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150 YEARS OF CELEBRATING THE MAHATMA
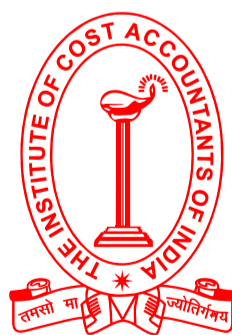
CMA Student
E - Bulletin

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150 YEARS OF CELEBRATING THE MAHATMA

Contents

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.

150 YEARS OF CELEBRATING THE MAHATMA
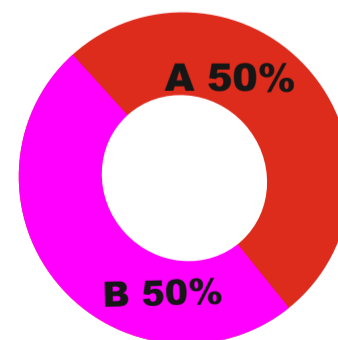
PAPER: 1, PART: I

FUNDAMENTALS

OF ECONOMICS & MANAGEMENT

(FEM) - ECONOMICS

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Your Preparation Quick Takes

A 50%

B 50%

Syllabus Structure

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

Learning Objectives:

- Studying economics, one will be able to develop the analytical skills needed to work successfully in the field, including the study of logical analysis.
- Students will be able to identify and explain economic concepts and theories related to the behaviour of economic agents, markets, industry and firm structures, legal institutions, social norms, and government policies.
- Students will be able to integrate theoretical knowledge with quantitative and qualitative evidence in order to explain past economic events and to formulate predictions on future ones.
- Students will be able to evaluate the consequences of economic activities and institutions for individual and social welfare.

Economics

hello friends !! hope all of you are keeping fine. Corona virus has taken its toll twice and preparing for the third attack. So, friends gear up for probably the last battle with Corona virus. Take an appropriate vaccine whenever your turn comes. Try to take the vaccine as early as possible. Because vaccine will help you to fight with Corona virus most effectively. Of course, you have to wear mask and maintain safe distance from all crowds. Health comes first and education comes next. So remain indoors, stay safe. Utilise the lock-down period to go through the Study Material thoroughly. Let us start our mock test series.

I. Choose the correct answer:

1. What is "Barter system"?
   A. When goods are exchanged for money
   B. When goods are exchanged for goods
   C. When prices of goods help the exchange system
   D. None of the above

2. Which definition of economics is an improvement over the scarcity definition?
   A. Wealth definition
   B. Welfare definition
   C. Growth definition
   D. None of the above

3. What is fixed investment?
   A. Investment in machines, building, factories
   B. Investment in raw materials, semi-finished goods
   C. Investment in old and existing shares
   D. None of the above

4. Rent is the remuneration of which one of the following factors of production ?
   A. Organisation
   B. Capital
   C. Land
   D. Labour

5. If one goes from left to right along the production possibility curve, the marginal rate of transformation will be
   A. Increasing
   B. Decreasing
   C. The same
   D. None of the above

6. If the initial price and quantity demanded are 2 and 1000 respectively and the final price and quantity demanded are 1 and 2000 respectively, find out the arc elasticity.3
   A. 3
   B. -3
   C. 1
   D. -1

7. Suppose a relatively elastic demand curve is given. If the price of the commodity goes down, how the total expenditure will change?
   A. It will increase

B. It will decrease
C. It will remain the same
D. None of the above

8. **A monopolist will be in equilibrium when**
   A. Demand curve cuts the supply curve
   B. Average revenue curve cuts the average cost curve
   C. Marginal revenue curve cuts the marginal cost curve
   D. None of the above

9. **What type of oligopolistic model is this when a cartel is formed and firms jointly fixes the price and output with a view to maximize joint profit?**
   A. Cournot's model of oligopoly
   B. Bertrand model of oligopoly
   C. Edgeworth model of oligopoly
   D. Collusive oligopoly

10. **Suppose the price elasticities of demand in two markets are E1 and E2, such that, E1<E2. If the discriminating monopolist charges prices P1 and P2 in the two markets, how the two prices will be related?**
    A. P1<P2
    B. P1>P2
    C. P1 = P2
    D. None of the above

KEY: 1. B, 2. C, 3. A, 4. C, 5. A, 6. C, 7. A, 8. C, 9. D, 10. B

II. **Fill in the blanks:**

   1. SIDBI is a subsidiary bank of ……………
   2. Credit control is the function of …………… Bank
   3. …………… is the special currency issued by IMF
   4. ……………… was established by nationalising 245 private insurance companies
   5. …………… bank serves as the lender of the last resort

KEY: 1. IDBI, 2. Central, 3. SDR, 4. LIC, 5. Central

III. **True or False:**

   1. Law of diminishing marginal productivity and the Law of constant returns to scale are compatible
   2. Monopolistic competition and product differentiation are not compatible
   3. Perfect competition and market economy are compatible
   4. Consumer indifference curve can never be concave to the origin
   5. The Average Fixed Cost Curve can never be a straight line

KEY: 1. True, 2. False, 3. True, 4. False, 5. True

IV. **Matching:**

1.	Increasing returns to scale	A. Moral Suasion
2.	AVC Curve	B. scarcity definition
3.	Qualitative technique	C. U – shape
4.	Lionel Robbins	D. Money market instrument
5.	Treasury Bills	E. Long run

KEY: 1. E, 2. C, 3. A, 4. B, 5. D

So friends, hope you have enjoyed solving this mock test paper. For God's sake do not consult the keys before you have solved the whole paper. Once you have solved the whole paper, examine the answers with the help of the keys and award marks out of 25, ie., 1 mark for each question. If you keep a record of all the mock tests, it will give you an idea of your progress. Best of luck!!!
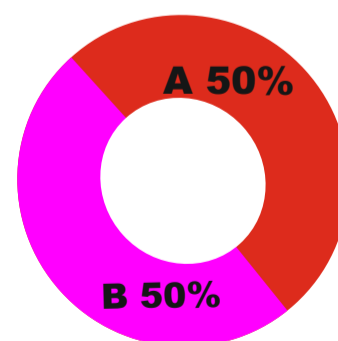
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15Ω
YEARS OF
CELEBRATING
THE MAHATMA

PAPER: 1, PART: II

FUNDAMENTALS

OF ECONOMICS & MANAGEMENT

(FEM) - MANAGEMENT

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Your Preparation Quick Takes

A 50%

B 50%

Syllabus Structure

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

MANAGEMENT

1. **Who were two of the pioneers in the area of Total Quality Management?**
   A) Fayol; Weber
   B) Taylor; Gilbreth
   C) Owen; Munsterberg
   D) **Deming; Juran**

2. **Who was one of the first to recognize that organizations could be viewed from the perspective of individual and group behaviour?**
   A) Robert Owens
   B) Hugo Munsterberg
   C) **Mary Parker Follett**
   D) Chester Barnard

3. **A matrix structure violates which key element of organizational design?**
   A) **Unity of command**
   B) Chain of command
   C) Span of management
   D) Decentralization

4. **Quality management is driven by a focus on:**
   A) workplace diversity
   B) workplace spirituality
   C) **continual improvement**
   D) knowledge management

5. **Fayol was interested in studying_____, whereas Taylor was interested in studying _____.**
   A) senior managers; effective managers
   B) **all managers; first-line managers**
   C) bureaucratic structures; chains of command
   D) administrative theory; macroeconomics

6. **Which of the following management functions from the mid-1950s is no longer included in the basic functions of management?**
   A) Planning
   B) **Staffing**
   C) Leading
   D) Controlling

7. **Which was the best-known example of Taylor's scientific management?**
   A) horseshoe
   B) **pig iron**
   C) blue collar
   D) fish tank

8. **Managers with good _____ are able to communicate, motivate and lead to get the best out of their people.**
   A) **human skills**
   B) conceptual skills
   C) technical skills
   D) visual skills

9. **Organizing includes:**
   A) Defining organizational goals
   B) Hiring organizational members
   C) Motivating organizational members
   D) **Determining who does what tasks**

10. **The quantitative approach to management has also been referred to by which of the following names?**
    A) Sales optimization
    B) **Management science**

C) Managerial theory
D) Statistical reformulation

11. **Which scientist is most closely associated with the Hawthorne Studies?**
    A) Adams
    B) **Mayo**
    C) Lawler
    D) Barnard

12. **The three essential managerial skills include:**
    A) technical, human, and empirical
    B) **human, empirical, and conceptual**
    C) technical, interpersonal, and controlling
    D) technical, human, and conceptual

13. **Who developed a categorization scheme for defining what managers do, consisting of 10 different but highly interrelated roles?**
    A) Henri Fayol
    B) Henry Ford
    C) **Henry Mintzberg**
    D) Henry Morris

14. **Which of the following is considered as a negative function of traditional management?**
    A) **Selection**
    B) Recruitment
    C) Training
    D) Placement

15. **The process of searching for prospective employees and stimulating them to apply for the Job is called:**
    A) Selection
    B) Training
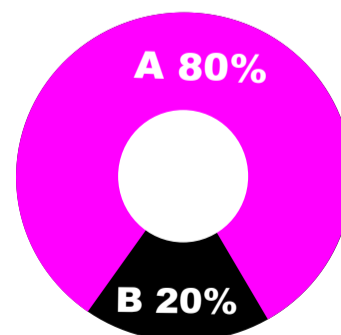   C) **Recruitment**
    D) Induction

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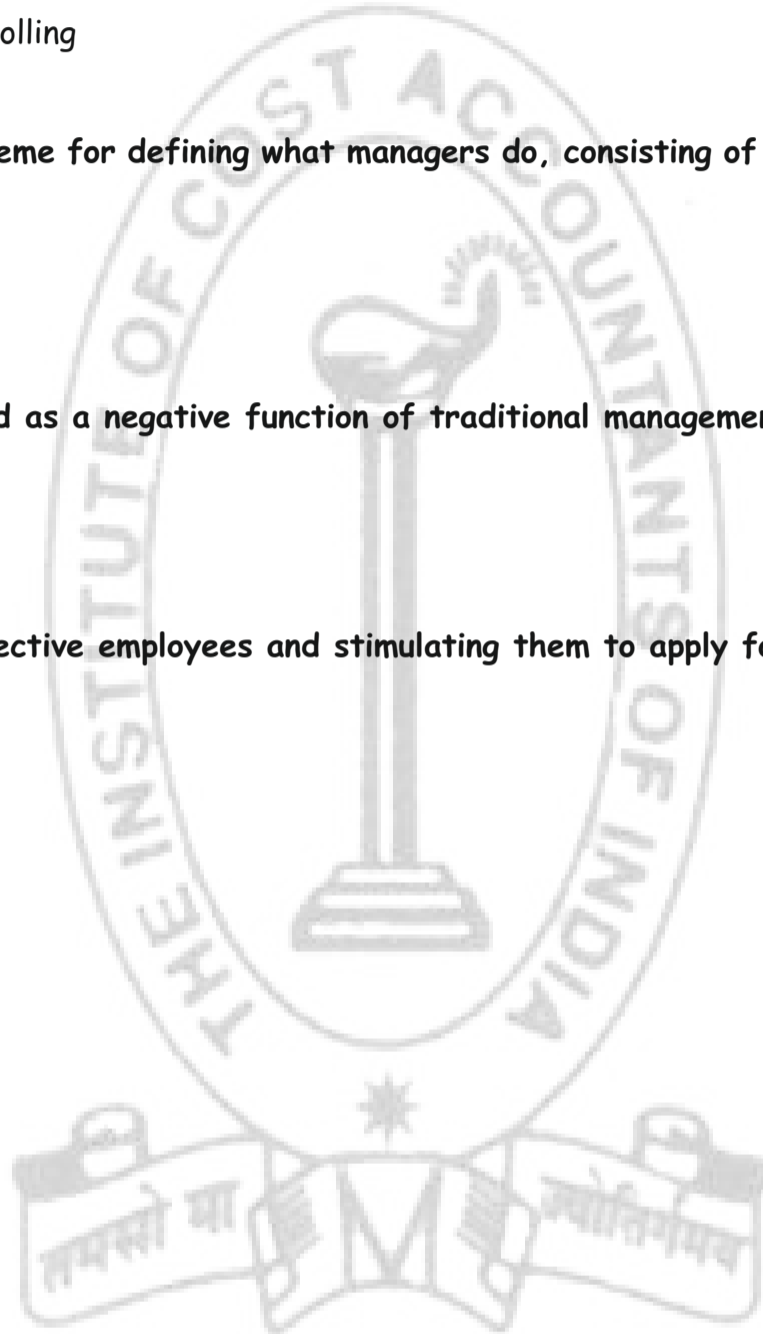
PAPER: 2

FUNDAMENTALS

OF ACCOUNTING (FOA)

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Your Preparation Quick Takes

A 80%

B 20%

Syllabus Structure

A Fundamentals of Financial Accounting **80%**

B Fundamental of Cost Accounting **20%**

FINANCIAL ACCOUNTING

If you are bored with choosing the correct answer always – today apply your mind differently to choose the 'true one' because it is sometimes very painful in life for stating false, however saying truth always pays – may be later.

Explore your mind to find the truth today. Before that read the story and go.

Once a thief met a holy man and said I want to be a good man but cannot leave stealing as it is my livelihood. The holy man said "Ok. Fine. Better you tell me to leave at least one bad habit of yours." The thief thought and replied "Ok. From today I will never tell a lie". The holy man blessed him.

That night the king was patrolling with civil dress. He met the thief on road. After some talks, they agreed to rob the king's treasury. They did so. In the treasury there were three diamonds. They decided to keep one for king and shared one each for simple sharing policy. The king kept the thief's address for working together later.

Next morning in the court news spread that treasury is robbed. King asked the minister to check the treasury. The mischievous minister took that diamond in his pocket and reported the king "sir -nothing is left in the treasury".

King sent his soldiers to that address and they caught the thief and brought him to the king's court. King asked him "Have you stolen the treasury?" The thief recalled the advice of the holy man and said "Yes. But I was not alone. One more thief was there. We have stolen two diamonds and kept one in the treasury".

King became surprised to see this truthfulness and asked his soldiers to search the minister. From his pocket the third diamond is found.

Thereafter the king suspended the minister and appointed the thief as minister.

1. **State which of the following is true**
    a. Transaction and event are same
    b. All events are transaction
    c. All transactions are event
    d. All transactions are not event

2. **State which of the following is true**
    a. Balance sheet and trial balance are same
    b. Trial balance is prepared after balance sheet
    c. Trial balance is prepared before balance sheet
    d. All are true

3. **State which of the following are true**
    a. Good will is a fixed asset
    b. Goodwill is a fictitious asset
    c. Goodwill is an intangible asset
    d. Goodwill is not an asset

4. **State which of the following is true**
    a. Cash a/c .. dr To Bank a/c is the journal for cash withdrawal from bank
    b. The above entry is called contra entry in cash book
    c. Bank a/c .. dr To cash a/c is the journal for cash withdrawal from bank
    d. Both a nd b

5. **State which of the following is true**
    a. Account sales is sent by consignor to consignee
    b. Account sales is sent by consignee to consignor
    c. Account sales and sales account are same
    d. All are true

6. State which of the following is true
   a. Trade discount is recorded in books of accounts
   b. Trade discount is a kind of cash discount
   c. Trade is generally offered for bulk purchase
   d. None of the above

7. State which of the following is true
   a. Cost of production = prime cost + works cost
   b. Cost of production = prime cost + works cost + selling cost
   c. Cost of production = prime cost + factory overhead + selling overhead
   d. Cost of production = works cost + administration overhead

8. State which of the following is true : journal for bad debt recovery :-
   a. Bad debt recovery a/c ... dr To cash a/c
   b. Cash a/c ... dr To bad debt recovery
   c. Bad debt recovery a/c ... dr To Debtora a/c
   d. debtors a/c .. dr To bad debt recovery

9. state which of the following is true
   a. single entry system is very simple system of accounting
   b. single entry system is not a scientific system at all
   c. single entry system is followed by small traders
   d. all are true

10. state which of the following is ture
    a. Rabin a/c is a kind of Personal account
    b. Shyam Steel ltd is a kind of Personal account
    c. Outsatnding salary is a kind of Personal account
    d. All are true

11. State which of the following is true
    a. Purchase a/c and purchase book are same
    b. Purchase a/c and purchase book are different
    c. Purchase book writes only credit purchase
    d. Only b and c are ture

12. State which of the folloeing is true
    a. Cost of installation of a machinery is a Revenue transaction
    b. Cost of installation of a machinery is a Capital transaction
    c. Cost of installation of a machinery is not a transaction at all
    d. Cost of installation of a machinery is not to be recorded

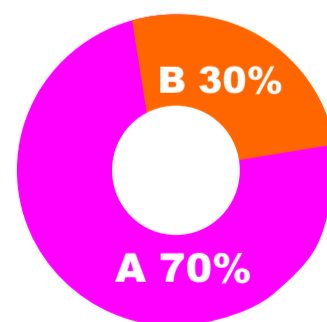ANSWERS : 1c, 2c, 3(a&c), 4d, 5b, 6c, 7d, 8b, 9d, 10d, 11d, 12 b.

150 YEARS OF CELEBRATING THE MAHATMA

PAPER: 3

FUNDAMENTALS
OF LAWS AND ETHICS (FLE)

CA Partha Ray
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Your Preparation Quick Takes

B 30%

A 70%

Syllabus Structure

A Fundamentals of Commercial Laws **70%**

B Fundamentals of Ethics **30%**

Learning Objectives:

- Read the Study Material minutely.
- For details or if you don't understand Study Material or the section is important to identify the topic, then refer to   Bare Act, otherwise reference to Bare 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 texts 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 clear before solving practical problems.
- Don't write wrong English. It changes the meaning and therefore answer may be wrong even when the student's conception is clear. Also don't make spelling mistakes.

LAWS & ETHICS

It is hoped that you keep on reading and recapitulating all that you have read for which you must prepare a time-table with time allotted for each subject – to read, write and revise .

Now, let us understand why this paper is really very important for all of you who are aspiring to be true professionals and are all eager to proudly proclaim aloud that – **Yes, behind every successful decision, there is a CMA**.

The first TIP is that you start studying the subject and raise questions to yourself first and then find your own answers. Even as a student now, you must start thinking like A Teacher.

Indian Contract Act, 1872 (Contd.)

Quasi Contracts , Contingent Contracts

Quasi-contract is also an implied contract.A Quasi-contract can be best understood with the help of examples. Mr.X placed an order for home delivery of certain foods on a local Restaurant for dinner at fixed rates, terms and condition, payable on delivery. The delivery person arrives with the dinner packets along with 2 Cups of Ice cream. You accept everything and sign the Proof of Delivery (POD) Slip and pay to the delivery person. In this case you did not ask for the ice creams, you accepted those and did not pay for those. So here, your acceptance is implied and you make a Quasi-contract. The restaurant could have asked for payment but it did not.

Another example : Suppose you have a neighbor who is the only earning member in his family, living with his wife and a minor son. He becomes incapacitated after a road accident and loses his memory completely. You take the responsibility of supplying necessary food and medicines to that family. In such cases you are entitled to be reimbursed only out of the property of the incapacitated person to the extent the price of your supplies are reasonable.

Let us take another example – Your brother borrowed money from a bank but was unable to pay the bank at that time even though he was bound to do so. You paid off the loan on his behalf. In this case , your are entitled to get reimbursement from your brother **under Sec.69.**

In another case, suppose a delivery man came to deliver some goods that you had ordered online. After that man left, you find that he has left a bag full of some other items which you picked up and kept as if those were yours. In such a case, you are bound to compensate for those items in cash or return the same items – **Sec.70.**

In another case, suppose you find a child on the street. You must take reasonable care of that child till you trace the guardian or deposit the child legally to a custodian. In this case the true guardian must reimburse to you the total costs and expenses you incurred while the child was under your care and protection.

In another case, suppose you and your friend both went to a shop and bought a shirt for Rs.500 on credit. The next day your friend went to the shop before you and paid-off Rs.500 to the shopkeeper. In the evening you went to the same shop and again paid Rs.500 to the shopkeeper. In this case , the shopkeeper is bound to repay Rs.500 to you –Sec.72

All the above examples are of Quasi-contracts.

So, let us **understand why they are called Quasi-contracts**. In each case, one person obtains a benefit at the expense of another and even though there is no contract between the parties, the law compels the beneficiary to pay . In such contracts, a relationship between the parties is established as if a contract was created.

Now let us discuss **Contingent Contracts**.

First let us understand **what is Contingency**. It is some future event, which is possible, but cannot be predicted with certainty. For example, an accident which can always happen but no one can say that it will definitely happen. Now, let us take a practical example. You tell your friend that you will pay Rs.50,000 for his (your friend's) son's admission into college if , he (your friend) dies. This is a contingent contract. So, we realize two things in a Contingent Contract – 1. The performance depends on a contingency ; and 2. The contingency is uncertain.

Now, please read Sections 32 to 36 of the Contract Act, 1872 carefully and remember the **Rules regarding Contingent Contracts** which

are as follows -.

1. Contingent contracts cannot be enforced by law unless and until that event has happened.
2. Contracts contingent on the non-happening of an uncertain event can be enforced only when that event becomes impossible. Example : A promises to pay Rs.10,000 to B if B's son gets a 1ˢᵗ Class in the B.Com. examination. The results are declared and the son get a 2ⁿᵈ Class. B cannot enforce the contract as it is Impossible for the son to get a 1ˢᵗ Class any longer in the same examination.
3) A contract which is contingent upon how a person shall act at an unspecified time shall become impossible when that person does something that renders it impossible to perform. For example – A promises to pay B ,Rs.1,00,000 if B's daughter marries A's son. B's daughter marries somebody else's son. Here the contract becomes impossible even though it is possible that B's daughter may marry A's son later, if her present husband dies and A;s son is eligible to marry.
4) A contract which is contingent upon the happening of an event within a fixed time, becomes void if the event does not happen within the fixed time or if it cannot happen within that fixed time. For example – A enters into a contract to buy B's house within 6 months at a certain price. The contract cannot be enforced after 6 months or if the building gets destroyed due to an earthquake within those 6 months.
5) A contingent agreement to do something that is impossible to perform is void, whether such an event was known or not known to the parties to such agreement at the time the agreement was made. For example X agrees to pay Rs.2 lalks to Y if Y marries X's daughter Z. Z was already dead at the time of the agreement. Therefore, this agreement is void.

Capacity of Parties and Free Consent

Capacity - It must be remembered that the parties to an agreement must be legally capable of entering into an agreement. If that capacity is wanting/absent, the agreement in that case cannot be enforced by a Court of Law.

So the question naturally arises - **In what way Want of Capacity arises ?**

The simple answer is that want of capacity arises **from – Minority, Lunacy, Idiocy, Drunkenness etc.** In such cases the of disability, the agreement with such person cannot be enforced by law, *except in special cases.*

Free Consent – Unless an agreement is based on Free Consent of all the parties to an agreement, it is not enforceable.

So, here again the obvious question coming to mind is – **When can we say that there is absence of Free Consent ?**

The answer is – If an agreement is induced by **Coercion, Undue influence, Mistake, Misrepresentation and / or fraud** *in such circumstances it can be said that there is absence of Free Consent.* The party guilty of coercion, undue influence, fraud etc. cannot enforce the agreement as the essence of the agreement is vitiated by such factors. However, the other aggrieved party to the agreement can enforce it, subject to certain rules laid in the Act.

Negotiable Instruments Act,1932 (Contd.)

let us discuss about – **Crossing – Meaning, Definition and Type of Crossing** .

Crossing – Is done on a cheque, by putting two parallel lines across the face of the cheque leaf . There can be two types of cheques – 1. Open Cheque ; 2. Crossed Cheque.

An **Open cheque** is one which can be presented across the counter for encashment.

A **Crossed Cheque** is one which has to be presented to the bank through another banker. Here, there are two types of Crossing – **General Crossing** and **Special Crossing.**
In case of **General Crossing**, the cheque can be presented to the bank through any banker. However, in case of **Special Crossing**, the name of the bank is written **between the parallel lines** and therefore that cheque has to be presented for encashment only through the bank named between the parallel lines.

A Special Crossing cheque is sometimes crossed – **Account Payee.** In such cases the words "Account Payee" is written in between the parallel lines drawn across the face of the cheque leaf. Here, the Drawer clearly directs the paying bank to pay to a particular person only and credit the amount to the bank account of the payee. In such cases, the cheques become non-transferable.

In a **Special Crossing Cheque**, the banker's name and payee's name is sometimes mentioned on the cheque. Since the bankers have full Know Your Customer (KYC) details of every customer's viz. name, verified address and signature , any forgery can now be detected . Special Crossing helps in preventing fraudulent transactions and makes misappropriation difficult .

Rules applicable in the case of Lost Negotiable Instruments :

1. Where a bill of exchange has been lost before it is overdue, the holder may apply to the drawer to give him another bill of the same tenor. For that the holder has to indemnify the drawer by giving a security if required , against all persons in case it is found again.
2. Before payment of a negotiable instrument, the person liable to pay is entitled to see the instrument and after payment he is entitled to have it delivered to him. If the instrument is lost or or otherwise it cannot be produced to him, he can refuse to pay. If he pays in such a case, he can demand to be indemnified against any further claim thereon against that instrument from him.
3. The finder of a lost instrument gets no title.
4. If a negotiable instrument, payable to bearer is lost and the finder negotiates it to the third party who takes it in good faith and for value , the third party becomes a holder in due course and is entitled to receive the amount due on the instrument from the

parties liable to pay.

5. If a lost negotiable instrument is indorsed by the finder with a forged signature, the indorsee gets no title even though he might have taken it on good faith and for consideration.
6. If a lost negotiable instrument is paid to the person having it in his possession, the person liable to pay is discharged from all liabilities under the instrument. The true owner can however recover the money from the person who obtained the payment. In this case, the payment to the person finding the lost instrument, shall be considered as payment in due course.

The Negotiable Instruments Act lays down **certain Rules of Evidence and the Court can presume** the following :

1. That every instrument was made or drawn for a consideration.
2. That every Negotiable Instrument bearing a date was made or drawn on such a date.
3. That every accepted bill of exchange was accepted within a reasonable time after its date and before its maturity.
4. That every transfer of negotiable instrument was made before its maturity.
5. That a lost Promissory Note, Bill of Exchange or Cheque was duly stamped.
6. That a holder of a negotiable instrument is a holder in due course.
7. That the indorsements appearing upon a negotiable instrument were made in the order in which they appear thereon.
8. That if an instrument is dishonoured and a suit is filed in Court, the fact of dishonor shall be presumed by the Court unless and until such a fact is disapproved.
9. That the burden of proof lies on the party alleging and if the defendant alleges that there was no consideration, it is his duty to prove it.

The Negotiable Instruments Act lays down the following **Rules regarding Estoppel** :

Estoppel is the principle which *prevents a person from* denying something that was implied by a previous action or a statement made earlier, *that is,* **going back on his or word.**

1. Estoppel against denying original validity of instrument.
2. Estoppel against denying capacity of payee to indorse.
3. Estoppel against denying signature or capacity of prior party.

Ethics and Business

Ethics and Law are both complementary and inter-related in order to link social rules, customs, regulations and restrictions prescribed by Society through social customs and beliefs. That is perhaps why it is said that Convention is more than law.

Business Ethics is applicable within the periphery of a business circle and environment. It encompasses the behavior of individuals within business organizations, giving top priority to Business Interests.

Business Ethics is the study of business situations, activities and decisions where issues of right and wrong are addressed. This wonderful explation was given by Andrew Crane.

In this context, one must remember **the 3 C's of Business Ethics , which are** –

a) **Compensation,**
b) **Competency and**
c) **Character.**

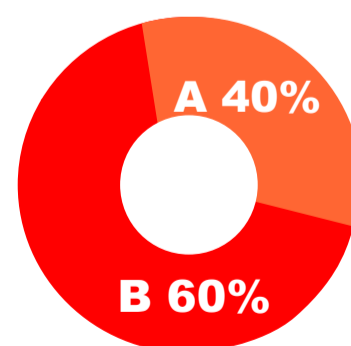150 YEARS OF CELEBRATING THE MAHATMA

PAPER: 4

FUNDAMENTALS

OF BUSINESS MATHEMATICS AND STATISTICS (FBMS)

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Your Preparation Quick Takes

A 40%

B 60%

Syllabus Structure
A Fundamentals of Business Mathematics **40%**
B Fundamentals of Business Statistic **60%**

Learning Objectives:

- To understand the basic concepts and needs of Business Mathematics.

- To Know the reasonableness and explanation in calculation.

- To know the application of various mathematical techniques.

BUSINESS MATHEMATICS AND STATISTICS

In this issue we are placing some problems on assorted basis

Q1.
If pth, qth, rth terms of an AP are a, b, c respectively. Show that $(q-r)a + (r-p)b + (p-q)c = 0$

Answer:
By question we can write

$$a = A + (p - 1)d \quad .... (i)$$
$$b = A + (q - 1)d \quad ....(i)$$
$$c = A + (r - 1)d \quad ....(i)$$

Where A is the first term and d is the common difference.
By (i) * (q – r), (ii) * (r – p) & (iii) * (p – q) we get

$$a(q - r) + b(r - p) + c(p - q)$$
$$= A(q - r + r - p + p - q)$$
$$+ d[(p - 1)(q - r) + (q - 1)(r - p) + (r - 1)(p - q)]$$
$$= 0 + d[pq - q - pr + r + qr - r - pq + p + pr - p - qr + q]$$
$$= 0 + 0 = 0$$

Q2. If $a^x = \left(\dfrac{a}{k}\right)^y = k^m$ and $a \neq 1$, prove that $\dfrac{1}{x} - \dfrac{1}{y} = \dfrac{1}{m}$

Answer:

$$a^x = \frac{a^y}{k^y}$$

$$\text{or, } a^x k^y = a^y$$

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

$$\text{or, } k = \left(a^{y-x}\right)^{\frac{1}{y}}$$

$$\text{or, } k = a^{\frac{y-x}{y}}$$

$$\text{or, } k^m = \left(a^{\frac{y-x}{y}}\right)^m$$

$$\text{or, } a^x = a^{\frac{(y-x)m}{y}}$$

$$\text{or, } x = \frac{(y-x)m}{y}$$

$$\text{or, } \frac{x}{m} = 1 - \frac{x}{y}$$

$$\text{or, } \frac{1}{x} - \frac{1}{y} = \frac{1}{m}$$

Q3. If $x = a + \dfrac{a}{r} + \dfrac{a}{r^2} + ... \infty$, $z = c + \dfrac{c}{r^2} + \dfrac{c}{r^4} + ... \infty$

Show that $\dfrac{xy}{z} = \dfrac{ab}{c}$

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Answer :

By applying sum of infinite series formula

By question $x = \dfrac{a}{1 - \dfrac{1}{r}} = \dfrac{ar}{r-1}$

Similarly $y = \dfrac{br}{r+1}$ & $z = \dfrac{cr^2}{r^2-1}$

Now $\dfrac{xy}{z} = \dfrac{\dfrac{abr^2}{r^2-1}}{\dfrac{cr^2}{r^2-1}} = \dfrac{ab}{c}$

Q4.
The rate of monthly salary for a person is increased annually in AP. It is known that he was drawing R400 a month during the 11th year of his service and R760 during the 29th year. Find his starting salary and the rate of annual increment. What should be his salary at the time of retirement just on the completion of 36th years of service?

Answer : Let the salary per month in the 1st year is x and in every year it increased by amount d.
So by question we can write:
t_{11} = x + (11 – 1) d = 400 .... (1)
t_{29} = x + (29 – 1) d = 760 ....(2)
So from (1) & (2) above we can write
x + 10d = 400 .... (3) & x + 28 d = 760 ....(4)
By (4) –(3) we get 18d = 360. So d = 20.
Putting this value of d in equation (3) we get x = 400 – 10 × 20 = 200
We have to find out t_{36} = x + (36 – 1)d = 200 + 35 × 20 = 900

Q5.
One part of the total expenditure in a hostel is constant and the other part directly varies with the number of boarders. Per head expenditure is R100 when the number of boarders is 35 and R80 when the number of boarders is 45. If the number of boarders is 150 find the total expenditure of the boarders.

Answer :
Let n be the number of boarders and E be the total expenditure of the hostel. Part of the total expenditure is constant F and the other part of the total expenditure is V
By question
$\quad\quad\quad$ V ∞ n, then V = Kn, where K is constan
$\quad\quad\quad$ So, E = F + V = F + Kn .... (1)
$\quad\quad\quad$ When n = 35, then E = 35x100 = Rs. 3500
$\quad\quad\quad$ When n 50, then E = 45x80 = Rs. 3600
$\quad\quad\quad$ From (1) 3500 = F + K35 .... (2)
$\quad\quad\quad$ From (2) 3600 = F + k50 .... (3)

By (3) – (2) we have 100 = 10K. So K = 10
In Equation (2) by putting K = 10, we have 3500 = F + 35x10, So F = Rs. 3150
So from equation (1) we have E = F + V = F + Kn = 3150 + 10n
So if there are 150 boarders then total expenditure will be E = 3150 + 10 × 150 = Rs. 4650

Q6. If $a` = 1 + c^a + c^{2a} + c^{3a} + \ldots\ldots\ldots\ldots \infty$ (0<c<1)

$\quad$ And $b` = 1 + c^b + c^{2b} + c^{3b} + \ldots\ldots\ldots\ldots \infty$ (0 < c < 1)

$\quad$ Then prove that $c = \dfrac{(a`-1)^{\frac{1}{a}}}{a`} = \dfrac{(b`-1)^{\frac{1}{b}}}{b`}$

Answer :

By question we can write $a` = 1 + c^a + c^{2a} + c^{3a} + \ldots\ldots \infty = \dfrac{1}{1-c^a}$ [from sum of infinite GP series

Similarly $b` = 1 + c^b + c^{2b} + c^{3b} + \ldots\ldots\ldots \infty = \dfrac{1}{1-c^b}$

Now $\dfrac{(a`-1)^{\frac{1}{a}}}{a`} = \dfrac{\left(\dfrac{1}{1-c^a}-1\right)^{\frac{1}{a}}}{\dfrac{1}{1-c^a}} = \dfrac{\left(\dfrac{1-1+c^a}{1-c^a}\right)^{\frac{1}{a}}}{\dfrac{1}{1-c^a}} = \dfrac{\left(c^a\right)^{\frac{1}{a}}}{1} = c$

Similarly $\dfrac{(b`-1)^{\frac{1}{b}}}{b`} = c$

Q7. If $\dfrac{x}{y} = \dfrac{z}{w}$ show that $\dfrac{x^m + y^m + z^m + w^m}{x^{-m} + y^{-m} + z^{-m} + w^{-m}} = (xyzw)^{\frac{m}{2}}$

Answer:

Let $\dfrac{x}{y} = \dfrac{z}{w} = k$, then $x = yk$, $z = wk$

$$\dfrac{x^m + y^m + z^m + w^m}{x^{-m} + y^{-m} + z^{-m} + w^{-m}} = \dfrac{y^m k^m + y^m + w^m k^m + w^m}{y^{-m} k^{-m} + y^{-m} + w^{-m} k^{-m} + w^{-m}}$$

Or, $\dfrac{\left(y^m + w^m\right)\left(k^m + 1\right)}{\left(y^{-m} + w^{-m}\right)\left(k^{-m} + 1\right)}$

Or, $\dfrac{\left(y^m + w^m\right)}{\left(\dfrac{1}{y^m} + \dfrac{1}{w^m}\right)\left(\dfrac{1}{k^m} + 1\right)}$

Or, $k^m\, y^m\, w^m$

Also $(xyzw)^{\frac{m}{2}} = (yky\,wkw)^{\frac{m}{2}} = \left(y^2\, k^2\, w^2\right)^{\frac{m}{2}} = y^m\, k^m\, w^m$

So $\dfrac{x^m + y^m + z^m\, w^m}{x^{-m} + y^{-m}\, z^{-m}\, w^{-m}} = (xyzw)^{\frac{m}{2}}$

Q8.
A sum of money invested at compound interest amounts to R21632 at the end of 2nd year and R22497.28 at the end of third year. Find the rate of interest and sum invested.

Answer:

By question we could write

$21632 = p \times (1 + r)^2$ ....(1)

$22497.28 = p \times (1 + r)^3$ .... (2)

By (2) / (1) we will get

$\dfrac{22497.28}{21632} = \dfrac{(1 + r)^3}{(1 + r)^2}$

Or, $1.04 = 1 + r$

Or, $r = 0.04 = 4\%$

Now we can write

$21632 = p\,(1.04)^2$

Or, $p = 20000$

Q9.
A man secures an interest free loan of R14500 from a friend and agrees to repay it in 10 instalments. He pays R1000 as first instalment and then increases each instalment by equal amount over the preceding instalment. What will be his last instalment?

Answer:
Let the first instalment is A and equal increased amount is d
So payment of instalments will form a series like $A + (A + d) + (A + 2d) + \ldots\ldots\ldots$ 10 terms = 14500
Now by question A = 1000

We can write $S_{10} = 14500 = \dfrac{10}{2}\left[2 \times 1000 + (10 - 1)d\right]$

Or, $2900 = [2000 + 9d]$
Or, $2900 - 2000 = 9d$
So, $d = 100$ We have to find out the last instalment. That is we have to find the last term of the series.
So we can write $t_{10} = A + 9d = 1000 + 9 \times 100 = 1900$

Q10.
From 7 gentlemen and 4 ladies a committee of 5 is to be formed. In how many ways can this be done to include at least one lady?

Answer: Possible cases of formation of a committee are:
    (i) 1 lady and 4 gentlemen
    (ii) 2 ladies and 3 gentlemen
    (iii) 3 ladies and 2 gentlemen
    (iv) 4 ladies and 1 gentleman

From (i), 1 lady can be selected out of 4 ladies in 4_{c1} ways and 4 gentlemen can be selected from 7 gentlemen in 7_{c4} ways. Now each way of selecting lady can be associated with each way of selecting gentlemen. So 1 lady and 4 gentlemen can be selected in $4_{c1} \times_{c4}$ ways.

Similarly,

Case (ii) can be selected in $4_{c2} \times 7_{c3}$ ways.
Case (iii) can be selected in $4_{c5} \times 7_{c2}$ ways.
Case (iv) can be selected in $4_{c4} \times 7_{c1}$ ways.

Hence the total number of selection in each case of which at least one lady is included
$= 4_{c1} \times_{c4} + 4_{c2} \times 7_{c5} + 4_{c2} \times 7_{c2} + 4_{c4} \times 7_{c1}$
$4 \times 35 + 6 \times 35 + 4 \times 21 + 1 \times 7 = 441$

Suggestions:
The study guide needs to be read thoroughly. Supplementary readings could be made from other resources. This issue is based totally on teachings imparted in study guide issued by the institute. Standard books could be referred for additional expertise. Detail discussions on different formulae are not done here for which Guide book could be referred. This lesson is purely an aid to study guide on paper 4-Fundamental of Business mathematics and Statistics written and issued by Institute on Syllabus -16. Practice of conventional questions of these sorts may give expertise in solving MCQs
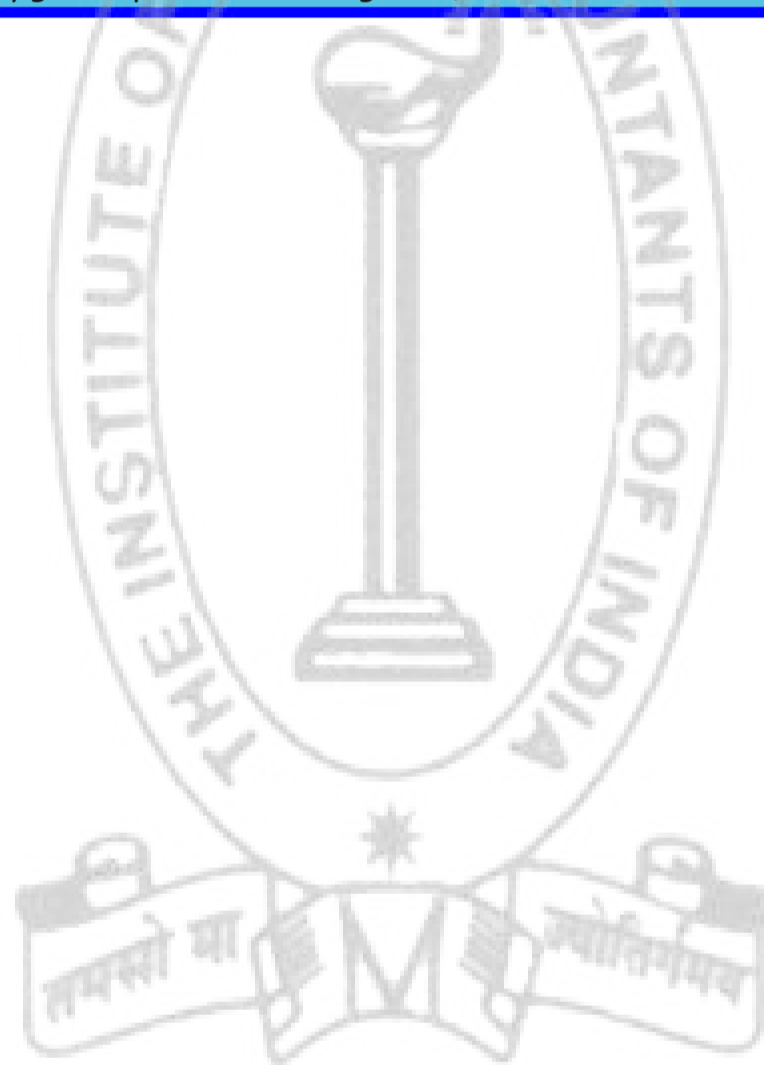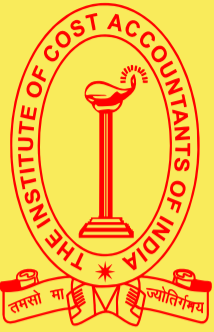
PRACTICAL
Advice

ABOUT YOUR STUDIES - FOUNDATION COURSE

Practical support, information and advice to help you
get the most out of your studies.

START

01 Read Study Notes, MTPs, E-Bulletin, Work Books, Attend Webinar sessions

Solve Excercises given in Study Note **02**

03 Assess Yourself

Appear For Examination **04**

FINISHED
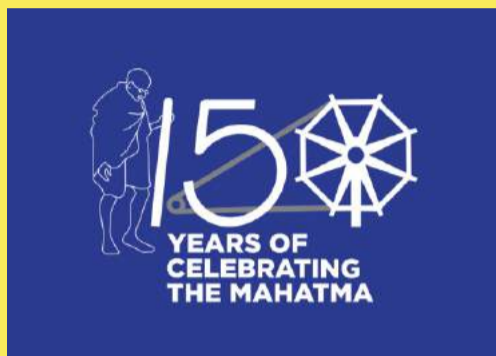
SUBMISSIONS

Dear Students,

We are very much delighted to receive responses from all of you; for whom our effort is!

We have noted your queries and your requests will definitely be carried out. Further, requesting you to go through the current edition of the bulletin. All the areas will be covered gradually. Expecting your responses further to serve you better as we believe that there is no end of excellence! One of the mails received is acknowledged below.

Please put your opinions so that we can make your e-bulletin everything that you want it to be.

Send your Feedback to:
e-mail: studies.ebulletin@icmai.in
website: http://www.icmai.in

Updation of E-Mail Address/Mobile:

Students are advised to update their E-Mail id and Mobile Numbers timely so that important communications are not missed as the same are sent through bulk mail/SMS nowadays. Student may update their E-Mail id/ Mobile Number instantly after logging into their account at www.icmai.in at request option.
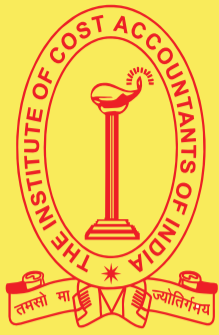
Message from Directorate of Studies

Dear Students,

Passing the exam is a happy event. Congratulations on all that you have accomplished! There is no secret of success. It is the result of preparation, hard work and learning from failure. Well done! It is clear that the future holds great opportunities for you.

Those who could not pass, failing in an exam does not mean failing in life. All of us face failure at one time or another. Try to focus your attention on the importance of perseverance and mind it that dedication and determination plays the lead role in shaping a person's life.

We from the Directorate of studies know your expectations from us and accordingly we are trying to deliver some meaningful tips through the publications of monthly E-bulletins. Other than this we are trying to help you through, Mock Test Papers (MTPs), Work Books, MCQs and we have conducted Webinar sessions.

You know that the nation is celebrating 150th birth anniversary of the father of the nation M.K. Gandhi. One of his inspirational message towards the students were:

"You must be the Change you wish to see in the World",

Let us observe his memory, following the above message.

Certain general guidelines are listed below and which will help you in preparing yourselves:

- ☛ Conceptual understanding & Overall understanding of the subject 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 is required.
- ☛ Write question numbers correctly and prominently.
- ☛ Proper time management is also important while answering.

Please refer the link mentioned below :

https://icmai.in/studentswebsite/

- • **Don't give up**
- • **Don't give in**
- • **Don't give out**

You can win!

The Institute is pleased to inform that the University Grants Commission (UGC) Ministry of Education, Govt. of India has announced that CMA qualification be Considered equivalent to PG Degree.

GOOD LUCK

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.

150 YEARS OF CELEBRATING THE MAHATMA

विश्वविद्यालय अनुदान आयोग
University Grants Commission
(शिक्षा मंत्रालय, भारत सरकार)
(Ministry of Education, Govt. of India)
बहादुरशाह ज़फ़र मार्ग, नई दिल्ली-110002
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ई-मेल E-mail : ssingh.ugc@nic.in

डॉ. सुरेन्द्र सिंह
संयुक्त सचिव
Dr. Surender Singh
Joint Secretary

ज्ञान-विज्ञान विमुक्तये

सत्यमेव जयते

D.O.No.9-35/2016 (CPP-II)   **March, 2021**

1 5 MAR 2021

Sub: <u>To consider CA/CS/ICWA qualification equivalent to PG Degree for appearing in UGC-Net</u>

Sir/ Madam,

UGC had received requests from the Institute of Chartered Accountants of India, the Institute of Company Secretaries of India and the Institute of Cost Accountants of India to consider the qualification being awarded by them, i.e., Chartered Accountant (CA), Company Secretary (CS) and Cost and Works Accountants (ICWA) respectively, equivalent to Post Graduation Degree.

To consider this, a Committee was constituted by the UGC. The Commission, in its 550th meeting held on 18th February, 2021 considered the recommendation of the Expert Committee and resolved as under:

"CA/CS/ICWA qualification be considered equivalent to PG Degree."

This is for your kind information.

With kind regards,

Yours sincerely,

(Dr. Surender Singh)
Joint Secretary

The President
The Institute of Cost Accountants of India
3, Institutional Area
Lodhi Road
New Delhi- 110 003

Few Snapshots

Dignitaries sharing the screen with Shri Arjun Ram Meghwal Hon'ble Union Minister of State for Parliamentary Affairs and Heavy Industries & Public Enterprises during National Corporate Laws Summit. Left to Right CMA Neeraj D. Joshi, CCM; CMA Mahesh Shah, Past President; Shri Debarshi Duttagupta, MD, East India Pharmaceuticals Works Limited; Shri Arjun Ram Meghwal, Hon'ble Union Minister, CMA Dr. Ashish P. Thatte, Chairman, Corporate Laws Committee; CMA Biswarup Basu, President; CMA Chittaranjan Chattopadhyay, CCM; CMA Amal Kumar Das, Past President; CMA Vijender Sharma, CCM

Shri Arjun Ram Meghwal Hon'ble Union Minister of State for Parliamentary Affairs and Heavy Industries & Public Enterprises is giving his live online speech on occasion of inauguration of National Corporate Laws Summit.


CMA Biswarup Basu, President facilitating Shri Debarshi Duttagupta, MD, East India Pharmaceuticals Works Limited on the occasion of National Corporate Laws Summit organised at Kolkata on 26th February 2021. Sharing the dias is CMA Dr. Ashish P. Thatte, Chairman Corporate Laws Committee and CMA Neeraj D. Joshi, Central Council Member.

From Left to Right CMA Balwinder Singh, Immediate Past President and Council Member, Shri S.K. Kaushik, CAO (AR), Indian Railways, Shri Naresh Salecha, Member (Finance) Railway Board, CMA Biswarup Basu, President, CMA P. Raju Iyer, Vice-President, CMA Chandra Wadhwa, Past President, CMA B.B. Goyal, Advisor ICWAI MARF, CMA J.K. Budhiraja, CEO ICWAI MARF, Ms. Tripti Guraha, Exeuctive Director, (S & E), Indian Railways, Sh. Abhishek Kumar, CPM (AR), Indian Railways

Presentation of Final Report on Performance Costing System in Indian Railways at Rail Bhawan, New Delhi on 19th February, 2021 by CMA Biswarup Basu, President, ICAI to Shri Naresh Salecha, Member (Finance), Railway Board.
From Left to Right CMA Balwinder Singh, Immediate Past President and Council Member, Shri S.K. Kaushik, CAO (AR), Indian Railways, Shri Naresh Salecha, Member (Finance) Railway Board, CMA Biswarup Basu, President, CMA P. Raju Iyer, Vice-President, CMA Chandra Wadhwa, Past President, CMA B.B. Goyal, Advisor ICWAI MARF, CMA J.K. Budhiraja, CEO ICWAI MARF.

Behind every successful business decision, there is always a CMA
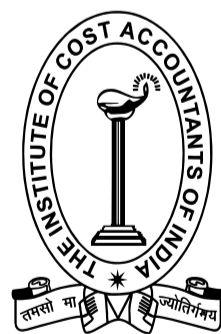
THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

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