



CMA

CMA STUDENTS'

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THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

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Behind every successful business decision, there is always a CMA



message from the president

Dear Students,
Greetings!

***“Education breeds Confidence,
Confidence breeds Hope,
Hope breeds Peace”- Confucius***

Hope you are enjoying in reading your study notes and increasing your knowledge day by day.

As said by the Former President of India, APJ Abdul Kalam-***“Learning gives you creativity, creativity leads to thinking, thinking provides knowledge, knowledge makes you great”***, we all should follow. Learning is a treasure that will follow its owner everywhere. There is no substitute for true knowledge and gradually through the knowledge gathering, you will become confident.

I hope that following the E-bulletin all of you are gathering knowledge on the respective subjects covered by the expert academicians for enriching yourselves. I need the feedback from your end so that I may come to know about your future expectations.

I am really thankful to all the eminent writers for sharing their expertise with you.

The initiative taken by the Directorate of Studies for up-dation of your knowledge by the issuance of these monthly bulletins is commendable. If you are willing to learn, no one can help you! If you are determined to learn, no one can stop you!

I want to conclude with the famous and encouraging words of Aristotle that ***“The roots of education are bitter but the fruit is sweet”***.

**CMA Manas Kumar Thakur
President
The Institute of Cost Accountants of India**



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message from the **chairman**

“Life is the most difficult exam. Many people fail because they try to copy others- not realising that everyone has a separate question paper”

Results of the December term of examination are out. Those who succeed indeed are very happy and in a jubilant mood. Those who failed may be discouraged instantly but you may learn from it. Please go ahead and learn to say yourself that I am not failed but my success is just postponed.

The beautiful thing about learning is no one can steal it away from you. Please prepare yourself in the way that success will automatically be followed. The one who falls and gets up is so much stronger than the one who never fell. Never give up as great things take time.

Read your study notes sincerely, see the MTPs, learn the question techniques from the suggested answers and prepare yourself for the examination.

“Success is not final, failure is not fatal; it is the courage to continue that counts- Winston Churchill”

Wishing you all a successful career ahead!

**CMA Pappa Rao Sunkara,
Chairman,
Training & Education Facilities (T& EF) Committee**

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KNOWLEDGE UPDATE

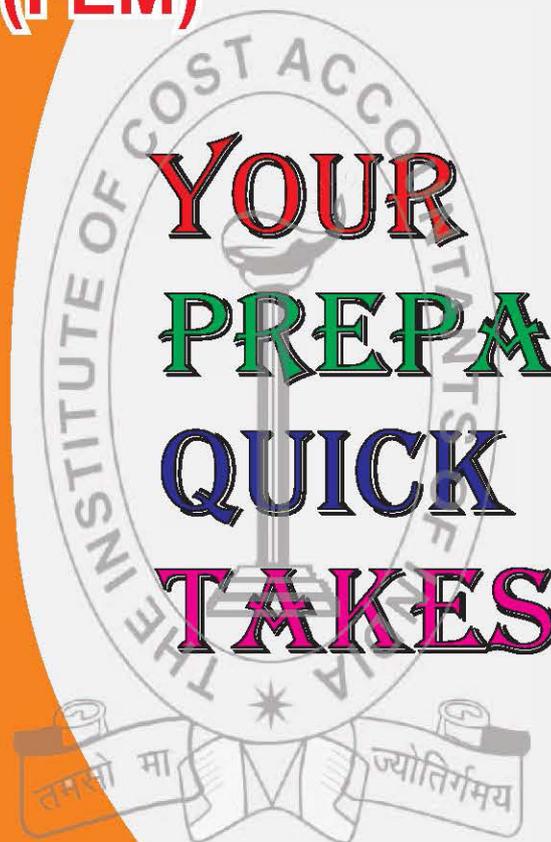
In this section of e-bulletin we shall have a series of discussion on each of these chapters to provide a meaningful assistance to the students in preparing themselves for the examination at the short end and equip them with sufficient knowledge to deal with real life complications at the long end.

Behind every successful business **decision**, there is always a *CMA*

PAPER : 1, PART : I

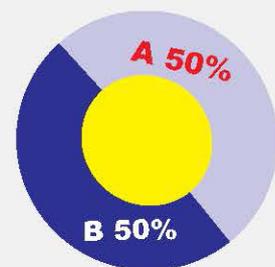
FUNDAMENTALS OF ECONOMICS AND MANAGEMENT – ECONOMICS (FEM)

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Syllabus Structure

- A Fundamentals of Economics 50%
- B Fundamentals of Management 50%



Learning Objective:

Elasticity is a measure of responsiveness i.e., it is used to measure the magnitude of consumer responses to price changes. The concept of Elasticity are vitally important to business people trying to determine whether and how much to raise prices.

Elasticity

Elasticity is a measure of a variable's sensitivity to a change in another variable.

It is the proportional change of the value in one variable relative to the proportional change in the value of another variable.

In economics, elasticity refers the degree to which individuals, consumers or producers change their demand in response to price or income changes. It is used to assess the change in consumer demand as a result of a change in a good or service's price.

Elasticity of Demand = % change in Quantity Demand / % change in Price

Elasticity is an economic concept that's used to measure the change in the aggregate quantity demanded for a good or service in relation to price movements of that good or service. A product is considered to be elastic if the quantity demand of the product changes drastically when its price increases or decreases. Conversely, a product is considered to be inelastic if the quantity demand of the product changes very little when its price fluctuates.

That means- The extent of responsiveness of demand with change in the price is not always the same.

The demand for a product can be elastic or inelastic, depending on the rate of change in the demand with respect to change in price of a product.

Elastic demand is the one when the response of demand is greater with a small proportionate change in the price. On the other hand, inelastic demand is the one when there is relatively a less change in the demand with a greater change in the price.

The quantity demanded depends on several factors. Some of the more important factors are the price of the good or service, the price of other goods and services, the income of the population or person and the preferences of the consumers.

Demand depends on several factors. We can calculate the elasticity of demand according to each one of these inputs.

- If we calculate the elasticity of demand according to the changes in the price of the good, we are calculating the *price elasticity of demand*.
- If we calculate the elasticity according to the changes price of other goods (i.e. substitute goods and complementary goods), we are calculating the *cross elasticity of demand*.
- If we calculate the elasticity of the demand according to the change in income, we are calculating the *income elasticity of demand*

The price elasticity of demand is the proportional change in the quantity demanded, relative to the proportional change in the price of the good.

The cross elasticity of demand is the proportional change in the quantity demanded, relative to the proportional change in the price of another good.

If the two goods are substitutes, the cross elasticity of demand is positive. If the two goods are complements, the cross elasticity of demand is negative.

The income elasticity of demand is the proportional change in the quantity demanded, relative to the proportional change in the income.

TABLE : Nomenclature of elasticity

A. Price Elasticity of Demand

Terminology	Numerical measure	Verbal description
1. Perfectly (or completely) Inelastic	Zero	Quantity demanded does not change as price changes.
2. Inelastic	Greater than one but less than one	Quantity demanded changes by a smaller percentage than does price.
3. Unit elasticity	One	Q_d changes by exactly the same percentage as does price.
4. Elastic	Greater than one but less than infinity	Q_d changes by a larger percentage than does price.
5. Perfectly (or infinitely) Elastic	Infinity	Purchasers are ready to buy all they can at some price and not at all at a slightly higher (lower) price.

B. Income-elasticity of Demand

Inferior good	Negative	Q_d falls as income (Y) increases.
Normal good		Q_d increases as Y increases.
- Income inelastic		- less than in proportion to Y increases.
- Income elastic		- more than in proportion to Y increases.

C. Cross (price) elasticity of demand

Substitute	Positive	Price increased of a substitute (tea) leads to an increase in quantity demanded of this good (coffee) and less of substitutes.
Complement	Negative	Price increase of a complement (sugar) leads to a decrease in quantity demanded of this good (tea) and also less of the complement.
Neither of the above two	Zero	Two commodities are unrelated.(eg Tea and Ink)

The concept of Elasticity has practical uses.

- How much consumers alter their purchases in response to a price change?
- How does a business determine whether to raise or cut the price of the product it sells?
- Why senior citizen receive price discounts? Etc

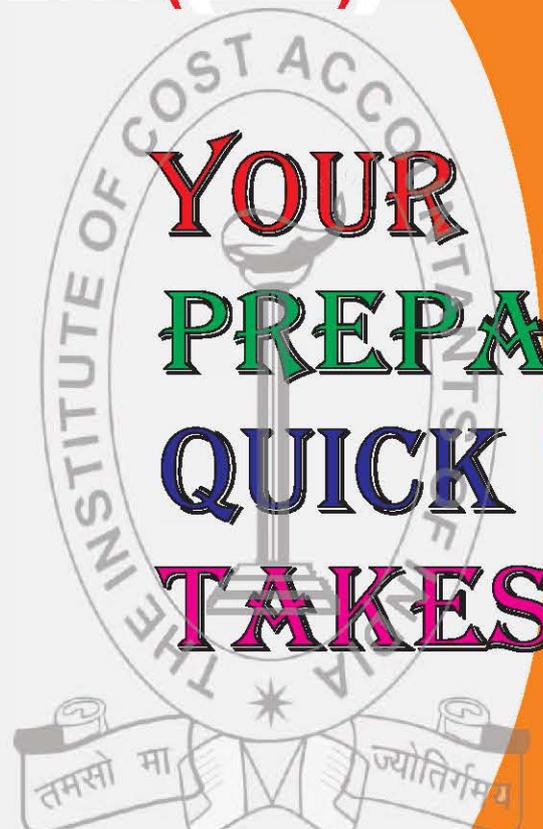
The student of CMA should understand the concept of elasticity . Please read this from Study Note 2 and try to understand the concept.

PAPER : 1 . PART : II

FUNDAMENTALS

OF ECONOMICS AND MANAGEMENT – MANAGEMENT (FEM)

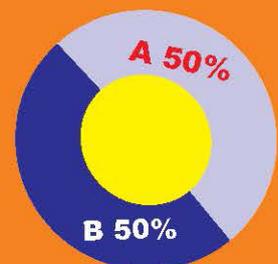
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**YOUR
PREPARATION
QUICK
TAKES**

Syllabus Structure

- A Fundamentals of Economics 50%
- B Fundamentals of Management 50%



Behind every successful business decision, there is always a CMA

Learning Objectives:

- Student will demonstrate their Knowledge of business and management principles
- student will reveal effective written and oral communication
- student will exhibit an awareness of the global environment in which business operate.
- students will display the ability to recognize when change is needed, adapt to change as it occurs, and lead change.

MANAGEMENT

In the previous bulletins we have discussed about 'Planning' & 'organising' as the functions of Management.

Here we want to discuss about 'Staffing'.

In the words of Dalton McFarland staffing is the function by which managers build an organisation through the recruitment, selection, development of individuals as capable employees.

Staffing process is concerned with providing the organisation with the **right number of people at the right place, and at the right time** so that the organisation would be able to achieve its goals effectively.

Staffing process involves the following steps:

(i) Manpower Planning Also known as human resource planning. Manpower planning consists of the following steps:-

- ❖ **Determination of the organisational objectives;**
- ❖ **Determination of the skills and expertise required to achieve the organisational objectives;**
- ❖ **Estimating the additional human resource requirements in the light of the organisation's current human resources;**
- ❖ **Development of action plans to meet the anticipated human resource needs.**

(ii) Recruitment Recruitment involves seeking and attracting a pool of people from which qualified candidates for job vacancies can be selected. Development and maintenance of adequate manpower resources is the main task of recruitment.

(iii) Selection It is probably the most critical step in the staffing process as it involves choosing candidates who best meet the qualifications and requirements of the job.

(iv) Training The objective of training is to achieve a change in the behaviour of trained personnel.

(v) Placement & Induction Placement refers to assigning

rank and responsibility to an individual, identifying him with a particular job.

Induction refers to the introduction of a person to the job and the organisation. The purpose is to make the employee feel at home and develop a sense of pride in the organisation and commitment to the job.

Methods of Training:

There are several methods of training. One important point to note here is that these methods of training are not competitive, rather they are complementary. Some of the most commonly used methods of training are

A. On-the-job training

B. Off-the-job training

(A) On-the-job Training- On -the -job training is normally given by the superior or supervisor.

The methods employed to make the on-the-job training are as under:

- coaching
- apprenticeship training
- job rotation
- vestibule training
- self-improvement programmes

(B) Off-the-job training As the name itself indicates, off-the-job training refers to training conducted away from the actual work setting. Some of the popular methods of off-the-job training are:

Lectures and classroom instruction

The conference method

Group discussions

Role playing

Case studies

T-group training (or sensitivity training)

Placement, Orientation and Induction

Placement and induction represents the last stage in

the staffing process. Orientation involves the introduction of new employees to the enterprise, its functional tasks and people.

Orientation acts as a function of organizational socialization serving three main purposes:

- (i) acquisition of work skills and abilities,
- (ii) adoption of appropriate role behaviour,
- (iii) adjustment to the norms and values of the work group.

Placement, on the other hand may be defined as 'determination of the job to which an accepted candidate is to be assigned, and his assignment to that job.

A proper placement is instrumental in reducing:

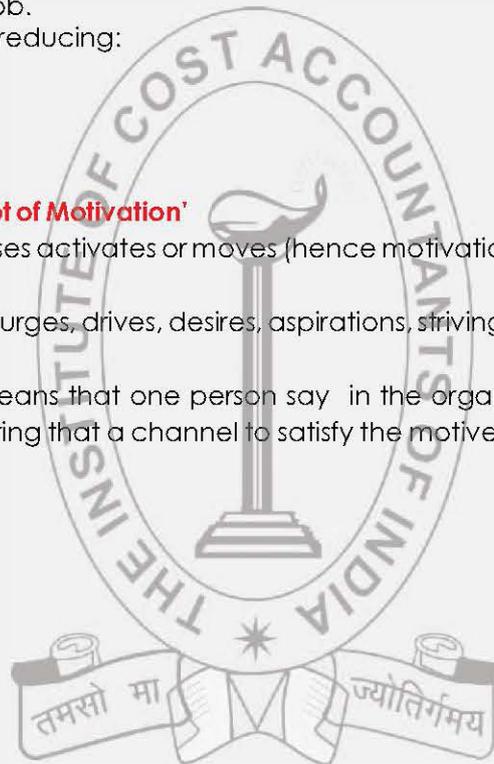
- employee turnover,
- absenteeism and
- boosts employee morale.

Now, we are coming into the '**Concept of Motivation**'

"A **motive** is an inner state that energises activates or moves (hence motivation), and that directs behaviour towards goal".

"**Motivation** refers to the way in which urges, drives, desires, aspirations, strivings or needs direct, control or explain the behavior of human beings".

"**Motivating**" implies a term which means that one person say in the organisational context a manager induces another to engage in action by ensuring that a channel to satisfy the motive becomes available and accessible to the individual.



RELATIONSHIP BETWEEN MOTIVE, MOTIVATING AND MOTIVATION:



Motivation causes goal-directed behaviour as indicated in its nature. Goal-directed behaviour leads to goal-fulfilment and the individual succeeds in fulfilling his needs and thereby overcoming his tension in the favourable environment.

GOAL - DIRECTED BEHAVIOUR:



“EXCELLENCE IS NOT JUST A SKILL; IT IS AN ATTITUDE TOO”.

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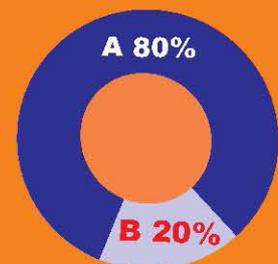
PAPER 2: FUNDAMENTALS OF ACCOUNTING (FOA)

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YOUR
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Syllabus Structure

- A Fundamentals of Financial Accounting 80%
- B Fundamental of Accounting 20%



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Learning Objectives:

- Read the Study Material minutely.
- For details or if you don't understand study Material or the section is impotent to identify the topic, then refer to Bare Act, otherwise reference to Barn Act is not necessary, For Company Law, book by Avtar Singh is recommended. For other laws Institute Study Material is sufficient.
- The words used in any of the text as mentioned above should be understood by immediate reference to the Dictionary.
- The main points coming out in any of the provisions should be either underlined or written in separate copy which has to be repeated again and again.
- Theoretical knowledge should be adequate and dear before solving practical problem.
- Don't write wrong English. It changes the meaning and therefore answer may be wrong even when the student's conception is dear. Also don't make spelling mistakes.

**ACCOUNTING FOR SPECIAL TRANSACTIONS
CONSIGNMENT**

Consignment is a special kind of business expansion through which business expansion is possible without opening a branch in a new potential market. There are two parties involved in this kind of business – consignor and consignee. Person sending the goods is a consignor and person receiving the goods on his behalf is a consignee. The relation between them is like an agency. A consignee works against the commission on sales. In the following table the consignment business is explained through some steps:

	ACTION OF A CONSIGNOR		ACTION OF A CONSIGNEE
STEP I	Goods sent to the consignee for sale	STEP I	Goods received
	Expenses incurred to move the goods up to the port or railway station.	STEP II	Expenses incurred to carry the goods upto his warehouse.
		STEP III	Sale of goods
		STEP IV	Collection of money from debtors

STEP II	Accepting the "Account sales" and the bank draft.	STEP V	Sending "account sales" to the consignor detailing the amount of sales, expenses and commission. Attaching the draft with the net amount (sales - expense - commission)
STEP III	Valuation of unsold stock	STEP VI	Valuation of unsold stock

ACCOUNTING PROCEDURE :

Accounting procedure is also unique as it a special area of business. All the transactions in the books of a consignor is entered through a special nominal account namely "consignment account". This is done so to keep a separate record of transactions related to the consignment so that profit from this business can be easily identified from the main business.

Following are the entries normally passed to record the transactions:

1. For goods sent:
Consignment A/Cdr
 To goods sent on consignment A/C
2. For expenses incurred by the consignor:
Consignment A/Cdr
 To Cash/ Bank A/C
3. For expenses borne by the consignee :
Consignment A/cdr
 To Consignee A/C
4. For sale of goods reported by consignee:
Consignee A/Cdr
 To Consignment A/C
5. For bank draft received along with account sales :
Bank A/Cdr
 To Consignee A/C
6. Recording the value of unsold stock :
Stock on Consignment A/cdr
 To Consignment A/C
7. To transfer the balance of goods sent on consignment :
Goods sent on consignment A/Cdr
 To Trading C/C or Purchase A/C
8. For profit :
Consignment A/C.....dr
 To Profit and loss A/C
(for loss reverse of the above entry)

From the above discussion it must be clear that the main account of this kind of business is the Consignment account. Following format will help to get an idea about the structure of a consignment account.

CONSIGNMENT ACCOUNT

TO	Goods sent on consignment	**	BY	Consignee— for sale	**
TO	Bank—for expenses	**	BY	Stock on consignment	**
TO	Consignee— for exp & commission	**	BY	Abnormal loss—if any	**
TO	P/L A/C – for profit	**	BY	P/L A/C – for loss	**

In the above account we see an abnormal loss which may occur due to some avoidable reasons in transit and must be value and accounted for. However there may be some minor losses due to some unavoidable reasons which should not be value and accounted for. Only thing to do with this is to just physically count such loss. Before we go for an illustration let us follow the table below to see the process of computing the value of unsold stock and abnormal loss.

	Quantity	Rs.
Goods sent on consignment	***	***
Add : expenses borne by the consignor	---	***
	A	B
Less : loss in transit – abnormal	C	D
Less : avoidable minor loss	E	---
Add : non recurring expenses incurred by consignee	---	F
	G	H
TOTAL		
Less : goods sold	I	---
Unsold stock	J	K

NOTE : 1. $D = \text{ABNORMAL LOSS} = (B/A) \times C$

2. $K = \text{UNSOLD STOCK} = (H/G) \times J$

ILLUSTRATION :

Ravi sent 150 boxes of goods to Chhabi at a cost of Rs. 750 per box. Ravi spent Rs. 1900 as insurance charges, Rs. 3500 as freight and Rs. 2600 as dock charges. Chhabi receiving the goods at her end spent Rs. 2500 for clearing

charges, Rs. 870 as cartage and Rs. 750 as warehouse rent. Chhabi is entitled to a commission of 7% on sales. During transit 5 boxes were totally lost.

In her account sales she reported that only 100 boxes could be sold @Rs. 1050 per box.

Compute the profit or loss on consignment.

CONSIGNMENT ACCOUNT

TO	Goods sent on consignment	112500	BY	Consignee—for sale	105000
TO	Bank—for expenses	8000	BY	Stock on consignment	37196
TO	Consignee for exp	4120	BY	Abnormal loss—if any	4017
TO	Consignee—for commission	7350			
TO	P/L A/C – for profit	14243			
TO		146213			146213

	Quantity	Rs.
Goods sent on consignment	150	112500
Add : expenses borne by the consignor	---	8000
	150	120500
Less : loss in transit – abnormal	5	4017
	145	116483
Add : non recurring expenses incurred by consignee	---	3370
	145	119853
TOTAL		
Less : goods sold	100	---
Unsold stock	45	37196

Note : Rs. 750 as warehouse rent is not added while calculating the value of unsold stock since this is a recurring expense.

In the next issue we will discuss about the treatments for goods sent at invoice price with one master illustration. Meanwhile keep practicing these kind of problems.

PAPER 3: FUNDAMENTALS OF LAWS AND ETHICS (FLE)

CMA Aditi Dasgupta

Dy. Director, Examination

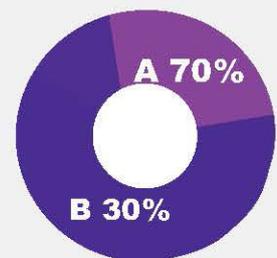
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**YOUR
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Syllabus Structure

A Fundamentals of Commercial Laws 70%

B Fundamentals of Ethics 30%



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Learning Objectives:

In order to internalize the concepts of subjects like law one has to have an understanding of the learning objectives of the chapters. Try to go through the Statement of Objects and Reasons issued for every act as it would give you a background to your study.

INDIAN CONTRACT ACT

Another essential element of a valid contract is "Free Consent" of both the parties entering into a contract. As we move forward with our discussion on Indian Contract Act and essential elements of a valid contract, in this issue we will discuss about "Free Consent" of parties to contract. As you know when two or more parties agree on a common thing in the same sense they are said to be in consent. It can be called as an act of assenting on a common issue in the same sense. For a contract to be valid it is not only essential that there is identity of mind or the parties consent but also that they consent freely. Consent is said to be free when it is not caused by the following-

- a) Coercion
- b) Undue influence
- c) Fraud
- d) Misrepresentation
- e) Mistake.

When there is no consent then the contract is void ab initio i.e. it is void from the beginning. And when there is consent but no free consent, the contract is voidable at the option of the party whose consent was not free.

Coercion – it refers to forcefully obtain the consent of a person to enter into a contract by applying physical force and or committing acts forbidden by the Indian Penal Code. Any threat to commit or commit any act which is forbidden to Indian Penal Code or threat to detain or unlawful detaining of any property of any person and thereby forcing him to enter into a contract by such act or threat is termed as coercion.

In this context please note that it is immaterial whether Indian Penal Code is or not in force in the place where coercion has taken place.

Another important issue or question that arises when we talk of coercion is that whether threat to commit suicide is coercion

or not. This doubt arises as suicide under Indian Penal Code is forbidden but not punishable as a dead person cannot be punished. But as section 16 of the Indian Contract Act states that any act or threat to commit any act forbidden under Indian Penal Code is coercion, then threat to commit suicide is obviously coercion.

When consent to contract is caused by coercion the contract is voidable at the option of the party whose consent was not free. The aggrieved party can have the contract set aside or if he so desires can insist on its performance.

Undue influence – according to section 16 of the Indian Contract Act, a contract is said to be induced by undue influence when the relation present between the parties are such that one of the party is in a dominant position to influence the will of the other and also uses such position to obtain unfair advantage over the other. It is the improper exercise of power over the mind of a contracting party by the dominating party and influences his decision in the favor of the dominating party.

A person is deemed or said to be in a position to dominate the will of the other person if he holds a real or apparent authority over the other or sharing a fiduciary relation to the other or if he makes a contract with such a person whose mental capacity is temporarily or permanently affected due to age, illness etc. hence there is no presumption of undue influence in relation like husband and wife, creditor and debtor, landlord and tenant etc. As earlier said an agreement caused by undue influence is a contract voidable at the option of the party whose consent was influenced unduly.

Fraud – fraud means acts committed by a party to a contract with intent to deceive another party and induce him to enter into a contract. The acts which mean fraud as per section 17 are –

- i) **Wrong suggestion about a fact knowing it to be untrue and thereby influencing a person to enter into a contract**
- ii) **Active concealment or hiding of fact knowing it to be false and thereby influencing a person to enter into a**

contract

iii) **A promise made without intention to perform it and thereby influencing a person to enter into a contract.**

Thus it can be said that in order to constitute any act to be there must be a representation or assertion which must be false, with a knowledge of it being false and such that it must be made with the intention to induce the other party to act upon it and enter into agreement and also that the party subjected to fraud must have suffered some loss.

Misrepresentation – it is an incorrect or false representation of fact or non disclosure of material fact without any intention to deceive other person. Thus the main difference between fraud and misrepresentation is that in case of fraud the party making a false or untrue representation makes it with an intention to deceive another party and thereby inducing him to enter into the contract but in case of misrepresentation the intent is innocent i.e. it is done without any intention to deceive or to gain advantage.

Mistake – it is said to have occurred where the parties to a contract intending to do one thing by error do something else. A mistake of fact may be bilateral or unilateral.

When both the parties to an agreement are under a mistake of fact the mistake is called as bilateral mistake. And when only one party to the contract is under mistake it is said as unilateral mistake. Unilateral mistake generally is not invalid.

Please supplement your readings with plenty of case studies as it would help you to have an in depth knowledge of the topic.

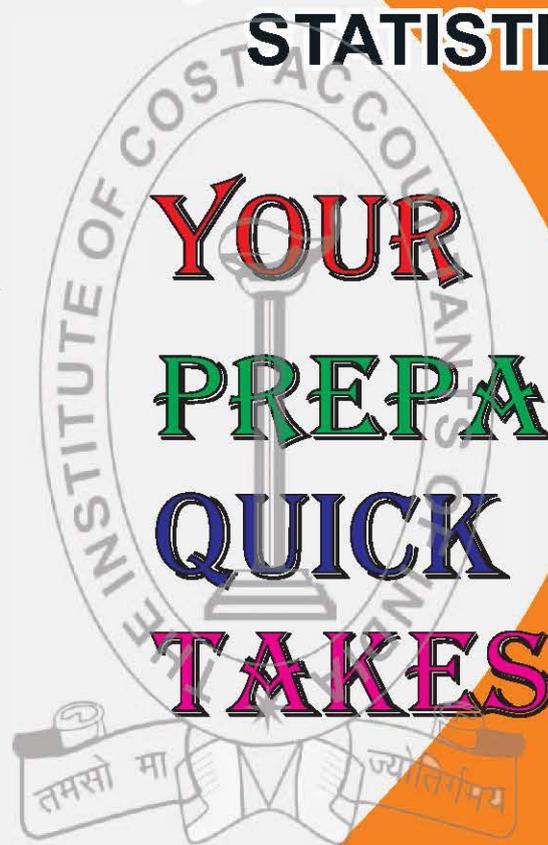
NEGOTIABLE INSTRUMENT ACT, 1881.

Laws relating to negotiable instruments is contained in Negotiable Instrument Act, 1881. Negotiable means transferable from one person to another and instrument means any written document by which a right is created in favor of some person. A negotiable instrument means a written document that creates a right in favor of some person which is freely transferable. The act mentions Promissory notes, Bills of exchange and Cheque as negotiable instruments yet instruments which satisfies the following conditions of negotiability can be termed as negotiable instruments –

- a) **Instrument must be freely transferable**
- b) **The holder in due course of the instrument acquires good title**
- c) **The holder of the instrument can sue on the instrument in his own name.**
- d) **The instrument can be transferred any number of times till its maturity**

PAPER 4:
FUNDAMENTALS
OF BUSINESS MATHEMATICS AND
STATISTICS (FBMS)

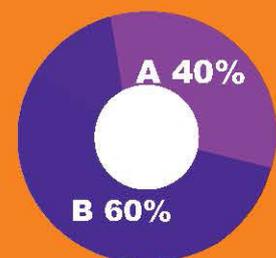
Dr. Lakshmi Kanta Roy
Guest Lecturer
Vidyasagar Mahavidyalaya



Syllabus Structure

A Fundamentals of Business Mathematics **40%**

B Fundamentals of Business Statistic **60%**



Behind every successful business decision, there is always a CMA

Learning Objectives:

- Appreciate the usefulness, power and beauty of mathematics
- Enjoy mathematics and develop patience and persistence when solving problems.
- Understand and be able to use the language, symbols and notation of mathematics.
- develop mathematical curiosity and use inductive reasoning when solving problems.
- Become confident in using mathematics to analyse and solve problems both in professional and in real life situations.

INDICES

1.1 INTRODUCTION

We have already familiar with the four fundamental mathematical operations namely.

- (i) Addition (ii) Subtraction (iii) Multiplication and (iv) Division. Now let us glance to the following addition and multiplication:

$$\left. \begin{aligned} 7 + 7 + 7 + 7 + 7 + 7 &= 42 = 6 \times 7 \\ x + x + x + x + x + x &= 6x = 6 \times x \end{aligned} \right\} \dots\dots\dots(i)$$

$$\left. \begin{aligned} 5 \times 5 \times 5 \times 5 \times 5 \times 5 &= 5^6 \\ X \times X \times X \times X \times X \times X &= X^6 \end{aligned} \right\} \dots\dots\dots(ii)$$

It appears from (i) that the result of a repeated addition can be obtained. By multiplication and from (ii) that repeated multiplication can be reduced to a power function.

Again from (ii) it is observed that 5 is multiplied six times by 5 and same as for x also. In these cases the number which is multiplied by the same number is called BASE and the number of times it is multiplied is called the POWER or the Index. Here the Index is positive and integral but it can be negative or fractional.

NOTE: The power or the index of a base indicates how many times the base is to be multiplied by the base. The index is also called Exponent of a base.

Example:

$$a^9 = a \times a$$

NOTE II:

If $a^n = b$, then a is called the nth root of b and symbolically expressed as $b^{\frac{1}{n}}$ or $\sqrt[n]{b}$.

1.2 LAWS OF INDICES:

If a and b are any real numbers but $a, b \neq 0$ and m and n are positive integers, then

i) $a^m \times a^n = a^{m+n}$

PROOF:

Here $a^m = a \times a \times a \times \dots\dots\dots$ to m factors

$a^n = a \times a \times a \times \dots\dots\dots$ to n factors

$$\begin{aligned} \therefore a^m \times a^n &= (a \times a \times a \times \dots\dots\dots \text{to m factors}) \times \\ &X (a \times a \times a \times \dots\dots\dots \text{to n factors}) \\ &= a \times a \times a \times \dots\dots\dots \text{to (m+n) factors} \\ &= a^{m+n} \text{ (By definition)} \end{aligned}$$

This law is called the Fundamental Index law corollary : i) If m, n, p are positive integers

Then $a^m \times a^n \times a^p = a^{m+n+p}$

ii) $a^m \times a^n \times a^p \times \dots\dots = a^{m+n+p+\dots\dots}$

EXAMPLE:

i) $a^5 \times a^7 = (a \times a \times a \times a \times a) \times (a \times a \times a \times a \times a \times a \times a)$
 $= a \times a$
 $= a^{12} = a^{5+7}$

ii) $x^4 \times x^6 \times x^8 = x^{4+6+8} = x^{18}$

II) $a^m \div a^n = a^{m-n}$

PROOF:

$$a^m \div a^n = \frac{a^m}{a^n} = \frac{a \times a \times a \times \dots\dots\dots \text{to m factors}}{a \times a \times a \times \dots\dots\dots \text{to n factors}}$$

i) If $m > n$, there will be (m-n) factors of a more in the numerator than in the denominator. Cancelling the common n factors of a from both the numerator and the denominator there remains (m-n) factors of a in the numerator.

$\therefore a^m \div a^n = a \times a \times a \times \dots\dots (m-n) \text{ factors} = a^{m-n}$

ii) If $m = n$, there will be equal factors of a both in the numerator and the denominator and as such no factor will remain after cancellation.

$\therefore a^m \div a^n = 1$

iii) If $m < n$, there will be (m-n) factors of a more in the denominator than in the numerator. Cancelling the common m factors of a from both the numerator and the denominator, there remains (n-m) factors of a in the denominator.

$\therefore a^m \div a^n = \frac{1}{a \times a \times a \times \dots\dots (n-m) \text{ factors}} = \frac{1}{a^{n-m}}$

EXAMPLE:

i) $a^{10} \div a^6 = \frac{a \times a \times a}{a \times a \times a \times a \times a \times a}$
 $= a \times a \times a \times a$
 $= a^4 = a^{10-6}$

ii) $a^8 \div a^8 = \frac{a \times a \times a \times a \times a \times a \times a \times a}{a \times a \times a \times a \times a \times a \times a \times a} = \frac{1}{1} = 1$

iii) $a^4 \div a^6 = \frac{a \times a \times a \times a}{a \times a \times a \times a \times a \times a} = \frac{1}{a \times a} = \frac{1}{a^2} = \frac{1}{a^{6-4}}$

III) $(a^m)^n = a^{mn}$

PROOF:

$$\begin{aligned} (a^m)^n &= a^m \times a^m \times a^m \dots\dots\dots \text{to n factors} \\ &= (a \times a \times a \times \dots\dots \text{to m factors}) \times (a \times a \times a \times \dots\dots \text{to m factors}) \times (a \times a \times a \times \dots\dots \text{to m factors}) \times \dots\dots\dots \\ &= a \times a \times a \times \dots\dots \text{to (mn) factors} \\ &= a^{mn} \end{aligned}$$

Corollary: $\{(a^m)^n\}^p = \{a^{mn}\}^p = a^{mnp}$

EXAMPLE:

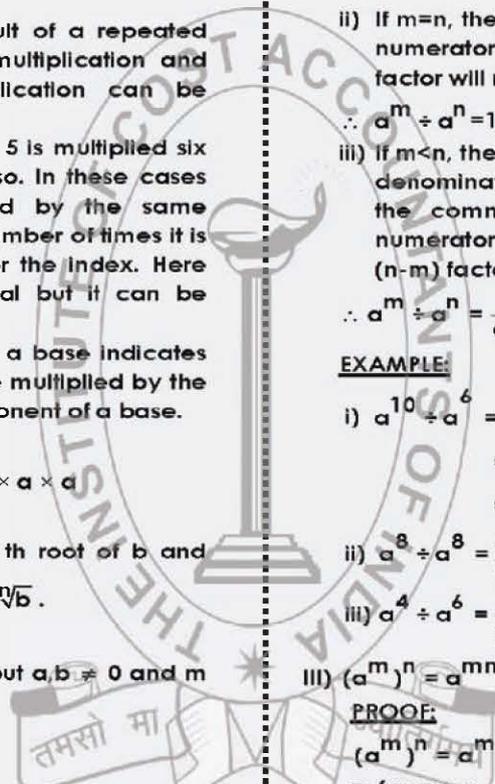
i) $(a^4)^3 = (a^4) \times (a^4) \times (a^4)$
 $= (a \times a \times a \times a) \times (a \times a \times a \times a) \times (a \times a \times a \times a)$
 $= a \times a$
 $= a^{12} = a^{4.3}$

ii) $\{(x^3)^4\}^5 = \{x^{12}\}^5 = x^{12.5} = x^{60}$

IV) $(ab)^m = a^m b^m$

PROOF:

$(ab)^m = (ab) \times (ab) \times (ab) \times \dots\dots \text{to m factors}$



$= (a \times a \times a \dots \text{to } m \text{ factors}) \times (b \times b \times b \dots \text{to } m \text{ factors})$

$$= a^m \times b^m = a^m b^m$$

Corollary :

(i) $(abc \dots)^m = a^m b^m c^m \dots$

(ii) $(a^x b^y c^z)^m = (a^x)^m \times (b^y)^m \times (c^z)^m$
 $= a^{xm} b^{ym} c^{zm}$

EXAMPLE:

(i) $(2.3)^5 = 2^5 \cdot 3^5 = 32.243 = 7776$

(ii) $(3^2 \cdot 4^3 \cdot 5^4)^6 = 3^{2 \cdot 6} \cdot 4^{3 \cdot 6} \cdot 5^{4 \cdot 6}$
 $= 3^{12} \cdot 4^{18} \cdot 5^{24}$

V) $\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$

PROOF: $\left(\frac{a}{b}\right)^m = \left(\frac{a}{b}\right) \times \left(\frac{a}{b}\right) \times \dots \text{to } m \text{ factors}$

$$= \frac{a \times a \times a \dots \text{to } m \text{ factors}}{b \times b \times b \dots \text{to } m \text{ factors}}$$

$$= \frac{a^m}{b^m}$$

COROLLARY:

(i) $\left(\frac{ab}{cd}\right)^m = \frac{a^m b^m}{c^m d^m}$

(ii) $\left(\frac{abcd \dots}{pqrs \dots}\right)^m = \frac{a^m b^m c^m d^m \dots}{p^m q^m r^m s^m \dots}$

EXAMPLE:

(i) $\left(\frac{2}{3}\right)^4 = \frac{2^4}{3^4} = \frac{16}{81}$

(ii) $\left(\frac{3.4}{5.2}\right)^3 = \frac{3^3 \cdot 4^3}{5^3 \cdot 2^3} = \frac{27.64}{125.8}$

1.3 INTERPRETATION:

It is known that $a^m = a \times a \times a \dots \text{to } m \text{ factor}$ when m is a positive integer. Now it is required to interpret a^m when m is zero, negative or fraction. In this case it is to be supposed that the law $a^m \times a^n = a^{m+n}$ is true even if m is zero, negative or fraction.

i) INTERPRETATION OF a^0 ($a \neq 0$):

$\therefore a^m \times a^n = a^{m+n}$ is true when m is zero, negative or fraction.

\therefore Taking $m=0$, $a^m \times a^n = a^{m+n}$

Becomes $a^0 \times a^n = a^{0+n} = a^n$

Or $a^0 = \frac{a^n}{a^n}$ [$\because a \neq 0$]

=1

ii) INTERPRETATION OF a^{-n} ($a \neq 0$ and n is an integer) :

$\therefore a^m \times a^n = a^{m+n}$ is true when m is zero, negative or fraction.

$$\therefore a^m \times a^n \times a^{-n} = a^{m+n-n} = a^m$$

Or $a^n \times a^{-n} = \frac{a^m}{a^m}$ [$\because a \neq 0$]

Or $a^n \times a^{-n} = 1$

Or $a^{-n} = \frac{1}{a^n}$

NOTE: a^n and a^{-n} are reciprocal to each other.

iii) INTERPRETATION OF $a^{\frac{p}{q}}$ (p and q are positive Integer):

$\therefore a^m \times a^n = a^{m+n}$ is true for any value of m and n

$$\therefore (a^{\frac{p}{q}})^q = a^{\frac{p}{q} \times q} = a^p \times a^{\frac{p}{q} \times q} \times \dots \text{to } q \text{ factors.}$$

$$= a^{\frac{p}{q} + \frac{p}{q} + \frac{p}{q} \dots \text{to } q \text{ factors.}}$$

$$= a^{\frac{p}{q} \times q}$$

$$= a^p$$

Or $a^{\frac{p}{q}} = (a^p)^{\frac{1}{q}} = a^{\frac{p}{q}} = \sqrt[q]{a^p}$

i.e., $a^{\frac{p}{q}}$ is the q th root of a^p .

NOTE: If the fractional index is negative, the function becomes the reciprocal of one with a positive fractional index as hereunder:

i) $a^{\frac{x}{y}} = \frac{1}{a^{\frac{x}{y}}}$

ii) $7^{\frac{3}{4}} = \frac{1}{7^{\frac{3}{4}}}$

1.4 OPERATIONS WITH DIFFERENT BASES:

So far the rules of different operations have been stated with common base. Now the rules for such operations can be stated with different base as follows:

a) RULES OF MULTIPLICATION OF FACTORS:

i) $a^m \times b^m = (ab)^m$

PROOF:

Here $a^m \times b^m = (a \times a \times a \dots \text{to } m \text{ factors}) \times (b \times b \times b \dots \text{to } m \text{ factors})$

$$= (a \times b) \times (a \times b) \times (a \times b) \times \dots \text{to } m \text{ factors}$$

$$= (ab)^m$$

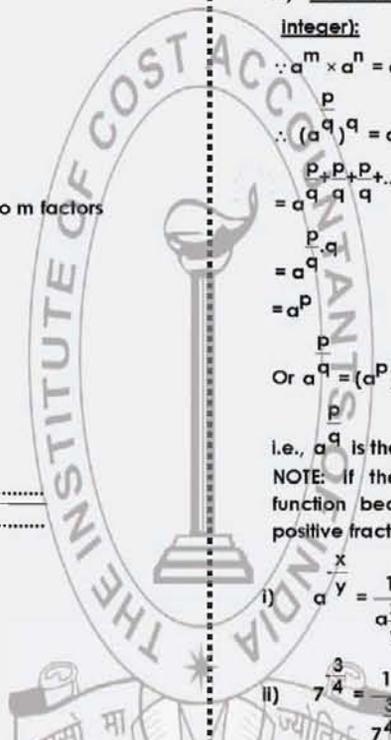
Corollary:

i) $a^m \times b^m \times c^m = (abc)^m$

ii) $a^m \times b^m \times c^m \times d^m \times \dots = (abcd)^m$

Example:

i) $2^3 \times 5^3 = (2 \times 5)^3 = (10)^3 = 1000$



$$\text{ii) } 3^5 \times 7^5 \times 9^5 = (3 \times 7 \times 9)^5 = (189)^5$$

(b) RULES OF DIVISION OF FACTORS:

$$\text{i) } a^m \div b^m = \left(\frac{a}{b}\right)^m$$

Proof: Here $a^m \div b^m = \frac{a^m}{b^m} = \left(\frac{a}{b}\right)^m$

$$= \left(\frac{a}{b}\right) \times \left(\frac{a}{b}\right) \times \left(\frac{a}{b}\right) \times \dots \text{ to } m \text{ factors}$$

$$= \left(\frac{a}{b}\right)^m$$

Example: $9^4 \div 5^4 = \frac{9^4}{5^4} = \left(\frac{9}{5}\right)^4$

1.5 TWO IMPORTANT RULES:

i) If $a^x = a^y$ when a, x and y are real, then $x=y$
when $a \neq 0, 1, \infty$

Proof: Given $a^x = a^y$

$$\text{or } \frac{a^x}{a^y} = 1 = a^0$$

$$\text{or } a^{x-y} = a^0$$

This is possible only when $x-y=0$ or $x=y$

ii) If $a^x = b^x$ when a, b , and x are real, then either

$a=b$ when $x \neq 0$

Or $x=0$ when $a \neq b$

Proof: Given

$$a^x = b^x$$

$$\text{or } \frac{a^x}{b^x} = 1 = (1)^x$$

$$\text{or } \left(\frac{a}{b}\right)^x = (1)^x$$

This is possible only when $\frac{a}{b} = 1$ if $x \neq 0$
or $a = b$ if $x = 0$

$$\text{Again } \left(\frac{a}{b}\right)^x = 1 = \left(\frac{a}{b}\right)^0 \text{ when } a \neq b$$

This implies $x=0$ when $a \neq b$

NOTE:

i) The equation in which the unknown quantity is expressed as exponential form is called Exponential Equation.

Example: $4(4^{2x+1}) = 8^{x+2}$

ii) The two rules as stated above are very useful in solving the Exponential identities or Exponential Equations.

1.6 SUMMARISATION:

$$\text{i) } a^m \times a^n = a^{m+n}$$

$$\text{ii) } a^m \div a^n = a^{m-n}$$

$$\text{iii) } (a^m)^n = a^{mn}$$

$$\text{iv) } (ab)^m = a^m \cdot b^m$$

$$\text{v) } (a^x \cdot b^y \cdot c^z)^r = a^{xr} \cdot b^{yr} \cdot c^{zr}$$

$$\text{vi) } \left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

$$\text{vii) } a^0 = 1 (a \neq 0)$$

$$\text{viii) } a^{-n} = \frac{1}{a^n}; \frac{1}{a^{-n}} = a^n$$

$$\text{ix) } a^{\frac{p}{q}} = \sqrt[q]{a^p}$$

$$\text{x) } a^m \times b^m = (ab)^m$$

$$\text{xi) } a^m \div b^m = \left(\frac{a}{b}\right)^m$$

$$\text{xii) If } a^x = a^y, \text{ then } x=y (a \neq 1, 0, \infty)$$

$$\text{xiii) If } a^x = b^x, \text{ then either } a = b, (x \neq 0)$$

$$\text{or } x=0 (a \neq b)$$

1.7 ILLUSTRATIVE EXAMPLES:

i) Find the value of $\left\{81^{\frac{3}{4}} \times \frac{16^4}{6 \cdot 2} \times \left(\frac{1}{27}\right)^{\frac{4}{3}}\right\}^{\frac{1}{3}}$

SOLUTION: The given expression

$$\left\{81^{\frac{3}{4}} \times \frac{16^4}{6 \cdot 2} \times \left(\frac{1}{27}\right)^{\frac{4}{3}}\right\}^{\frac{1}{3}}$$

$$= \left\{(3^4)^{\frac{3}{4}} \times \frac{(2^4)^4}{(3 \times 2) \cdot 2} \times \left(\frac{1}{3^3}\right)^{\frac{4}{3}}\right\}^{\frac{1}{3}}$$

$$= \left\{3^{4 \times \frac{3}{4}} \times \frac{2^{4 \times 4}}{3 \cdot 2 \times 2} \times (3^{-3})^{\frac{4}{3}}\right\}^{\frac{1}{3}}$$

$$= \left\{3^{-3} \times \frac{2^1}{3 \cdot 2 \times 2} \times 3^4\right\}^{\frac{1}{3}}$$

$$= \left\{3^{-3} \times 2 \times 3^2 \times 2^2 \times 3^4\right\}^{\frac{1}{3}}$$

$$= \left\{3^{-3+2+4} \times 2^{1+2}\right\}^{\frac{1}{3}}$$

$$= \left\{3^3 \times 2^3\right\}^{\frac{1}{3}}$$

$$= 3^{\frac{3}{3}} \times 2^{\frac{3}{3}}$$

$$= 3 \times 2$$

$$= 6$$

2 Obtain the simplest value of

$$\frac{(2^{2n} \cdot 3 \cdot 2^{2n-2})(3^n \cdot 2 \cdot 3^{n-2})}{3^{n-4}(4^{n+3} \cdot 2^{2n})}$$

Solution: The given expression

$$\begin{aligned}
 &= \frac{(2^{2n} \cdot 3 \cdot 2^{2n-2})(3^n \cdot 2 \cdot 3^{n-2})}{3^{n-4}(4^{n+3} \cdot 2^{2n})} \\
 &= \frac{(2^{2n} \cdot 3 \cdot 2^{2n} \cdot 2^{-2})(3^n \cdot 2 \cdot 3^n \cdot 3^{-2})}{3n \cdot 3^{-4}(4^{n+3} \cdot 2^{2n})} \\
 &= \frac{(2^{2n} \cdot 3 \cdot 2^{2n} \cdot \frac{1}{2^2})(3^n \cdot 2 \cdot 3^n \cdot \frac{1}{3^2})}{3^n \cdot \frac{1}{3^4}(2^{2n} \cdot 4^3 \cdot 2^{2n})} [\because 4^n = (2^2)^n = 2^{2n}] \\
 &= \frac{2^{2n}(1 \cdot \frac{3}{4}) \cdot 3^n(1 \cdot \frac{2}{9})}{3^n \cdot \frac{1}{81} \cdot 2^{2n}(4^3 \cdot 2)} \\
 &= \frac{1 \cdot 7}{4 \cdot 9} \\
 &= \frac{1}{81} \cdot 63 \\
 &= \frac{1}{4} \\
 &= 0.25
 \end{aligned}$$

3 If $x = (\sqrt{2+1})^{\frac{1}{3}}$, prove that $(x \cdot x^{-1})^3 + 3(x \cdot x^{-1}) + 2 = 0$

Solution: It is given that $x = (\sqrt{2+1})^{\frac{1}{3}}$

$$\begin{aligned}
 \therefore x^3 &= \{(\sqrt{2+1})^{\frac{1}{3}}\}^3 = (\sqrt{2+1})^{-1} = \frac{1}{\sqrt{2+1}} = \frac{\sqrt{2-1}}{(\sqrt{2+1})(\sqrt{2-1})} \\
 &= \sqrt{2-1} \\
 \therefore \frac{1}{x^3} &= \frac{1}{\sqrt{2-1}} = \frac{\sqrt{2+1}}{(\sqrt{2-1})(\sqrt{2+1})} = \sqrt{2+1} \\
 \therefore x^3 - \frac{1}{x^3} &= \sqrt{2-1} - (\sqrt{2+1}) = -2 \\
 \text{Now } (x \cdot x^{-1})^3 + 3(x \cdot x^{-1}) + 2 &= (x \cdot \frac{1}{x})^3 + 3x \cdot \frac{1}{x} (x \cdot \frac{1}{x}) + 2 \\
 &= x^3 \cdot 3 \cdot x \cdot \frac{1}{x} (x \cdot \frac{1}{x}) + 3x \cdot \frac{1}{x} (x \cdot \frac{1}{x}) \cdot \frac{1}{x^3} + 2 \\
 &= x^3 - \frac{1}{x^3} + 2 \\
 &= -2 + 2[\because x^3 - \frac{1}{x^3} = -2] \\
 &= 0
 \end{aligned}$$

4. Show that

$$\frac{1}{1+x^{-a-b}+x^{-a-c}} + \frac{1}{1+x^{-b-c}+x^{-b-a}} + \frac{1}{1+x^{-c-a}+x^{-c-b}} = 1$$

Solution: First term

$$\begin{aligned}
 &\frac{1}{1+x^{-a-b}+x^{-a-c}} = \frac{1}{x^0+x^{-a-b}+x^{-a-c}} \\
 &= \frac{1}{x^{-a-a}+x^{-a-b}+x^{-a-c}} \\
 &= \frac{1}{x^{-a} \cdot x^{-a} + x^{-a} \cdot x^{-b} + x^{-a} \cdot x^{-c}} = \frac{1}{x^{-a}(x^{-a}+x^{-b}+x^{-c})} \\
 \text{Second term} &= \frac{1}{1+x^{-b-c}+x^{-b-a}} = \frac{1}{x^{-b-b}+x^{-b-c}+x^{-b-a}} \\
 &= \frac{1}{x^{-b} \cdot x^{-b} + x^{-b} \cdot x^{-c} + x^{-b} \cdot x^{-a}} = \frac{1}{x^{-b}(x^{-b}+x^{-c}+x^{-a})} \\
 \text{Similarly the third term} &= \frac{1}{x^{-c}(x^{-c}+x^{-a}+x^{-b})}
 \end{aligned}$$

Now the L.H.S

$$\begin{aligned}
 &= \frac{1}{x^{-a}(x^{-a}+x^{-b}+x^{-c})} + \frac{1}{x^{-b}(x^{-b}+x^{-c}+x^{-a})} \\
 &+ \frac{1}{x^{-c}(x^{-c}+x^{-a}+x^{-b})} \\
 &= \frac{1}{(x^{-a}+x^{-b}+x^{-c})} \left[\frac{1}{x^{-a}} + \frac{1}{x^{-b}} + \frac{1}{x^{-c}} \right] \\
 &= \frac{x^{-a}+x^{-b}+x^{-c}}{x^{-a}+x^{-b}+x^{-c}} \\
 &= 1 = \text{R.H.S.}
 \end{aligned}$$

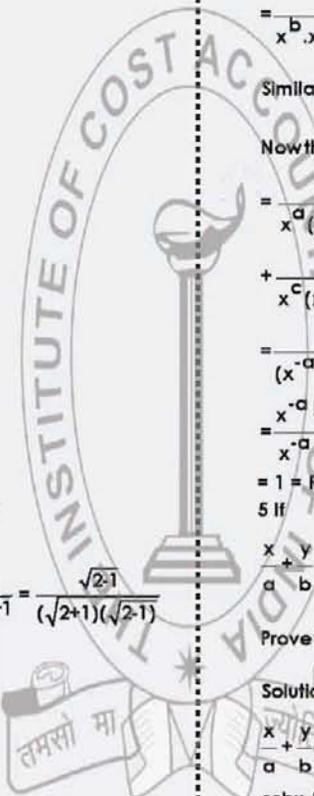
5 If

$$\frac{x}{a} + \frac{y}{b} = 1 \text{ and } \frac{x^2}{a} + \frac{y^2}{b} = \frac{ab}{a+b}, \text{ then}$$

Prove that $\frac{x^{n+1}}{a} + \frac{y^{n+1}}{b} = \left(\frac{ab}{a+b}\right)^n$

Solution: It is given that

$$\begin{aligned}
 \frac{x}{a} + \frac{y}{b} &= 1 \text{ or } \frac{bx+ay}{ab} = 1 \\
 \text{or } bx+ay &= ab \dots \dots (i) \\
 \text{Again } \frac{x^2}{a} + \frac{y^2}{b} &= \frac{ab}{a+b} \\
 \text{or } \frac{bx^2+ay^2}{ab} &= \frac{ab}{a+b} \\
 \text{or } (a+b)(bx^2+ay^2) &= a^2b^2 \\
 \text{or } b^2x^2+a^2y^2+ab(x^2+y^2) &= a^2b^2 \\
 \text{or } (bx+ay)^2 - 2abxy + ab\{(x-y)^2\} &+ 2xy = a^2b^2 \\
 \text{or } a^2b^2 - 2abxy + ab(x-y)^2 &+ 2abxy = a^2b^2 [\because bx+ay = ab] \\
 \text{or } ab(x-y)^2 &= 0
 \end{aligned}$$



8. Solve: $3^x + 3^y = 4; 3^{-x} + 3^{-y} = \frac{4}{3}$

Solution: The given equations are

$$3^x + 3^y = 4 \dots\dots (i)$$

$$3^{-x} + 3^{-y} = \frac{4}{3} \dots\dots (ii)$$

$$\text{From (i)} \frac{1}{3^x} + \frac{1}{3^y} = \frac{4}{3}$$

$$\text{or} \frac{3^y + 3^x}{3^x \cdot 3^y} = \frac{4}{3}$$

$$\text{or} \frac{4}{3^x + y} = \frac{4}{3}$$

$$\text{or } 3^{x+y} = 3^1 \Rightarrow x + y = 1$$

$$\Rightarrow y = 1 - x \dots\dots (iii)$$

$$\text{From (i)} 3^x + 3^y = 4$$

$$\text{or } 3^x + 3^{1-x} = 4 [\because y = 1 - x]$$

$$\text{or } 3^x + \frac{3}{3^x} = 4$$

$$\text{or } 3^{2x} + 3 = 4 \cdot 3^x$$

$$\text{or } (3^x)^2 - 4 \cdot 3^x + 3 = 0$$

$$\text{or } m^2 - 4m + 3 = 0 [\text{where } m = 3^x]$$

$$\text{or } m^2 - 3m - m + 3 = 0$$

$$\text{or } (m - 3)(m - 1) = 0 \dots\dots (iv)$$

From (iv) we get, $m = 3$ and $m = 1$

$$\text{Now } m = 3 \rightarrow 3^x = 3 \rightarrow x = 1$$

$$\text{And } m = 1 \rightarrow 3^x = 1 = 3^0 \rightarrow x = 0$$

$$\therefore \text{When } x = 1, Y = 1 - x = 0$$

$$\text{And } x = 0, y = 1 - x = 1$$

Hence the required solution: $x = 1, y = 0$ and $x = 0, y = 1$

9. If $(2.381)^x = (.2381)^y = 10^z$,

Prove that $\frac{1}{x} = \frac{1}{y} + \frac{1}{z}$

Solution: It is given that

$$(2.381)^x = (.2381)^y = 10^z$$

$$\text{Here } (2.381)^x = 10^z \Rightarrow (2.381)^x = 10^z$$

$$\therefore 2.381 = (10)^{\frac{z}{x}}$$

$$\Rightarrow \frac{2.381}{10} = \frac{(10)^z}{10^x}$$

$$\Rightarrow 0.2381 = (10)^{z-x} \dots\dots (1)$$

$$\text{Again } (.2381)^y = 10^z$$

$$\Rightarrow 0.2381 = 10^{\frac{z}{y}} \dots\dots (2)$$

$$\text{From (1) and (2) we have } (10)^{z-x} = (10)^{\frac{z}{y}}$$

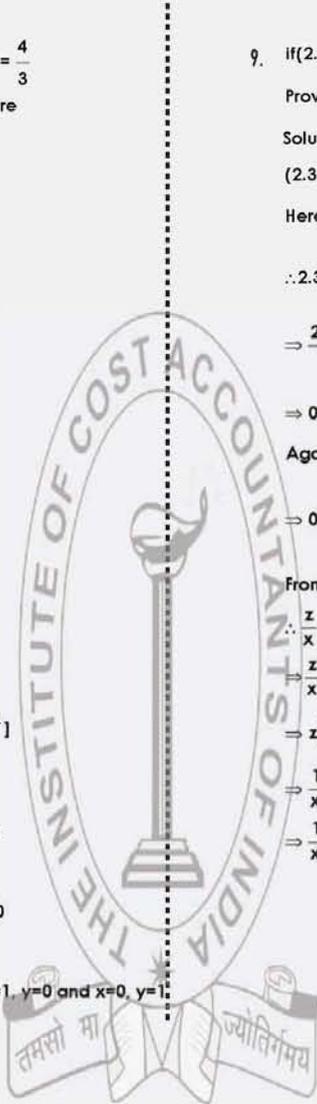
$$\therefore \frac{z}{x} - 1 = \frac{z}{y}$$

$$\Rightarrow \frac{z}{x} - \frac{z}{y} = 1$$

$$\Rightarrow z \left(\frac{1}{x} - \frac{1}{y} \right) = 1$$

$$\Rightarrow \frac{1}{x} - \frac{1}{y} = \frac{1}{z}$$

$$\Rightarrow \frac{1}{x} = \frac{1}{y} + \frac{1}{z} \text{ [Proved]}$$



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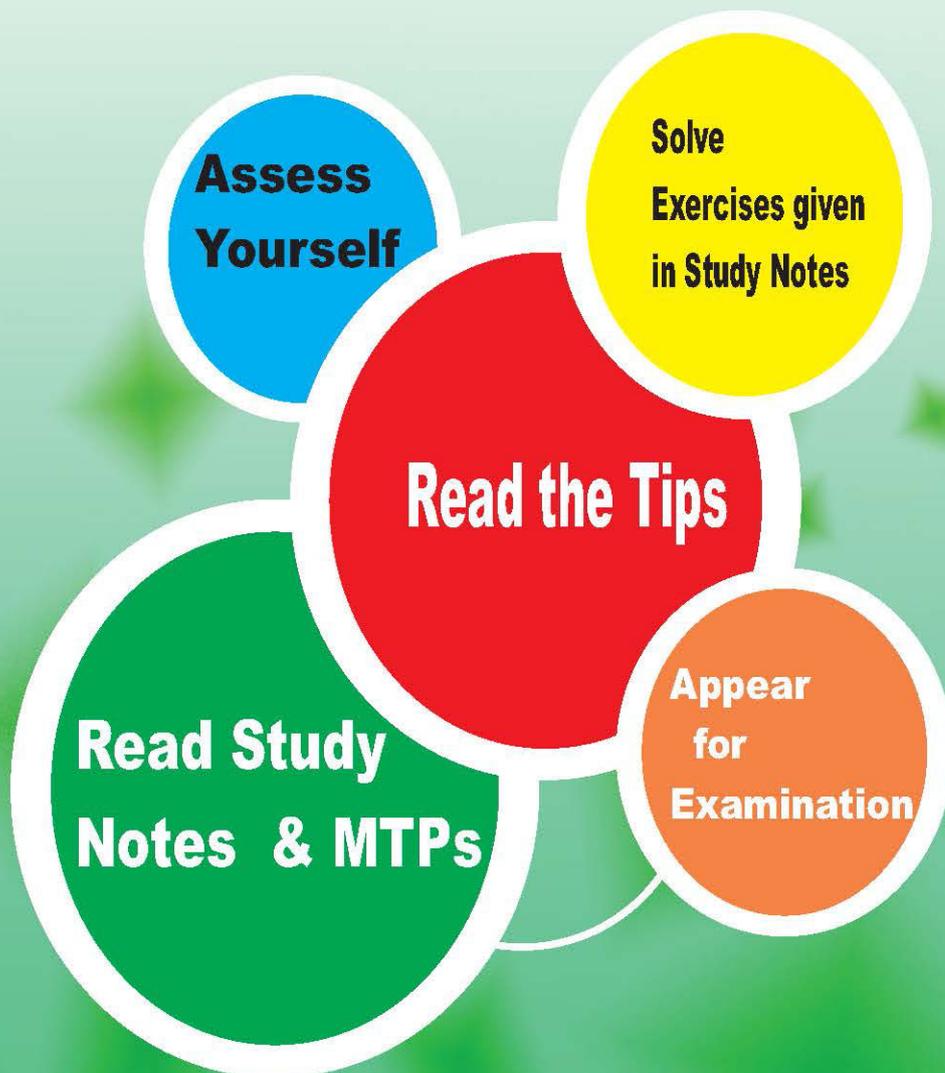




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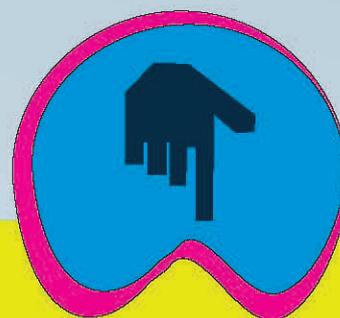
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Day & Date	Foundation Course Examination Syllabus-2012 Time 2.00 p.m. to 5.00 p.m.	Foundation Course Examination Syllabus-2016 Time 2.00 p.m. to 5.00 p.m.
11th June, 2017 Sunday	Fundamentals of Economics & Management (FEM)	Fundamentals of Economics & Management (FEM)
12th June, 2017 Monday	Fundamentals of Accounting (FOA)	Fundamentals of Accounting (FOA)
13th June, 2017 Tuesday	Fundamentals of Laws & Ethics (FLE)	Fundamentals of Law & Ethics (FLE)
14th June, 2017 Wednesday	Fundamentals of Business Mathematics & Statistics (FBMS)	Fundamentals of Business Mathematics & Statistics (FBMS)

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ATTENTION - FOUNDATION STUDENTS.

This has reference to Notification Ref No G/128/10/2016 dated October 4, 2016 that last term of examination for syllabus 2012 is December 2017.

Further we wish to confirm that student admission under syllabus 2012 can appear in examination under syllabus 2012 or 2016 according to his /her choice for June 2017 and December 2017 term of examination. Kindly be noted that while filling in exam form he/she need to choose the desired syllabus. Once he/she appear under syllabus 2016, he/she cannot revert to syllabus 2012 in December 2017.

Further also be noted that students admission under syllabus 2016 cannot apply and appear in examination under syllabus 2012 in June 2017 and onwards.

message from the **Directorate of Studies**

Dear Students,

For the smooth and flowless preparation. Directorate of studies have provided meaningful tips which will help you to gain sufficient knowledge about each subject.

"Tips" are given in this E-bulletin by the knowledge experts, for the smooth encouragement in your preparation. We are sure that all students will definitely be benefitted by those tips and that will help them to brush up their knowledge and also to swim across.

Take the course seriously from the very beginning but don't be panicky. Please try to follow the general guidelines, mentioned below; which may help you in your preparation.

Essentials for Preparation:

- Conceptual understanding & overall understanding of the subject both should be clear.
- Candidates are advised to go through the study material provided by the institute in an analytical manner.
- Students should improve basic understanding of the subject with focus on core concepts.
- The candidates are expected to give to the point answer, which is a basic pre-requisite for any professional examination.
- To strengthen the answers candidates are advised to give answer precisely and in a structured manner.
- In-depth knowledge about specific terms required.
- Write question numbers correctly and prominently.
- Proper time management is also important while answering.

Be Prepared and Get Success;

Disclaimer

Although due care and diligence have been taken in preparation and uploading this E-bulletin, the Institute shall not be responsible for any loss or damage, resulting from any action taken on the basis of the contents of this E-bulletin.



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