICRO ECONOMIC THEORY-I & MICRO ECONOMIC THEORY-II

Paper : MAECO-401 & 405

Marked Obtained : 56/100

Instruction :

The assignments are to be written neatly in his/her own handwriting. Every candidate must submit completed assignment booklets **within the specified date.** It is one of the essential components of examination. The students are supposed to **obtain minimum 40%** of marks in assignment as per University rules.

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(N.B.: ERN*- Enrolment Number)

Q1. Briefly discuss law of Diminishing Marginal Utility? Discuss the properties of Indifference Curves.

Ans; An economic law ~~state~~ that states that, all else being equal, as Consumption increases, the satisfaction derived from each additional Unit decreases. Marginal Utility is the incremental increase in Utility.

properties of Indifference Curves

Indifference Curves drawn for two normal Substitute goods have the following four basic properties:

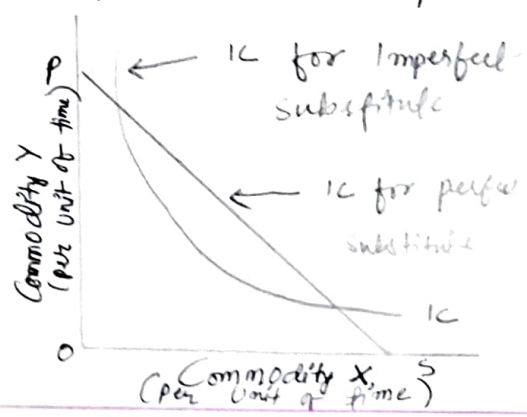
i. Indifference Curves have a negative slope
ii. Indifference Curves are Convex to the Origin.
iii. Indifference Curves do not intersect nor are they tangent to one another
iv. Upper indifferenca Curves indicate a higher level of Satisfaction.

These properties of indifference Curves, infact, reveal the Consumer's behaviour, his choices and preferences.

1. Indifference Curves have a negative slope: In the words of Hicks, 'So long as each Commodity has a positive marginal utility, the indifference Curve must slope downward to the right' as shown in figure 1.1

figure 1.1 Shows two IC Curves:

(i) A Curvilinear IC
(ii) A straight line IC as shown by the line ps



The Curvilinear IC represents IC for two imperfect Substitute goods whereas straight line PS represents IC for two perfect Substitute goods. In both the Cases, the IC has a downward or a negative slope. The negative slope of an indifference Curve implies ; (a) that the two Commodities Can be Substituted for each other; and (b) that if the quantity of one Commodity decreases, quantity of the other Commodity must increase so that the Consumer stays at the same level of satisfaction If quantity of the other Commodity does not increase Simultaneously, the bundle of Commodities will decrease as a result of decrease in the quantity of One Commodity.

2. Indifference Curves are Convex to the Origin of axes.

They are generally Convex to the Origin of the axes — the left hand portion is normally steep, while the right hand portion is relatively flat. This property of the indifference Curves is derived from the law of diminishing marginal rate of Substitution.

The marginal rate of Substitution has increased, the indifference Curve would have been Concave to the Origin. The marginal rate of Substitution neither increases nor does it remain Constant. On the Contrary, it goes On diminishing. As such, the indifference Curve has to be Convex to the Origin of axes.

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ASSIGNMENT RESPONSE FORMAT

Name : Mr./Ms. TUNGAM NANGA

ERN*/Roll No. :

Class : MA (Economics) First Semester

Subject : Microeconomic Theory

Paper : MACCO 401 Microeconomic Theory

Marked Obtained : 56/100

Instruction :

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SECTION - A

Question 1

Define utility? what are the two approaches of consumer demand analysis? Explain in detial.

Ans ⇒ Utility Definction: It is a measure of satisfaction an individual gets from the consumption of the commodities. In other words, it is a measurement of usefulness that a consumer of how much obtain from any good.

There are two approaches to consumer demand analysis: cardinal utility approach or marshallian approach and ordinal utility approach

1) cardinal utility Approach to consumer Demand

The central theme of the consumption theory is the analysis of utility maximizing behaviour of the consumer. The fundamental postulate of the consumption theory is that all the consumers - individual and households - aim at utility maximization and all their decisions and actions as consumer are directed towards utility maximization

The Specific questions that Consumption theory seek to answer are:

i) How does a consumer decide the optimum quantity of a commodity that he or she chooses to consume, i.e how does a consumer attain his/her equilibrium.

ii) How does he or she allocate his/her total consumption expenditure on various commodities he/she consumes so that his/her total utility is maximized.

ASSUPTION: The cardinal utility approach to consumer analysis makes the following assumptions.

(1) Rationality: It is assumed that the consumer is a rational being in the sense that he/she satisfies his/her want in the order of their preference.

(2) Maximization of satisfaction: Every rational consumer intends to maximize his/her satisfaction from his/her given money income.

(3) Limited money income: The consumer has a limited money income to spend on the