

2021

August

VOL: 6, NO.: 8,

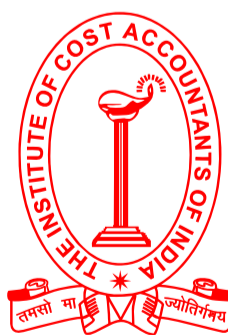
TOLL FREE 18003450092 / 1800110910



# CMA Student E - Bulletin

# FOUNDATION

**FOLLOW US ON**



**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA**

(Statutory Body under an Act of Parliament)

[www.icmai.in](http://www.icmai.in)

Headquarters: CMA Bhawan, 12 Sudder Street, Kolkata - 700016

Ph: 091-33-2252 1031/34/35/1602/1492

Delhi Office: CMA Bhawan, 3 Institutional Area, Lodhi Road, New Delhi - 110003

Ph: 091-11-24666100

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



# CONTENTS

Knowledge Update -	1
Paper: 1, Part: I - Fundamentals of Economics and Management (FEM) - Economics -	2
Paper: 1, Part: II - Fundamentals of Economics and Management (FEM) - Management -	5
Paper: 2 - Fundamentals of Accounting (FOA) -	8
Paper: 3 - Fundamentals of Laws and Ethics (FLE) -	11
Paper: 4 - Fundamentals of Business Mathematics and Statistics (FBMS) -	15
Exam Time Table -	22
Practical Advice -	23
Submission -	24
Message from the Directorate of Studies -	25
Few Snapshots -	26

# 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.



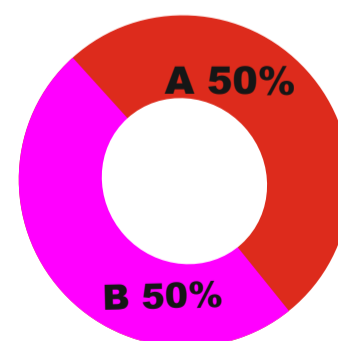
PAPER: 1, PART: I

# FUNDAMENTALS

OF ECONOMICS & MANAGEMENT  
(FEM) - ECONOMICS

Dr. Bibekananda Raychaudhuri  
Associate Professor,  
Department of Economics,  
N.S.O.U., Kalyani, W.B.  
He can be reached at:  
[brchaudhuri@gmail.com](mailto:brchaudhuri@gmail.com)

## Your Preparation Quick Takes



### 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**

Hi friends !! Hope you are all doing well. We have to adjust ourselves with the lock down because Corona virus has come to stay with mankind. If the lockdown is withdrawn, the Corona virus will spread its tentacles immediately. So use mask whenever you are going out of your house, avoid crowds and wash your hand frequently. In New Zealand they do not have any Covid patient in their country, still they follow all the three measures in order to stave away Corona virus.

Try to use the internet as much as possible. Net education is the order of the day. From internet you will know where and when there will be a webinar. You will get best lectures on the topic you want to have a sound knowledge on. On the 'You tube' you will get all sorts of concepts explained to you as lucidly as possible. So, for gathering knowledge sky is the limit. Let us start our routine Mock Test.

**I. Choose the correct answer:**

- The slope of the Production Possibility Curve at any given point is called**
  - Marginal propensity to consume
  - Marginal revenue product
  - Marginal rate of transformation
  - Marginal utility
- Any point which lies below the PPC curve indicates**
  - A combination of goods beyond the reach of the economy
  - Unused resources
  - Technically most productive combination of goods
  - None of the above
- If the country is passing through recession, the RBI would**
  - Sei bonds
  - Increase the Bank rate
  - Reduce CRR
  - None of the above
- Under perfect competition, the price maker is the**
  - Industry
  - Firm
  - Consumer
  - None of the above
- Electricity supply service is the example of**
  - Monopoly
  - Discriminating monopoly
  - Monopolistic competition
  - None of the above
- Under perfect competition, firm faces shut down situation when**
  - Price is more than average fixed cost
  - Price is more than average variable cost
  - Price is equal to the minimum average cost
  - Price is less than average variable cost
- Method of pricing in which all costs are recovered is called**

- A. Limit pricing
- B. Penetration pricing
- C. Dynamic pricing
- D. Absorption pricing

8. Suppose, the supply for product A is perfectly elastic. If the demand for this product increases

- A. The equilibrium price and quantity will increase
- B. The equilibrium price and quantity will decrease
- C. The equilibrium quantity will increase but the price will not change
- D. The equilibrium price will increase but the quantity will not change

9. If the price of cake rises from \$ 12 to \$20 and the demand falls from 300 to 200 pices per day, then calculate the price elasticity of demand.

- A. 0.8
- B. 0.5
- C. 0.25
- D. 2.00

10. Supply creates its own demand - who said this?

- A. J B Say
- B. Keynes
- C. Marshall
- D. Malthus

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

#### II. Fill in the blanks:

1. For an inferior good, there is ..... Relationship between income and demand.
2. The shape of the unit elastic demand curve is a .....
3. Total cost function shows a relationship between total cost and .....
4. Long run average cost curve is the ..... Of all short run average cost curves.
5. Equilibrium price is generally sticky under ..... market

KEY: 1. Inverse 2. Rectangular hyperbola, 3. Output, 4. Envelop, 5. Oligopolistic

#### III. True or False:

1. With external economies of scale, the firm will move downward along the long run average cost curve.
2. Money serves as a medium of exchange. This function of money is considered as a secondary function of money.
3. The policy of Deficit financing increases the risk of inflation.
4. OPEC countries forming a cartel is an example of collusive oligopoly.
5. Giffen goods are also called necessary goods

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

#### IV. Matching :

1. $P = MC$	A. IMF
2. Portfolio investment	B. commercial bank
3. SDR	C. monopoly
4. Credit creation	D. Perfect competition
5. Market failure	E. New shares

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

So friends, how did you like the mock test? Hope you have enjoyed solving it. Try to read between the lines the Study material. Because you will get all the questions in the final exam from the Study material only. Practice the mock tests regularly because during the Corona pandemic, your exams will be taken through MCQ only. It will be wise if you keep a record of the mock test results. In that case you will be able to measure your progress and the robustness of your preparation for the exam. Best of luck!!!



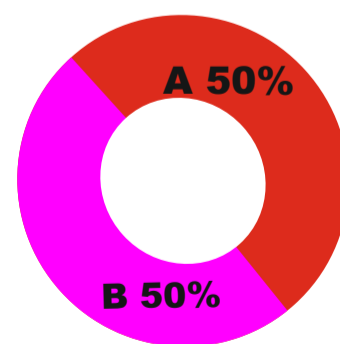
PAPER: 1, PART: II

# FUNDAMENTALS

OF ECONOMICS & MANAGEMENT  
(FEM) - MANAGEMENT

CMA (Dr.) Sumita Chakraborty  
Additional Director,  
Research & Studies  
She can be reached at:  
[research.hod@icmai.in](mailto:research.hod@icmai.in)  
[studies.addldir1@icmai.in](mailto:studies.addldir1@icmai.in)

## Your Preparation Quick Takes



### Syllabus Structure

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

**Learning Objectives:**

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

**MANAGEMENT**

1. Cash flow from assets involves which of the following component(s)?

- A. Operating cash flow
- B. Capital spending
- C. Change in net working capital
- D. All of the given options

**Answer: D**

2. The system by which companies are managed and controlled is known as:

- A. Management System
- B. Strategic System
- C. Corporate Governance
- D. Internal System

**Answer: C**

3. Profit maximization is the maximizing a firm's Earning:

- A. Before Tax
- B. After Tax
- C. Both A and B
- D. None of these

**Answer: B**

4. The scope of HRM does not include \_\_\_\_\_?

- A. Retirement of employees
- B. Manpower planning
- C. Maintenance of accounts
- D. Training of employees

**Answer: C**

5. The market price of a firm's stock represents the focal judgment of all market participants as to the value of the:

- A. Particular market
- B. Particular firm
- C. Particular creditor
- D. Particular debtor

**Answer: B**

6. Which of the following is not a function normally performed by HR department?

- A. Accounting
- B. Recruitment and Selection
- C. Pay and Reward
- D. Employee Relations

**Answer: A**

7. Which of the following is normally the most reliable source of audit evidence?

- A. Internal audit
- B. Suppliers' statements
- C. Board minutes
- D. Analytical review



Answer: B

8. Which of the following should NOT be considered at the planning stage?
- The timing of the audit
  - Analytical review
  - Last year's written representation letter
  - Obtaining written representations

Answer: D

9. Auditing is compulsory for \_\_\_\_\_?
- Small scale business
  - Partnership firms
  - Joint stock Companies
  - Proprietary Concerns

Answer: C

10. The concept holds that consumers and businesses, if left alone, will ordinarily not buy enough of the organization's products is termed as \_\_\_\_\_?
- Production Concept
  - Selling Concept
  - Marketing Concept
  - Buying Concept

Answer: B

11. \_\_\_\_\_ is a systematic examination of the books and records of a business?
- Auditing
  - Vouching
  - Verification
  - Checking

Answer: A

12. Customers are showing greater price sensitivity in their search for \_\_\_\_\_
- The right product
  - The right service
  - The right store
  - Value

Answer: D

13. Global marketers must decide \_\_\_\_\_
- Which countries to enter
  - How to adapt their product and service features to each country?
  - How to price their products in different countries?
  - All of the above

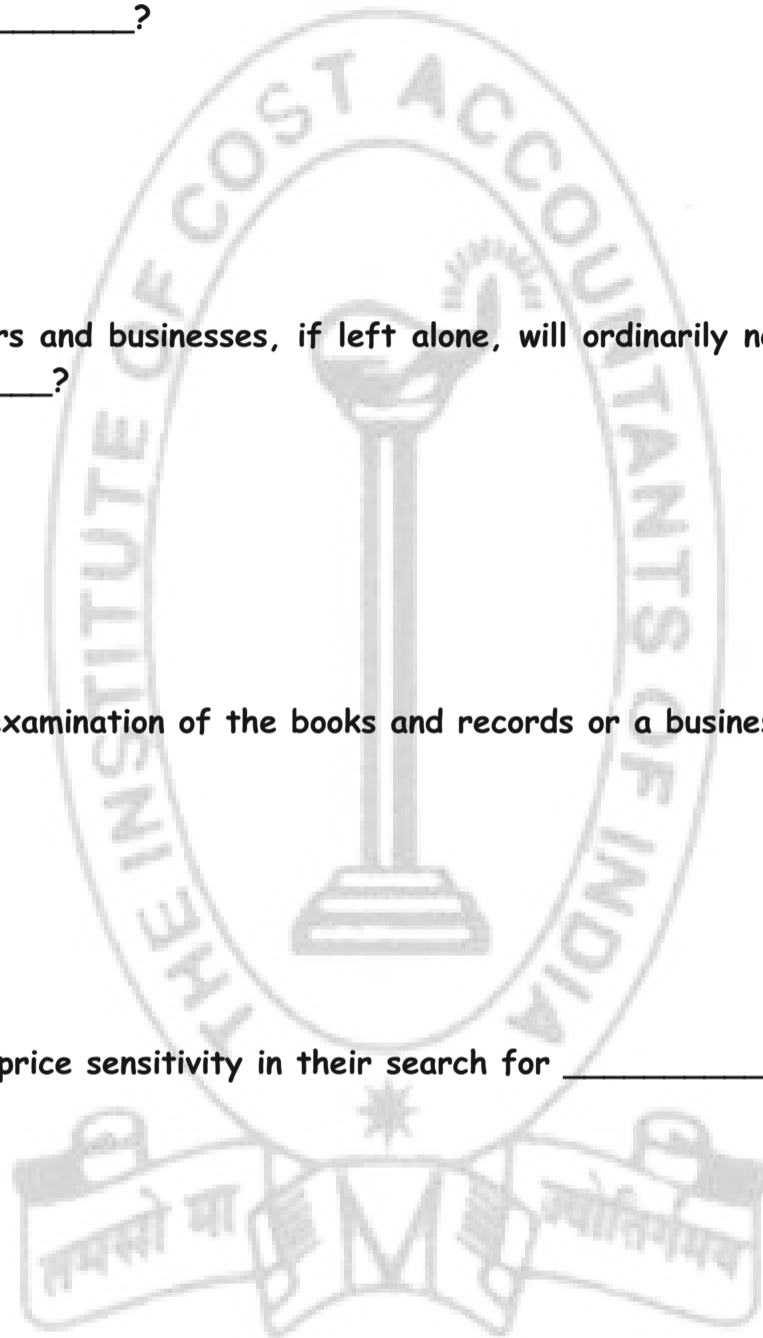
Answer: D

14. Information can be produced and marketed as a \_\_\_\_\_?
- Product
  - Show
  - Reality
  - Service

Answer: A

15. A transaction involves \_\_\_\_\_?
- At least two parties
  - Each party is capable of communication and delivery
  - Each party is free to accept or reject the exchange offer
  - All of the above

Answer: D



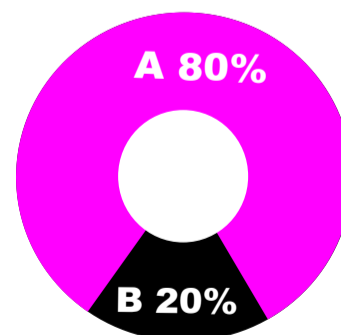


PAPER: 2

# FUNDAMENTALS OF ACCOUNTING (FOA)

CMA (Dr.) Nibir Goswami  
Associate Professor in Commerce  
Vidyasagar Mahavidyalaya, W.B.  
He can be reached at:  
[drnibirgoswami@gmail.com](mailto:drnibirgoswami@gmail.com)

## Your Preparation Quick Takes



### Syllabus Structure

A Fundamentals of Financial Accounting 80%

B Fundamental of Cost Accounting 20%

## Learning Objectives:

In order to internalize the concepts of subjects like accountancy 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 topics as it would give you a background to your study.

## FINANCIAL ACCOUNTING

Photography day was just a few days back. May be you are fond of it or may be not. However, there is no harm to know three basic things of clicking perfect photograph.

1. Proper focus
2. Proper timing
3. No shivering of finger

Life is such. Come whatever may, do not move from your focus. Take your decisions at the right time. Do not get afraid so that your finger shivers. If you repeatedly lose focus, shiver while taking decisions the picture will be blurred.

So go ahead with these three things keeping in mind and close your ears from howling mobs. Your picture of life will never be blurred.

Hope you are studying well. Here is again some exercise to brush up your minds.

1. Match the following :

1. Debtors	a) Goodwill
2. Asset	b) nominal account
3. Expenses	c) Debentures
4. An increase in asset	d) plant and machinery
5. An increase in liability	e) preliminary expenses
6. Fixed asset	f) Debit
7. Intangible asset	g) real account
8. Fictitious asset	h) Credit
9. Long term liabilities	I casting
10. Totalling of amount	j) personal account

1. a 2. G 3. B 4. F 5. H 6. D 7. A 8. E 9. C 10. I

2. Classify the following items as capital or revenue expenditure:

- (i) An extension of railway tracks in the factory area;
  - (ii) Wages paid to machine operators;
  - (iii) Installation costs of new production machine;
  - (iv) Materials for extension to foremen's offices in the factory;
  - (v) Rent paid for the factory;
  - (vi) Payment for computer time to operate a new stores control system,
  - (vii) Wages paid to own employees for building the foremen's offices.
- Give reasons for your classification.

3. What is the nature of salary payable in the following journal ?

Salary A/c Dr.  
To Salary payable A/c  
(Being the entry to record salary obligation for the month)

- a. Increase in liability      b. Decrease in asset      c. Revenue      d. Loss

4. The debts written off as bad, if recovered subsequently are

- (a) Credited to Bad Debts recovered A/c (b) Credited to trade receivables Account  
(c) Debited to profit and Loss Account (d) None

5. will you take closing stock in the trial balance if the following items are provided ?

Adjusted Purchase 8,00,000

Closing stock Rs. 40000

a. Yes b. No

6. Match the following table

1. Salary account	a) Artificial personal account
2. Drawings account	b) Representative personal account
3. Furniture account	c) Personal account
4. Income received in advance	d) Real account
5. Modern Academy	e) Nominal account

1. e 2. C 3. D 4. B 5. A

7. Which of the following is an external cause for depreciation

(a) Obsolescence (b) time element (c) abnormal occurrences (d) all of the above

8. The value of an asset after deducting depreciation from the historical cost is known as

(a) Fair value (b) market value (c) net realizable value (d) book value

9. Match the following table

1. Depreciation	a. Written down value method
2. Straight line method	b. Equal installment method
3. Fixed assets	c. Depletion method
4. Reducing balance method	d. As-6

1. d 2. b 3. c 4. a

10. Credit balance of bank pass book will be \_\_\_ to the account holder

a) An asset b) A liability c) A provision d) None of these

11. Overdraft balance as per Cash book Rs. 9000

Cheques issued, but not presented Rs300, Rs150, Rs375

Cheques paid into bank account, but not cleared Rs. 1,200 Find the balance as per Pass Book

a) Rs3,300 Dr b) Rs9375 Dr c) Rs4,875 Dr d) Rs4,125 Dr

12. Can a minor be admitted into a joint venture?

a) Can be admitted b) Cannot be admitted c) Can be admitted subject to the consent of the co-venturer.

d) Can be admitted for the benefit of minor

Solution of 2

- (i) Expenses incurred for extension of railway tracks in the factory area should be treated as a Capital Expenditure because it will yield benefit for more than one accounting period.
- (ii) Wages paid to machine operators should be treated as a Revenue Expenditure as it will yield benefit for the current period only.
- (iii) Installation costs of new production machine should be treated as a Capital Expenditure because it will benefit the business for more than one accounting period.
- (iv) Materials for extension to foremen's offices in the factory should be treated as a Capital Expenditure because it will benefit the business for more than one accounting period.
- (v) Rent paid for the factory should be treated as a Revenue Expenditure because it will benefit the Company only during the current period.
- (vi) Payment for computer time to operate a new stores control system should be treated as Revenue Expenditure because it has been incurred to carry on the normal business.
- (vii) Wages paid for building foremen's offices should be treated as a Capital Expenditure because it will benefit the business for more than one accounting period.



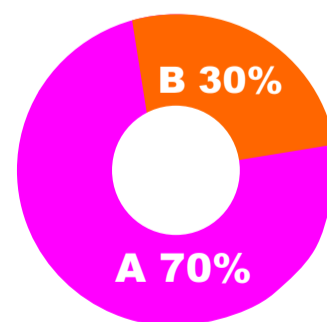


PAPER: 3

# FUNDAMENTALS OF LAWS AND ETHICS (FLE)

CA Partha Ray  
He can be reached at:  
[prapray@rediffmail.com](mailto:prapray@rediffmail.com)

## Your Preparation Quick Takes



### 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. )****Performance of Contracts**

One obvious question that immediately come to mind is - **By whom is a contract to be performed ?** Here many things are to be considered - 1. There may be cases where the promisor himself has to perform the contract . Such cases involve personal skill, individual taste and specialization etc.of the promisor. The parties to the contract must expressly state about their intentions in the contract or otherwise convey their intentions as per the circumstances in the case. In all other cases, the promisor or his representative may perform as per the terms of the contract. Let us understand easily with the help of some examples : Tom promises to paint a picture for Jerry. In this case, Tom must paint the picture himself. On the other hand, if Tom promises to pay Rs.5000 to Jerry , he (Tom) can either personally pay Rs.5000 to Jerry or arrange payment of Rs.5000 through another person. It must be kept in mind that if the promisee accepts performance by a Third Party, he cannot later on insist on its performance by the promisor only. Another important point to be kept in mind is that , contracts involving personal skills , comes to an end if the promisor dies, since such contracts cannot be performed by the heirs or the legal representatives of the deceased promisor. Therefore, all other contracts not involving personal skills of the promisor, are bound to be performed by the heirs or the legal representatives of the deceased promisor. The heirs or the legal representatives are not individually liable as their liability is restricted to the assets obtained from the deceased. Lets take an example . Tom promises to deliver some goods to Jerry before 15<sup>th</sup> May,2018 against payment of Rs.10,000. Tom dies on 1<sup>st</sup> May,2015 but his representative delivers the goods before 15<sup>th</sup> May,2018. Jerry is bound to pay Rs.10,000 to Tom's representative.

**Discharge of Contracts**

Let us now understand **Termination or discharge of contracts**. Simply remember that when the obligation stated under a contract comes to an end, that contract is said to be terminated or discharged. Therefore, the next question that comes to mind is - **In what ways can a contract be terminated or discharged? The following is the answer -**

1. When the party to the contract, performs his promise that is called **Termination by Performance**.
2. If there is impossibility of performance, such contract can be terminated on grounds of impossibility. Suppose a singer enters into a contract to sing at a Concert against payment of a fixed amount in advance and if the singer's voice gets choked and singing is not possible, the contract can be terminated due to **Impossibility of Performance**.
3. If there is a **Breach of Contract** . Here one party to the contract fails to meet his obligations under the contract. Here breach can be immaterial but still material . For example, you placed an online order to buy a shirt and the delivery was supposed to be on 23<sup>rd</sup> January,2018 but it was delivered on 24<sup>th</sup> January,2014. The delay is immaterial ,but suppose there was an online order for Print Cartridges by a Printing factory and the urgency was intimated to the supplier , yet the delivery was delayed and caused loss of business there is definitely a Material Breach of Contract.
4. **Prior Agreement** - Contract can be terminated if the other party has a prior written agreement which calls for termination because of "Specific Reasons" and the grounds for termination must be specified. In such cases, one party must submit notice of termination in writing to the other party .
5. By **Rescission** of a contract, where the contract is terminated or cancelled because an individual - misrepresented, acted illegally or made a mistake. A contract Rescission may also take place if one party is not old enough to enter into a contract or if the party is an elderly person and too old and incapacitated to take legal decisions and enter into a contract.
6. **Lapse of time** -where the contract is not performed within a fixed or reasonable time, the contract stands discharged. Supposing A enters into a contract in February,2018 to coach B for the CMA Intermediate Examination to be held in June,2018,

and accepts an advance payment. The contract stand discharged after the June,2018 Examination is over.

7. **Discharge of a contract by operation of law** - can be due to Death, Insolvency, Unauthorized material alteration of the terms of contract or where merger of inferior rights takes place due to superior rights laid under a new contract.
8. On **Completion of a contract**, once all the obligations stated in the contract are fulfilled and completed and the contract is terminated and/or discharged. However, there must be enough evidence to place before the Court of Law to prove satisfactory completion of all obligations, in the event of any dispute by the other party.

### Breach of Contract

Let us recapitulate - all agreements between two or more parties, to do or not to do something, that are enforceable by law are contracts. All agreements are promises to do or provide something . If the promise is broken, there is a Breach of Contract. It may include -

- I. Failure to deliver goods and or services ;
- II. Failure to complete a job ;
- III. Failure to pay on time ;
- IV. Supply of goods and/or services, that do not confirm to the agreement.
- V. The promisor repudiates his liability under the contract before the time of performance of the contract becomes due or if the promisor, by his own deeds disables himself from performing. This is called Anticipatory Breach of Contract. Actual Breach of Contract occurs when the promisor actually fails to perform or refuses to perform during the performance of the contract. Example : Tom agrees to deliver 100 Bags of Cement on 15<sup>th</sup> May,2018 to Jerry for Rs.15,000 . He fails to supply on 15<sup>th</sup> May,2018 . This is breach of contract.

### Remedies for Breach of Contract

After a Breach of Contract takes place, the aggrieved party also called the Injured party, becomes entitled to the following reliefs :

1. The injured party is freed from all obligations under the contract. Example : Tom agrees to deliver 100 Bags of Cement on 15<sup>th</sup> May,2018 to Jerry for Rs.15,000 . He fails to supply on 15<sup>th</sup> May,2018 . This is breach of contract, therefore there is Rescission of the contract and Jerry need not pay the price.
2. The aggrieved party or the Injured party can file a suit for damages and receive compensation for any loss or damage caused due to the breach of contract.
3. If a contract is partly completed, the aggrieved party can file a suit for the price of the services performed before the breach of contract.
4. In special circumstances, the court can direct a party to perform the contract as per the agreed terms .
5. The Court can even pass an order upon a party , prohibiting him from doing anything that amounts to Breach of Contract.

### Ethics and Business

One must accept and appreciate that- **Ethical Business Profit**, is a reward to the businessman for - investing in business, for generating employment, for contributing to the growth of business at large, by abiding by the Laws of the Land and the ethical practices followed in the trade and business.

Ethics applies to all accepted activities of the people, including those engaged in business. However, one must ethically refrain from too much greed and profiteering and from corruption at any stage.

**Ethics must promote healthy practices and standards in the political, social and economic arena** for bring Value-addition among individuals in the society at all walks of life while maintaining good Work-Life Balance.

Business ethics also encompasses Corporate ethics, Professional ethics, and applied ethics which deals with all aspects of ethical principles, all problems relating to moral, social and behavioral issues that one faces in the business arena and because of which the business environment often gets vitiated during conduct of business by individuals operating while operating in business organizations.

It covers matters and standard ethical practices which are expected to be followed at the required time and situation keeping social principles in mind.

It must be kept in mind that **Business is indeed aimed at making a profit** . However, it must never be forgotten that profit is actually a reward for doing a business but any effort to increase the profit through illegal or unethical means is not proper. Profit is the fruit derived from Capital Invested in business first and then it is the reward for the best possible entrepreneurship.

One must admit that as the business prospers, the entrepreneurs' needs and wants change and their life style also undergoes a change. However, one must not mix life with business. Therefore, the focus has to change into order to diversify and expand the business to earn more without compromising on morality and ethics. Business must be kept within the standard periphery of ethics.

That leads us to the very important question about **Character of Business**.

Businessman must never ask for too much at too short a time. Everything follows a natural pattern and profit earning is no exception. Resorting to corrupt practice can never be accepted under any situation - political, social or economic. Increasing profit earning from business can be done ethically by applying managerial skills while boosting growth while staying and adhering to the various professional

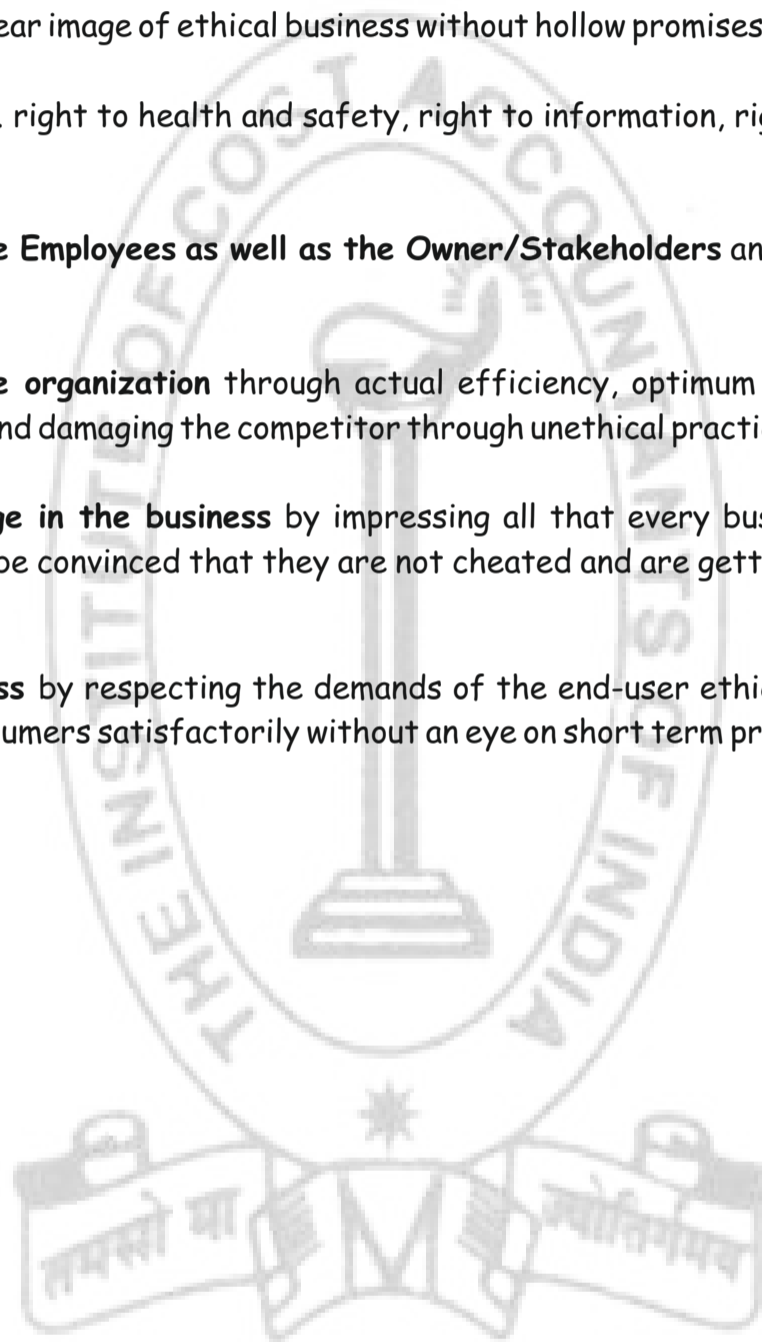


code of conduct, standard practices in the society, and law of the land - the Acts, Rules and Regulations as applicable.

**Business Ethics must proceed with - Skill, efficiency and diligence.**

**Good Business Ethical practices must -**

- a) **Avoid Indulgence in malpractices** - stay away from the influence of bad businessmen who do not abide to fair practices and resort to unfair trade practices and cheating etc.
- b) **Help workers and labour to work with Self-Confidence** - and ensure success of their business by playing a constructive role in the company,
- c) **Encourage customer satisfaction and confidence** by convincing them that they follow ethics and provide the right goods and services ,
- d) **Promote business**, through a clear image of ethical business without hollow promises ,
- e) **Protect consumer rights** - viz. right to health and safety, right to information, right to choose , right to be heard, right to redress grievances etc.,
- f) **Look into the interests of the Employees as well as the Owner/Stakeholders** and prevent them from being exploited and, also
- g) **Enable steady growth of the organization** through actual efficiency, optimum utilization of resources amid of healthy completion without defeating and damaging the competitor through unethical practices.
- h) **Build a clear and clean image in the business** by impressing all that every business transaction is fair and proper and acceptable to society who will be convinced that they are not cheated and are getting the right goods and/or services at the right price and value for money.
- I **Ensure survival of the business** by respecting the demands of the end-user ethically through proper code of conduct and serving the customers and consumers satisfactorily without an eye on short term profits and ensuring that the business grows smoothly and steadily.





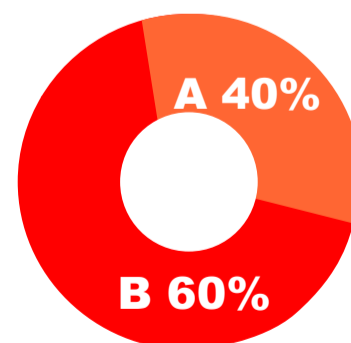


PAPER: 4

# FUNDAMENTALS OF BUSINESS MATHEMATICS AND STATISTICS (FBMS)

CMA Ankan K Bandyopadhyaya  
He can be reached at:  
[abanerjee8533@gmail.com](mailto:abanerjee8533@gmail.com)

## Your Preparation Quick Takes



### 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 preliminary concepts in Statistics

Q1. Arrange the data below in a data array from lowest to highest

708 541 528 546 631 541 622 592 534 663  
546 641 603 650 502 592 618 631 599 637  
578 483 578 619 586 567 644 641 622 547  
644 689 557 612 644 531 536 695 645 578

(a) What are the highest and lowest data values?

(b) Between what values do the lowest  $\frac{1}{4}$  of the data fall? The highest  $\frac{1}{4}$  of the data?

(c) How many values appear more than once in the data set and what are they?

Q2. For the data set in Q1, determine how many observations fall between 450.0 and 499.9, between 500.0 and 549.9, between 550.0 and 599.9, between 600.0 and 649.9, between 650.0 and 699.9 and between 700.0 and 749.9

Q3. Construct a frequency distribution with intervals of 0.5 from the following set of measurements:

3.9 4.9 5.9 3.7 6.9 4.5 3.6 3.9 3.9  
4.0 5.2 4.9 4.6 5.4 3.7 6.1 4.0 4.4  
5.6 4.8 5.4 4.0 4.1 3.9 4.8 3.5 4.7  
5.1 3.9 5.0 3.9 3.7 3.8 5.2 5.0 4.5  
4.2 5.4 3.7 5.5 3.3 6.2 3.2 5.4 4.2

Q4. Given the following data set, construct a relative frequency distribution using (a) 7 equal intervals and (b) 13 equal intervals

80 52 67 59 60 79 62 55 52 90  
64 87 65 64 50 71 72 64 71 67  
40 56 74 69 97 67 81 77 77 57  
35 86 71 99 88 43 54 48 68 77  
93 70 84 78 68 63 47 56 66 57

Q5. For the following data, construct

(a) A 6 category closed classification

(b) A 5 category open ended classification

(c) Relative frequency distributions to go with the frequency distribution above

34.1 39.0 38.3 41.6 36.4 43.9 33.2 56.4 33.9 34.5  
46.4 42.1 41.8 49.4 42.2 51.7 42.4 44.5 46.7 40.6  
45.7 50.7 37.6 36.0 34.9 38.9 44.6 49.0 51.4 48.3

Q6. For the frequency distribution constructed above in Q5 (a) above give the

(a) Real class limits

(b) Stated class limits

(c) Class marks for the interval used

Q7. Determine the class marks for the intervals of the following frequency distribution

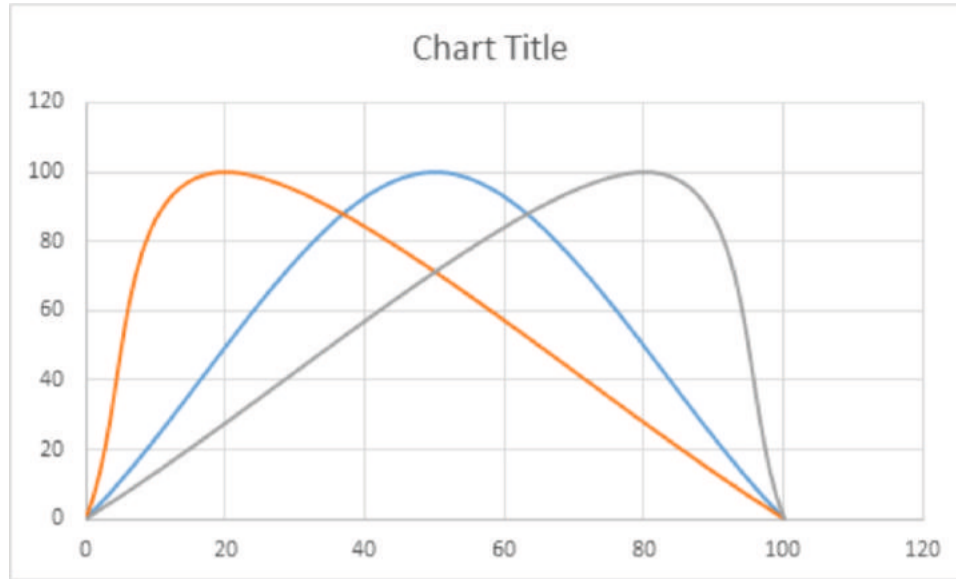
Class

17.50 - 19.99 20.00-22.49 22.50-24.99 25.00-27.49 27.5-29.99 30.00-32.49 32.50-34.99 35.00 - 37.49 37.50 - 39.99

Q8. Given the following class marks for the intervals of a frequency distribution, determine the real and stated class limits of the intervals:

Class marks: 8.50, 11.50, 14.50, 17.50, 20.50, 23.50, 26.50, and 29.50;

Q9. Identify in terms of color which one of the following curve is symmetrical, positively skewed and negatively skewed?



Q10. For the following frequency distribution which one of the following is correct?

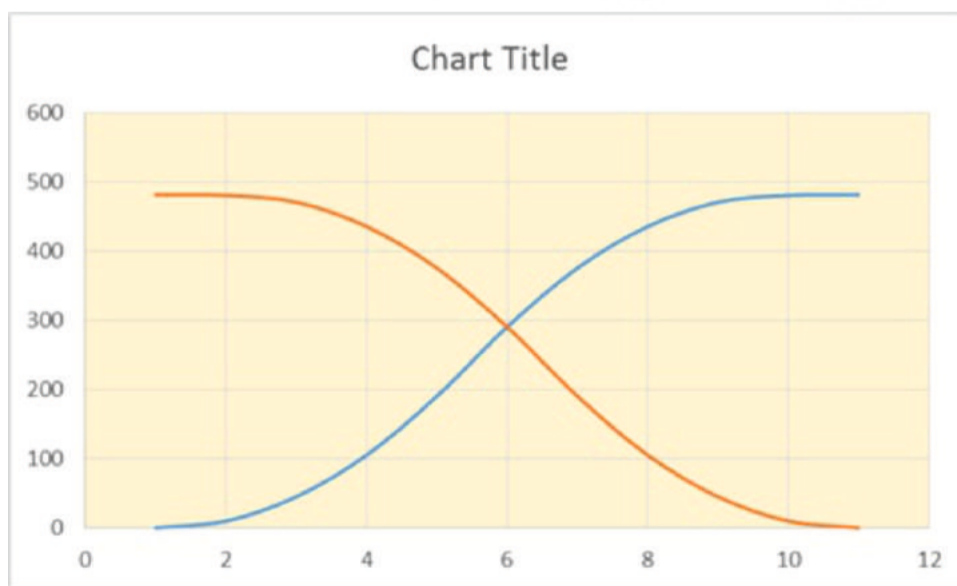
- (a) The distribution forms a symmetrical curve
- (b) The distribution forms a positively skewed curve
- (c) The distribution forms a negatively skewed curve

Hence check the correctness of your answer above by plotting the following in excel chart

Class	Frequency
0-10	1
10-20	10
20-30	35
30-40	60
40-50	85
50-60	100
60-70	85
70-80	60
80-90	35
90-100	10
100-110	1

Q11. Refer Q10. Construction of frequency (a) Less than type and (b) More than type & corresponding OGIVE in EXCEL plotting is shown below. Try to understand the construction of frequency and draw the OGIVE in free hand and in EXCEL

Class	Frequency	less than	more than
0-10	1	1	482
10-20	10	11	481
20-30	35	46	471
30-40	60	106	436
40-50	85	191	376
50-60	100	291	291
60-70	85	376	191
70-80	60	436	106
80-90	35	471	46
90-100	10	481	11
100-110	1	482	1



Q12. Percentage of marks obtained by a group of 60 students in different categories are categorised in following frequency distribution. Identify from the distribution whether the information forms a symmetrical or positively skewed or negatively skewed curve. Hence ascertain the correctness of your answer by a graph. Attempt in EXCEL also.

% age	No of Students
0-10	1
10-20	2
20-30	7
30-40	21
40-50	12
50-60	8
60-70	5
70-80	3
80-90	1
90-100	0
TOTAL	60

Answers are given below:

Q1

Sr No	Data	
1	483	
2	502	(a)
3	528	(b)
4	531	(c)
5	534	
6	536	
7	541	
8	541	
9	546	
10	546	
11	547	
12	557	
13	567	
14	578	
15	578	
16	578	
17	586	
18	592	
19	592	
20	599	
21	603	
22	612	
23	618	
24	619	
25	622	
26	622	
27	631	
28	631	
29	637	
30	641	
31	641	
32	644	
33	644	
34	644	
35	645	
36	650	
37	663	
38	689	
39	695	
40	708	

Q2.

Class	f
450.0-499.9	1
500.0-549.9	10
550.0-599.9	9
600.0-649.9	15
650.0-699.9	4
700.0-749.9	1



Q3.

Sr. No	Data	Class	f
1	3.2	3.2-3.6	4
2	3.3	3.7-4.1	15
3	3.5	4.2-4.6	6
4	3.6	4.7-5.1	8
5	3.7	5.2-5.6	8
6	3.7	5.7-6.1	2
7	3.7	6.2-6.6	1
8	3.7	6.7-7.1	1
9	3.8	TOTAL	45
10	3.9		
11	3.9		
12	3.9		
13	3.9		
14	3.9		
15	3.9		
16	4		
17	4		
18	4		
19	4.1		
20	4.2		
21	4.2		
22	4.4		
23	4.5		
24	4.5		
25	4.6		
26	4.7		
27	4.8		
28	4.8		
29	4.9		
30	4.9		
31	5		
32	5		
33	5.1		
34	5.2		
35	5.2		
36	5.4		
37	5.4		
38	5.4		
39	5.4		
40	5.5		
41	5.6		
42	5.9		
43	6.1		
44	6.2		
45	6.9		

Q4.

Sr No	Data		
1	35	26	67
2	40	27	68
3	43	28	68
4	47	29	69
5	48	30	70
6	50	31	71
7	52	32	71
8	52	33	71
9	54	34	72
10	55	35	74
11	56	36	77
12	56	37	77
13	57	38	77
14	57	39	78
15	57	40	79
16	59	41	80
17	60	42	81
18	62	43	84
19	63	44	86
20	64	45	87
21	64	46	88
22	64	47	90
23	65	48	93
24	66	49	97
25	67	50	99

Width of a class =  $(100-35)/7$  9.285714 Approx 10

Class	f	rf
30-39	1	0.02
40-49	4	0.08
50-59	11	0.22
60-69	13	0.26
70-79	11	0.22
80-89	6	0.12
90-99	4	0.08
	50	1

Width of class  $(100-35)/13$  5

Class	f	rf
35-39	1	0.02
40-44	2	0.04
45-49	2	0.04
50-54	4	0.08
55-59	7	0.14
60-64	6	0.12
65-69	7	0.14
70-74	6	0.12
75-79	5	0.1
80-84	3	0.06
85-89	3	0.06
90-94	2	0.04
95-99	2	0.04
	50	1

Width 3.883333 Approx 4

Class	f	rf
33.2-37.2	7	0.233333
37.3-41.3	5	0.166667
41.4-45.4	8	0.266667
45.5-49.5	6	0.2
49.6-53.6	3	0.1
53.7-57.7	1	0.033333
	30	1

Width 4.64 Approx 5

Class	f	rf
below 35	5	0.166667
35-40	6	0.2
40-45	9	0.3
45-50	6	0.2
50 and above	4	0.133333
	30	1

Q5.

Sr No	Data		
1	33.2	16	42.2
2	33.9	17	42.4
3	34.1	18	43.9
4	34.5	19	44.5
5	34.9	20	44.6
6	36	21	45.7
7	36.4	22	46.4
8	37.6	23	46.7
9	38.3	24	48.3
10	38.9	25	49
11	39	26	49.4
12	40.6	27	50.7
13	41.6	28	51.4
14	41.8	29	51.7
15	42.1	30	56.4

Q6

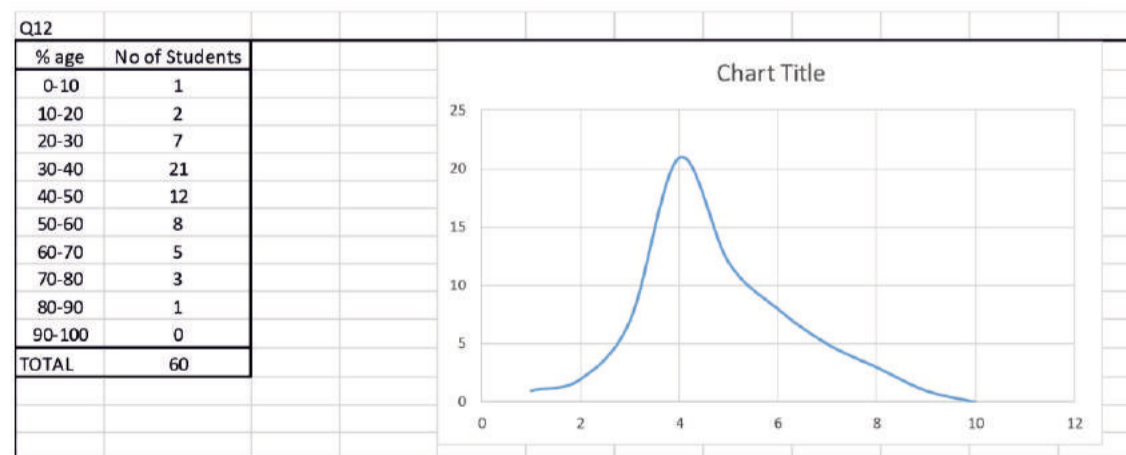
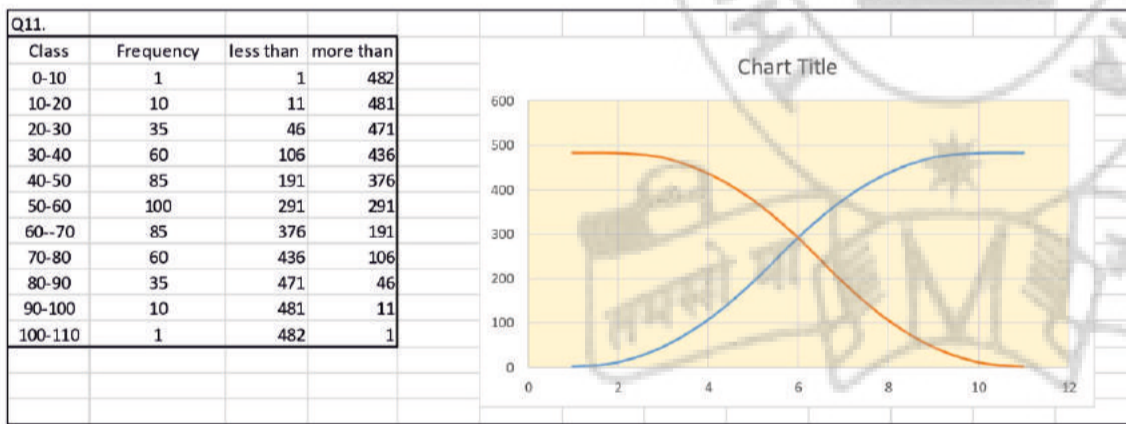
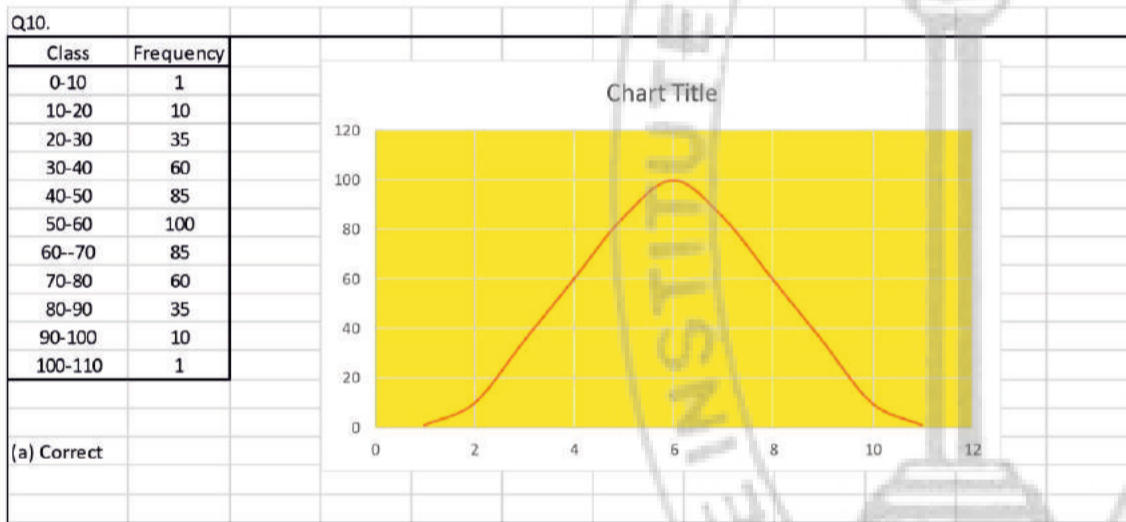
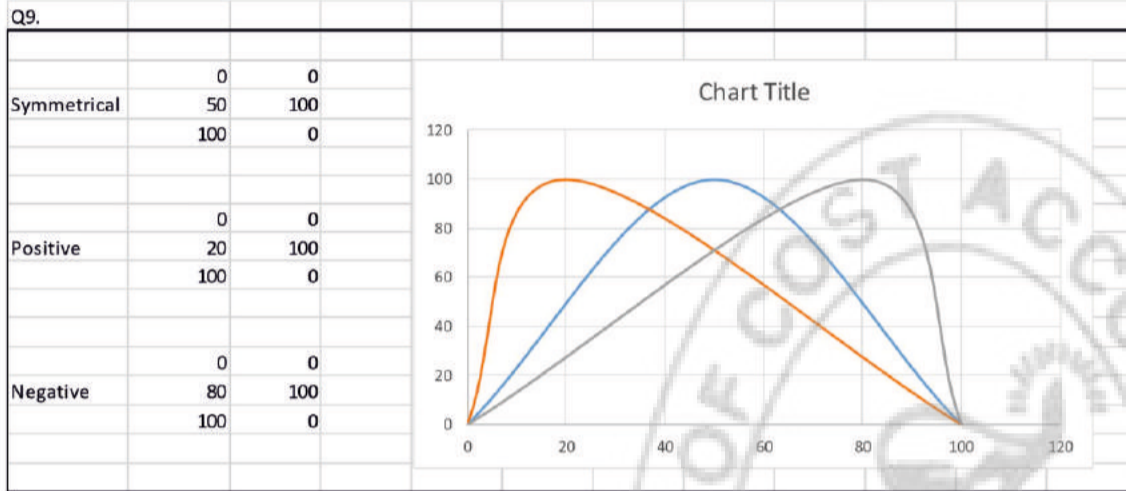
(a)	(b)	©
Real Class limits	Stated Class limits	Class Mark
33.15-37.25	33.2-37.2	35.2
37.25-41.35	37.3-41.3	39.3
41.35-45.45	41.4-45.4	43.4
45.45-49.55	45.5-49.5	47.5
49.55-53.65	49.6-53.6	51.6
53.65-57.75	53.7-57.7	55.7

Q7

Class	Class Mark
17.50- 19.99	18.745
20.00- 22.49	21.245
22.50- 24.99	23.745
25.00- 27.49	26.245
27.50- 29.99	28.745
30.00- 32.49	31.245
32.50- 34.99	33.745
35.00- 37.49	36.245
37.50- 39.99	38.745

Q8.

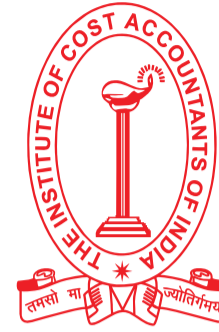
2nd class Mark	11.5
1st class mark	8.5
Difference	3
1/2 of difference	1.5
1st Class	
Real Lower Limit	7
Real Upper Limit	10
Class (Real Limit)	Class (Stated Limit)
7-10	7.5-9.5
10-13	10.5-12.5
13-16	13.5-15.5
16-19	16.5-18.5
19-22	19.5-21.5
22-25	22.5-24.5
25-28	25.5-27.5
28-31	28.5-30.5



**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



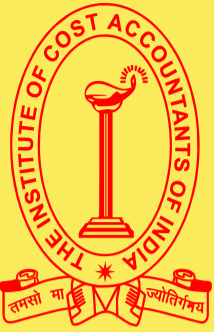


# Examination TIME TABLE

Day & Date	Foundation Examination Syllabus-2016	
	Time 10.00 A.M. to 12.00 NOON. Paper - 1 & 2 (200 Marks)	Time 2.00 P.M. to 4.00 P.M. Paper - 3 & 4 (200 Marks)
Sunday, 5 th September, 2021	Paper - 1 : Fundamentals of Economics & Management (100 Marks 50 Multiple Choice Questions)	Paper - 3 : Fundamentals of Laws & Ethics (100 Marks 50 Multiple Choice Questions)
	Paper - 2 : Fundamentals of Accounting (100 Marks 50 Multiple Choice Questions)	Paper - 4 : Fundamentals of Business Mathematics & Statistics (100 Marks 50 Multiple Choice Questions)

**STAY HOME STAY SAFE**





# 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 Exercises given in Study Note**

02

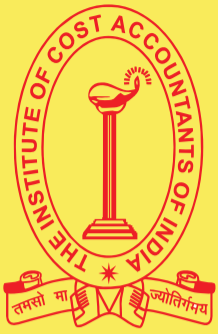
03

**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.

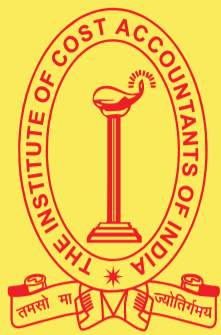
Please put your opinions so that we can make your e-bulletin everything that you want it to be.

All rights reserved. No part of this Bulletin may be translated or copied in any form or by any means without the prior written permission of the Institute of Cost Accountants of India.

Send your Feedback to:  
e-mail: [studies.ebulletin@icmai.in](mailto: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](http://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.







# THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

Statutory Body under an Act of Parliament

## Headquarters:

CMA Bhawan, 12 Sudder Street, Kolkata - 700016

## Delhi Office:

CMA Bhawan, 3 Institutional Area, Lodhi Road, New Delhi - 110003

[www.icmai.in](http://www.icmai.in)



# CMA LEADS

**Last Date for Admission**  
June Exam  
31<sup>st</sup> January  
of the same Calendar Year

December Exam  
31<sup>st</sup> July  
of the same Calendar Year

5,00,000<sup>+</sup>  
Students

75,000<sup>+</sup>  
Members

4 Regional  
Councils

98  
Chapters

9  
Overseas  
Centres

Largest  
CMA body  
in Asia

2nd  
Largest  
CMA body  
in the  
Globe

The Institute of Cost Accountants of India is a premier professional Institute and a statutory body constituted under an Act of Parliament under the administrative control of **Ministry of Corporate Affairs (MCA), Govt. of India** to regulate and develop the profession of Cost and Management Accountancy (CMA) in the country. The Institute established in **1944** is now celebrating the **Platinum Jubilee year** of its glorious presence.

## ADMISSIONS OPEN

✉ [studies@icmai.in](mailto:studies@icmai.in)

☎ **1800 345 0092/1800 110 910**

**For Online Admission**

<http://cmaicmai.in/students/Home.aspx>

## Cultivating and Enhancing Skills of Success

- CMA Course Curriculum is designed to meet Industry requirements and challenges in Global Economic Scenario
- Hands on Computer and Soft skills training
- Industry oriented practical training programme
- Six Skill Sets - Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation
- Four Knowledge Pillars - Management, Strategy, Regulatory Function and Financial Reporting
- Our Motto - Student friendly Syllabus and Industry friendly Students

Excellent Campus Placement Record  
in renowned Public and Private Sector Companies

Highest Salary Offered **Rs.18 Lakh p.a.** | Average Salary **Rs.7.5 Lakh p.a.**

*Few of Our Proud Recruiters*



✉ [placement@icmai.in](mailto:placement@icmai.in) / [cpt@icmai.in](mailto:cpt@icmai.in)

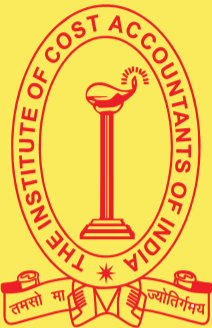
☎ **+ 91 33 40364770**

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

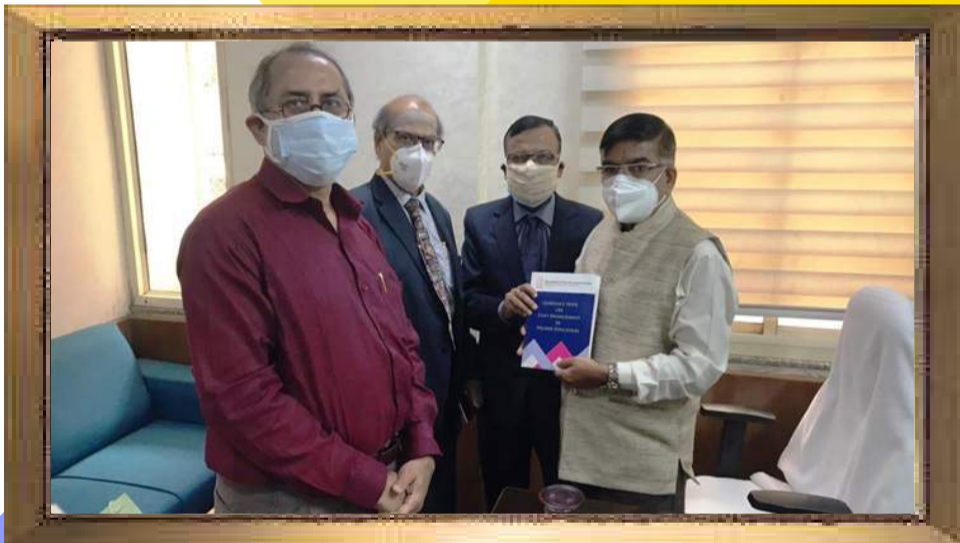




# Few Snapshots



Glimpses of 75th Independence Day Celebrations by the Institute



CMA Biswarup Basu, President of the Institute along with CMA P Raju Iyer, Vice President, CMA Chittaranjan Chattopadhyay, Chairman BFSI Board & Indirect Taxation Committee of the Institute and CMA B.B. Goyal, Advisor, ICWAI MARF & former Addl. Chief Adviser (Cost), Ministry of Finance, GoI had an opportunity to meet Dr. Subhas Sarkar, Hon'ble Union Minister of State for Education on 4th August, 2021 to discuss important matters related to the profession.



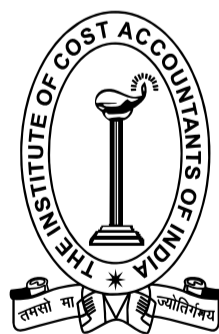
CMA P Raju Iyer Vice President handing over proposal of CAT & AAT Board ICAI to VC, Pondicherry Shri. Gurmeet Singh along with CMA H Padmanabhan, Chairman, CMA Dr K Ch A V S N Murthy, CMA Chittaranjan Chattopadhyay, CMA Rakesh Singh Former President and CMA Vijender Sharma, Chairman PD from Institute side while other Officials of University were witness



CMA (Dr.) Ashish P. Thatte, Chairman, Corporate Laws Committee extending greetings to Smt. Darshana Vikram Jardosh, Hon'ble Union Minister of State for Railways and Textiles on 29th July, 2021



Glimpses of the MOU signing ceremony between the Institute of Cost Accountants of India and ACCA, UK on 9th August, 2021.



**FOLLOW US ON**



# THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(Statutory body under an Act of Parliament)

Headquarters: CMA Bhawan, 12, Sudder Street, Kolkata - 700 016

Phone: +91-33-2252-1031/34/35/1602/1492/1619/7373/7143

Delhi office: CMA Bhawan, 3, Institutional Area, Lodhi Road, New Delhi - 110 003

Phone: +91-11-2462-2156/2157/2158

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