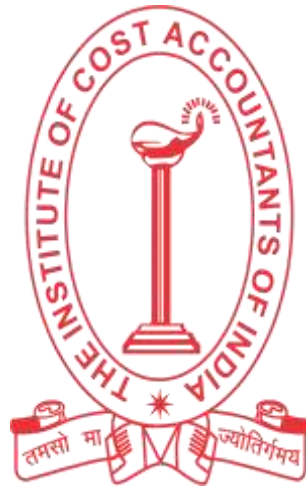


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Knowledge Update

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.

Fundamentals of Economics & Management (FEM)

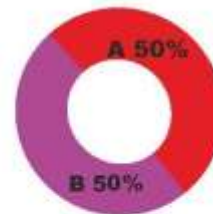


PAPER: 1, PART: I

FUNDAMENTALS **OF ECONOMICS & MANAGEMENT** **- (FEM) - ECONOMICS**

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Your Preparation Quick



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 behavior 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 planning for a Grand Christmas celebration and a wonderful new year awaiting you. I do admit that Christmas celebration with cakes, fruits, Christmas carol and visit to the zoo with lots of fun is much more interesting than your studies. As I reside in a locality full of Christians surrounded by a number of Church, I know what Christmas celebration means. Celebration starts with the preparation of cake in the nearest bakery where Christians and non-Christians throng, armed with all the ingredients for cake preparation. Just think of the quality of the cake thus prepared with ingredients of A1 quality. All the best for the twin celebrations.

Mock test**I. Choose the correct answer:**

- 1. Free entry and free exit is the characteristic of**
 - A. Monopoly
 - B. Monopolistic competition
 - C. Oligopoly
 - D. Duopoly
- 2. When total cost curve reaches the highest point**
 - A. MC will be 1
 - B. MC will be infinity
 - C. MC will be zero
 - D. None of the above
- 3. At the point where the AC curve touches the AR curve**
 - A. Super-normal profit is positive

- B. Super-normal profit is zero
 - C. Super-normal profit is negative
 - D. None of the above
4. **Consumption is**
- A. Creation of utility
 - B. Destruction of utility
 - C. Having no relation with utility
 - D. None of the above
5. **Wealth of Nation was written by**
- A. Adam Smith
 - B. Samuelson
 - C. Robertson
 - D. J. B. Say
6. **MPC value always**
- A. $1 > mpc > 0$
 - B. $1 < mpc < 0$
 - C. $1 > mpc < 0$
 - D. $1 < mpc > 0$
7. **Which of the following is not an objective of monetary policy?**
- A. Acceleration of economic growth
 - B. Generation of employment
 - C. Supervision of commercial banks
 - D. Price stability
8. **Which of the following is not a tool of quantitative credit control?**
- A. Bank rate policy
 - B. Moral suasion
 - C. Open market operations
 - D. Variable reserve ratio
9. **Which of the following is a demerit of deficit financing?**
- A. It adds to resource mobilization
 - B. It may lead to inflation

- C. Promotes employment
- D. All of the above

10. During depression the RBI should

- A. Decrease the bank rate
- B. Sell Govt. securities in open market
- C. Increase CRR
- D. Increase margin requirements

KEY:

1.B	2.C	3.B	4.B	5.A	6.A	7.C	8.B	9.B	10.A
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

II. Fill in the blanks:

1. In firms are price takers
2. If there is a continuous rise in the price level, it is
3. Inflation may be of two types – demand pull and
4. Firm's demand curve is its Curve
5. Is the other name of monopolistic competition

KEY:

1.Perfect competition	2.Inflation	3.Cost push	4.Average revenue	5. Product differentiation
-----------------------	-------------	-------------	-------------------	----------------------------

III. True or false:

1. Demand for diamond follows the law of demand
2. When the price level increases, the value of money also increases
3. Marginal cost is obtained by dividing the total cost by quantity of output
4. NABARD is a private sector institution
5. Rectangular hyperbola demand curve will have elasticity of demand = 1 at all points

KEY:

1. False	2. True	3. False	4. False	5. True
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IV. Matching:

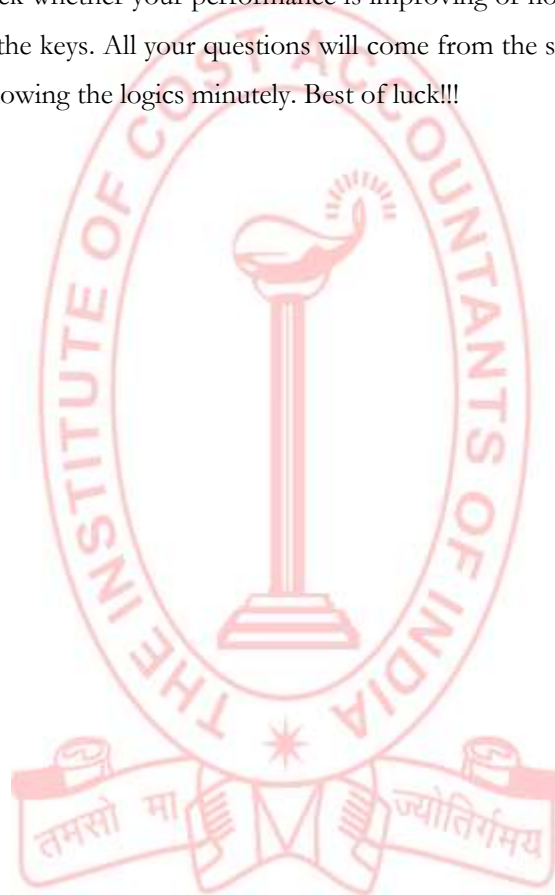
1. Perfect competition	A. multiplier theory
2. Demand forecasting	B. production

3. Keynes	C. homogenous product
4. Creation of utility	D. TP
5. AP x Q	E. expert opinion

KEY:

1. C	2. E	3. A	4. B	5. D
------	------	------	------	------

So friends! Hope you have been able to answer all the questions correctly and that too very easily. Please record all your performance and check whether your performance is improving or not. Of course you have to check the temptation of consulting the keys. All your questions will come from the study material only. So learn the study material by heart by following the logics minutely. Best of luck!!!



Fundamentals of Economics & Management (FEM)



PAPER: 1, PART: II

FUNDAMENTALS **OF ECONOMICS & MANAGEMENT** **- (FEM) - MANAGEMENT**

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Your Preparation Quick



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. **To manage is to forecast and plan, to organize, to compound, to co-ordinate and to control.**

This definition was given by_____

- A. Peter F. Drucker
- B. Henry Fayol
- C. Louis Allan
- D. Terry

2. **Management is the art and science of decision making and leadership _____**

- A. Harold Koontz
- B. Donald J. Clough
- C. Louis Allan
- D. Terry

3. **Complete freedom for group or individual decision, with a minimum of leader participation is under _____**

- A. autocratic style
- B. democratic style
- C. free-rein style
- D. creative style

4. **The leader who excels as a leader because of his superior knowledge is _____**

- A. Autocratic leader
- B. Intellectual leader
- C. Liberal leader
- D. Institutional leader

5. **The leader acts as a liaison officer between the employees and the outside world is _____**



- A. Positive style
B. Free-rein style
C. Autocratic style
D. Democratic style
6. Control exercised while the activity is in progress is _____
A. Concurrent control
B. Feedforward control
C. Feedback control
D. Preserving control
7. The person who sends a message is known as _____
A. Sender
B. Receiver
C. Messenger
D. Communicator
8. The act of translating the message into words, pictures, symbols, signs or some other form is known as _____
A. Sender
B. Receiver
C. Encoding
D. decoding
9. Communication that flow from superior to subordinates is _____
A. Downward communication
B. Upward communication
C. Horizontal communication
D. Informal communication
10. Reports, suggestions, appeals, grievances, etc. is example of _____
A. Downward communication
B. Upward communication
C. Horizontal communication
D. Informal communication
11. Lectures, group discussions, interviews, social gathering are example of _____

- A. Oral communication
- B. Written communication
- C. Gestural communication
- D. Sideward communication

12. The oldest type of organization _____

- A. Functional organization
- B. Line organization
- C. Matrix organization
- D. Committee organization

13. Devices which shows the organizational relationships _____

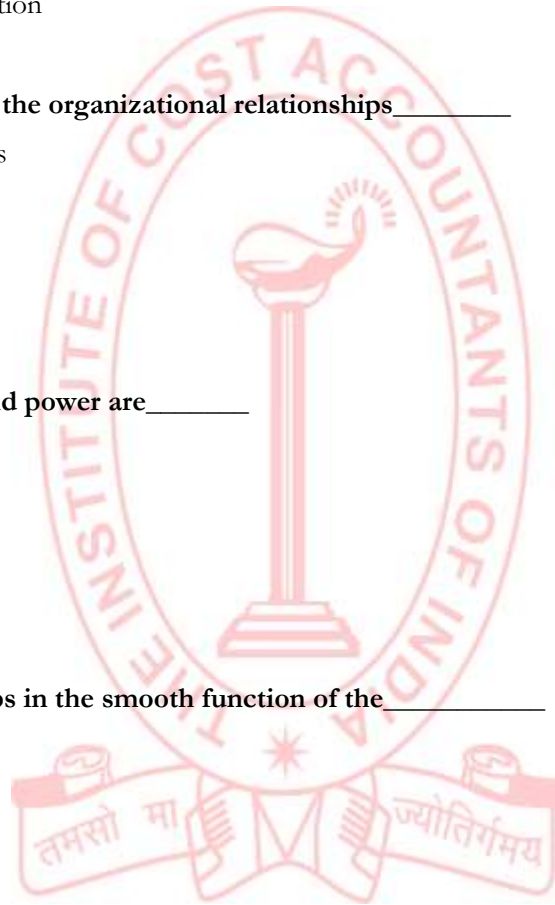
- A. Organizational charts
- B. Scalar chain
- C. Overall plan
- D. Budgets

14. Praise, recognition and power are _____

- A. Intrinsic motivation
- B. Extrinsic motivation
- C. Positive motivation
- D. Negative motivation

15. Decision making helps in the smooth function of the _____

- A. Business
- B. Staffing
- C. Organization
- D. Planning



Answers:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B	B	C	B	B	A	A	C	A	B	A	B	A	A	A

Fundamentals of Accounting (FOA)



PAPER: 2

FUNDAMENTALS OF ACCOUNTING (FOA)

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Your Preparation Quick



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 of Accounting

Hope you all are keeping well. This is the last month of the year. You must be waiting for a new year to come and waiting to celebrate the Christmas days. Warm Wishes to you all for a cold winter:

Here is some practice material for you:

I. State whether the following statements are 'true' or 'false':

1. The name single entry system has come into vogue because for every transaction only one aspect is recorded in the books of account.
2. Under single entry system it is not possible to prepare a trial balance unless the missing figures are ascertained.
3. Limited companies are free to choose either single entry or double entry system of accounting.
4. Under single entry system the usual accounts maintained are the personal accounts of suppliers and customers and the cash book.
5. Under the net worth method profit is ascertained by deducting the value of assets at the commencement of accounting period from the value of assets at close.
6. Under the net worth method profit is ascertained by calculating the increase in net worth after adjusting for drawings and additions to capital.
7. Under the conversion method of single entry, credit purchases and credit sales are ascertained by preparing the total creditors and total debtors accounts respectively.

Answers:

1. False	2. True	3. False	4. True	5. False	6. True	7. True
----------	---------	----------	---------	----------	---------	---------

II. Fill in the blanks:

1. Under the net worth method profit is ascertained by the addition of..... to the increase in capital over the accounting period.
2. Capital at the beginning and capital at close are usually ascertained as the balancing figures of.....prepared on the relevant accounting dates.

3. Under single entry system, information relating to expenses must be ascertained from the analysis of.....
4. Acceptances received during the period must be debited to bills receivable account and credited to.....account.
5. Acceptances issued during the period must be debited to.....account and credited to bills payable account
6. If cash sales or cash purchases are the missing figures, they are to be ascertained by the construction of.....account.

Answers:

1. Drawings	2. Statement of affairs	3. Cash book	4. Total debtors account	5. Total creditors account	6. Cash
-------------	-------------------------	--------------	--------------------------	----------------------------	---------

III. Indicate the correct answer:**1. Under the net worth method the bases for ascertaining the profit is**

- (a) the difference between the capital on two dates
- (b) the difference between the gross assets on two dates
- (c) the difference between the liabilities on two dates.
- (d) the difference between capital assets and liabilities at close

2. Under the net worth method any additions to capital during the accounting period must be

- (a) added to profit
- (b) subtracted from profit
- (c) added to capital
- (d) deducted from capital.

3. Cash received from debtors needed for the construction of cash account can be had from.

- (a) total debtors account
- (b) balance sheet
- (c) analysis of cash book
- (d) pass book.

4. Given the opening and closing balances of debtors and the figure of credit sales, the balancing figure of total debtors account will give

- (a) bill retired during the year
- (b) cash received from debtors
- (c) closing balance of bills receivable
- (d) bills received during the year.

5. The closing balance of trade debtors can be located from

- (a) total debtors account
- (b) balance sheet
- (c) bills receivable account
- (d) cash book

6. An estimate of assets and liabilities as on a date is called

- (b) balance sheet
- (b) statement of affairs
- (c) statement of capital
- (d) trial balance.

Answers:

1. (a)	2. (b)	3. (a)	4. (b)	5. (a)	6. (b)
--------	--------	--------	--------	--------	--------

IV. Calculate total sales:

1. Cash sales for the year were Rs. 46,000; the cash collections from customers were Rs. 1,26,400. The debtors regarded as collectible decreased by Rs. 4,940. On account of the amount of Rs. 1,300 was determined during the year to be worthless.

(Credit sales Rs. 1,22,760; Total sales Rs. 1,68,760)

[Hint. Decrease in collectible debtors is nothing but the difference between debtors at the end and debtors in the beginning. This amount is to be shown on the debit side of debtor's account.

2. (a) Find out collections from sundry debtors being the balancing figure from the following details of entries in the Cash Book of Mohan:

Opening balance 8,000

Closing balance	14000
Payment to creditors	160000
Bills Receivable encashed	18000
Bills Payable paid	12000
Drawings	24000
Total expenses	36000

(b) From the following particulars of the Sundry Creditors Account, find out the net credit purchases during the period;

Opening balance of sundry creditors	160000
Payment by cheque	940000
Payment by bills payable	100000
Payments in cash	20000
Discount received	10000
Purchase returns	20000
Closing balance	190000



Fundamentals of Laws and Ethics (FLE)



PAPER: 3

FUNDAMENTALS OF LAWS AND ETHICS (FLE)

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Your Preparation Quick



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.

Law and Ethics

With Mission CMA in mind, the students are advised to study this paper with a practical approach, as if the points concern you and you are given to deal with it as a professional. As a CMA in the making whether you decide to get employed or be self-employed and employ people, you will have to deal with Offers and Acceptances legally and establish Legal relationship for lawful consideration and perform your professional duties. Keeping that in mind, you have to study this subject seriously.

You must start thinking like A Teacher. You must start studying the subject and raise questions to yourself and find your own answers.

Now, let us start revising part by part, what we have read in the previous issues.

Sale of Goods Act,1930**Auction Sale:**

In an auction sale, there is an Auctioneer who is appointed by the owner of a property to sell property by inviting bids publicly and the property is sold to the highest bidder. However, the Auctioneer warrants the following: -

1. That the auctioneer has authority to sell
2. That the auctioneer has no knowledge that property under sale on behalf of his principal has any defects as to title ; and
3. The buyer shall get quiet title to the possession of the property against payment of a price.

The question arises, what could be the **Rules regarding Sales by auction?**

Section 64 of the Sale of Goods Acts lays the rules which are as follows:

1. Where the goods are put to sale in lots, each lot is deemed to be subject to separate contract of sale;
2. The sale is complete only after the customary fall of the hammer when the auctioneer repeats the final offer **three times and** announces the completion of the sale. Until the fall of the hammer the bidder may retract his/her bid. The fall of the hammer amounts to acceptance of the offer.
3. The Seller may expressly reserve his right to bid in the auction. Such a sale has to be notified in advance. If such a right is expressly reserved, seller or any other person on his behalf may, bid at the auction. It may be kept in mind that without any express reservation and advance notification, the seller or any person on his behalf, cannot bid at an auction as it shall not be lawful and considered as fraudulent by the buyer acting on behalf of the seller.
4. The sale may be notified to be subject to a Reserved Price , that is, a price below which the goods/property will not be sold. The Reserve Price can be kept secret.
5. Where the seller resorts to pretended bidding, just to raise the price, the sale becomes voidable at the opinion of the buyer.

Who is an unpaid vendor/seller of goods?

The answer must be thought logically. A seller is considered unpaid if –

1. If the entire price of the goods sold has not been paid or remitted; or
2. If a Bill of Exchange or Negotiable Instrument has been received from the buyer by the seller as a conditional payment but that instrument has been dishonoured or the conditions on which it was issued has not been fulfilled. Please refer Sec.45(1)

That obviously raises a question – **What shall be the Unpaid Seller's / Vendor's Right** . It has may be remembered that the Vendor can exercise his rights even where the property in the goods has passed to the buyer.

The following are the Rights of the Unpaid Vendor/Seller: -

1. Vendor's Lien:

The unpaid Vendor, who still holds possession of the goods, is entitled to retain possession of the goods (this *is called exercising the right of lien, for non-payment of the price but not for any other charges*. For example, the godown charges, if any, paid by the seller for storing the undelivered goods cannot be a reason for exercising lien) until the payment is made or remitted provided –

- a) The goods were sold without any stipulation as to credit ‘
- b) The goods were sold on credit, but the terms of credit has expired (it may be noted that the seller cannot refuse to hand over possession of the goods unless the terms of credit has expired) ; or
- c) The buyer has become insolvent.

A question may come to mind – what happens if the seller has made part delivery of the goods? in such a case, the seller can exercise lien on the balance of the goods not yet delivered provided the part delivery was not made with an intention to waive the lien.

2. **The Right of Stoppage in Transit.**

Suppose the goods were dispatched to the buyer, but before the goods were delivered or before the seller got payment of the price, the buyer became insolvent, in such a case, the seller can resume possession of the goods from the carrier.

This is called the right of stoppage in transit. Please note the following points:

- a. Goods are in transit from the time they are delivered to the carrier, till the time they are delivered to the buyer or his agent.
- b. The right to stoppage in transit comes to an end as soon as the goods are delivered to the buyer or his agent. However, if the after arrival of the goods at the destination, the carrier intimates to the buyer that the goods are being held by him (the carrier) on behalf of the buyer, the seller's right to take back possession comes to an end.
- c. If the carrier wrongfully refuses to deliver the goods to the buyer, the transit of the goods comes to an end and the seller's right to stop transit too ceases.
- d. Where the seller made part delivery of the goods, in such a case, the seller can only stop the goods in transit, provided it can be proved that the part delivery was not made with an intention to waive the lien.
- e. The buyer need not be declared insolvent in the court of law. Insolvency here, denotes that the buyer has become financially embarrassed.
- f. The vendor/seller can exercise right of stoppage, by either taking actual possession of the goods or by directing the carrier to send back the goods to him or his agent and the expense of such return delivery shall be borne by the seller.

The Right to Resale

The unpaid seller/vendor who has retained possession of the goods by exercising his lien or has taken back possession from the carrier upon insolvency of the buyer **can resell the goods**, under the following circumstances: If the goods are perishable, those can be sold off without notice to the buyer; otherwise

- a) By first giving notice to the buyer and allowing him reasonable opportunity and time to pay/ remit the price, and then resell only if the buyer fails to pay;
Here too, if the seller, upon resale, gets more value for the goods, he can retain the excess amount, but, if the sale value is less than what was due from the buyer, the seller can sue the buyer for the balance. The buyer remains liable to compensate the seller for damages, if any, suffered by the seller. The next buyer gets good title of the goods.

3. Suit for Price:

- a) Under a contract of sale, where the property in the goods has passed on to the buyer, and the buyer does not act as per terms of the contract and fails to pay or neglects to pay, the seller can sue the buyer for the price of the goods;
- b) If under the terms of a contract, the buyer is to pay the price on a certain day irrespective of the actual delivery of the goods and the buyer fails to pay or neglects to pay, the seller can sue the buyer for the price even though the property in the goods has not passed to the buyer.

Let us recapitulate something we read earlier in **The Indian Contracts Act,1872:**

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.

- c) 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.
- d) 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, you are entitled to get reimbursement from your brother **under Sec.69.**
- e) 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.**
- f) 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.

- g) 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
- h) All the above examples are of Quasi-contracts.
- i) 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**.

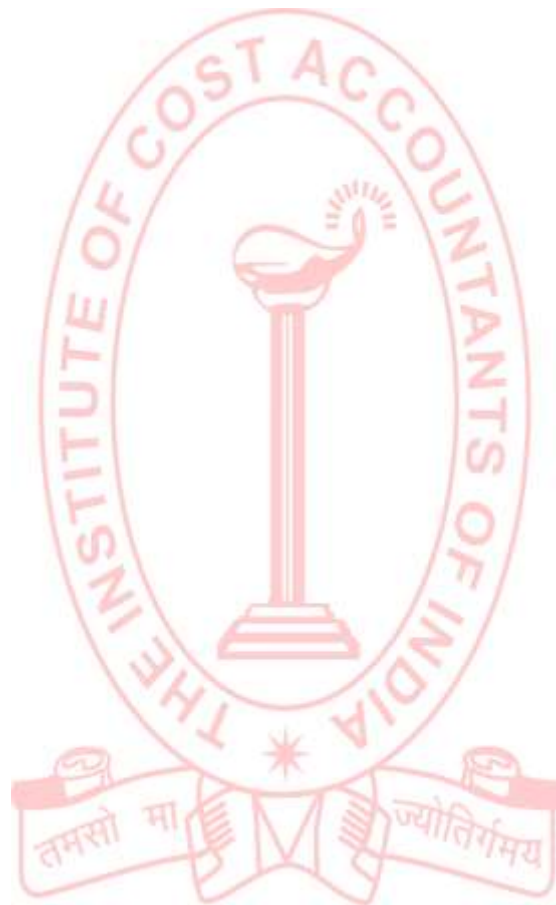
First let us understand **what is Contingency**. It is some future event, which is possible, but cannot be predicted with certainty. For example, an accident which can always happen but no one can say that it will definitely happen. Now, let us take a practical example. You tell your friend that you 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 lacs to Y if Y marries X's daughter Z. Z was already dead at the time of the agreement. Therefore, this agreement is void.



Fundamentals of Business Mathematics and Statistics (FBMS)

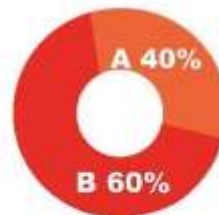


PAPER: 4

FUNDAMENTALS OF BUSINESS MATHEMATICS AND STATISTICS (FBMS)

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Your Preparation Quick



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 discuss MCQs on Correlation. Among the four options given to each question choose the appropriate option.

Q1. Positive correlation refers to

- The movement of variables in the positive direction
- The movement of variables in the 45degrees direction in XY Cartesian plane
- The movement of variables in the same direction
- The movement of variables in the 90degrees direction in XY Cartesian plane

Q2. If sales of woolen garments and day temperature are two variables, then

- Increase in the value of one variable is accompanied by the increase in the value of the other
- Increase in the value of one variable is accompanied by the decrease in the value of the other
- Decrease in the value of one variable is accompanied by the decrease in the value of the other
- Increase (decrease) in the value of one variable is accompanied by the decrease (increase) in the value of the other

Q3. Linear Correlation between two variables occurs when

- Variations in the values of the variables always make a ratio equal to 1
- Graph of Variables in XY Cartesian plane always make a 45degree line
- Graph of Variables in XY Cartesian plane always make a 90degree line
- Variations in the values of the variables always make a constant ratio

Q4. There are two variables X and Y. Different values of X and corresponding values of Y are given below:

X	45	50	55	60	65	70
Y	8	15	25	30	38	45

X and Y makes a

- Linear Correlation

- (b) Non-Linear Correlation
- (c) Partial Correlation
- (d) Total Correlation

Q5. On a scatter diagram negative correlation between two variables (X & Y) is revealed if

- (a) The trend of the points (or dots) is downward slopping from top left to bottom right
- (b) The trend of the points (or dots) is upward slopping from bottom left to top right
- (c) The trend of the points (or dots) goes parallel to X axis
- (d) The trend of the points (or dots) goes parallel to Y axis

Q6. If the points on a scatter diagram show no spread and trend is upward slopping from bottom left to top right, then we could conclude for

- (a) A perfect negative correlation
- (b) A perfect correlation
- (c) A perfect positive correlation
- (d) No Correlation

Q7. Covariance method for determining Karl Pearson's coefficient of correlation between two variables X & Y uses the formula

- (a) $Cov(X, Y) * \sigma_X * \sigma_Y$
- (b) $Cov(X, Y) / (\sigma_X * \sigma_Y)$
- (c) $Cov(X, Y) * \sigma_X / \sigma_Y$
- (d) $Cov(X, Y) * \sigma_Y / \sigma_X$

Q8. Covariance between two variables X and Y with N number of items is computed by

- (a) $\Sigma(X - \text{Mean of X series}) / \Sigma(Y - \text{Mean of Y series})$
- (b) $\frac{\Sigma(X * \text{Mean of X series})(Y * \text{Mean of Y series})}{N}$
- (c) $\Sigma(X - \text{Mean of X series})(Y - \text{Mean of Y series})$
- (d) $\frac{\Sigma(X - \text{Mean of X series})(Y - \text{Mean of Y series})}{N}$

Q9. In a set of data for two variables X and Y there are 15 items. Summation of product deviations of X and Y series from their respective arithmetic means is 122. Standard deviation of X and Y series are $\sigma_X = 3.01$, $\sigma_Y = 3.03$. Karl Pearson's Coefficient of Correlation between X and Y is

- (a) 0.78
- (b) 0.56

- (c) 0.89
(d) 1

Q10. Karl Pearson's Coefficient of Correlation between two variables X and Y is 0.38. Their covariance is 7.6. If the standard deviation of X i.e. $\sigma_X = 3$, and there are 10 items, then standard deviation of Y i.e. σ_Y is

- (a) 3.05
(b) 6.67
(c) 9.048
(d) 2.38

Q11. Given $r = 0.8$, $\Sigma xy = 60$, $\sigma_y = 2.5$ & $\Sigma x^2 = 90$, and x & y are deviations from respective arithmetic average, then Number of items is

- (a) 6
(b) 20
(c) 9
(d) 10

Q12. Advertisement cost and sales data of a company are given below:

Advt.	40	66	63	91	83	76	26	99	37	69
Sales	48	54	59	87	63	69	61	92	52	75

The Pearson's Coefficient of correlation is

- (a) 0.78
(b) 0.67
(c) 0.58
(d) 0.26

Q13. If $N = 50$, $\Sigma X = 75$, $\Sigma Y = 80$, $\Sigma X^2 = 130$, $\Sigma Y^2 = 140$, $\Sigma XY = 120$, the value of r is

- (a) 0.45
(b) -1
(c) 1
(d) 0

Q14. The following data set is obtained for two variables X and Y

X	12	9	8	10	11	13	7
---	----	---	---	----	----	----	---

Y	14	8	6	9	11	12	3
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The coefficient of correlation between X and Y is

- (a) 0.948
- (b) -1
- (c) 0.235
- (d) - 0.781

Q15. If $r = -1$ between two variables X & Y, then

- (a) There will be very little spread among points of scatter diagram which shows a downward sloping straight line
- (b) There will be very little spread among points of scatter diagram which shows a upward sloping straight line
- (c) There will be nil spread among points of scatter diagram which shows a downward sloping straight line
- (d) There will be nil spread among points of scatter diagram which shows a upward sloping straight line

Q16. The data set between two variables X and Y is as follows:

X	3	5	6	7	9	12
Y	19	13	11	9	8	6

The correlation coefficient between X & Y thus obtained is (-) 0.92 . Now multiply each value of X with 3 and add 7. Simultaneously multiply each value of Y with 2 and subtract. 3. In the new data set thus obtained the correlation coefficient between X and Y is

- (a) 1
- (b) - 0.92
- (c) 0.78
- (d) - 0.345

Q17. The following data represents details of 6 cities.

City	A	B	C	D	E	F
Area Sq. m	250	280	200	160	220	180
Population in 000	40	100	50	52	82	34
Death	400	1540	660	940	1324	412

Correlation coefficient between Population density and death rates is

- (a) 0.89
- (b) 0.76

(c) – 0.54

(d) 1

Q18. The following data are collected with respect to two variables X and Y:

$$N = 10, \Sigma X = 140, \Sigma Y = 150, \Sigma(X - 10)^2 = 180, \Sigma(Y - 15)^2 = 215,$$

$$\Sigma(X - 10)(Y - 15) = 60$$

The correlation coefficient between X and Y is

(a) 0.485

(b) 0.915

(c) 0.385

(d) 0.675

Q19. There are two variables X and Y and the data collected are given below:

X	15	18	20	24	30	35	40	50
Y	85	93	95	105	120	130	150	160

Coefficient of correlation between X and Y if $dx = X - 20$ & $dy = Y - 100$ is

(a) 0.9914

(b) -1

(c) 0

(d) – 0.7654

Q20. The following fourteen figures relate to the consumption of fertilisers (F) and the output of food grains (O) in a location

F	100	110	120	130	140	150	160
O	1000	1050	1080	1150	1200	1220	1300

F	170	180	190	200	210	220	230
O	1360	1420	1500	1600	1650	1650	1650

Correlation coefficient between F and O is

(a) 0

(b) – 0.2347

(c) – 0.7864

(d) 0.9918

Answers:

Q1	c	
Q2	d	
Q3	d	
Q4	b	In case of Linear value of X/value of Y will be always equal to a constant. Partial and Total correlation happen with more than two variables
Q5	a	
Q6	c	
Q7	b	
Q8	d	
Q9	c	$\sigma_X = 3.01$ & $\sigma_Y = 3.03$. $\Sigma(X-\bar{X})(Y-\bar{Y}) = 122$, So $1/N * \Sigma(X-\bar{X})(Y-\bar{Y}) = 122/15 = 8.13$. So $r = \frac{8.13}{3.01 * 3.03} = 0.89$
Q10	b	$\sigma_X = 3.0$. $r = 0.38 = 7.6 / (3 * \sigma_Y)$. So $\sigma_Y = 7.6 / (3 * 0.38)$
Q11	d	$r = \frac{\frac{\Sigma xy}{N}}{SQRT\left(\frac{\Sigma(x^2)}{N}\right) * \sigma_Y} = \frac{\Sigma xy * \sqrt{N}}{SQRT\Sigma x^2 * N * \sigma_Y} = \frac{60}{\sqrt{90} * \sqrt{N} * 2.5}$ Or, $\sqrt{N} = \frac{60}{0.8 * \sqrt{90} * 2.5} = 3.162278$ So $N = 10$
Q12	c	$\Sigma(X - \bar{X})(Y - \bar{Y}) = 2484$, $\Sigma(X - \bar{X})^2 = 9228$, $\Sigma(Y - \bar{Y})^2 = 1954$
Q13	d	$r = \frac{\Sigma XY - \frac{\Sigma X * \Sigma Y}{N}}{\sqrt{\Sigma X^2 - \frac{(\Sigma X)^2}{N}} * \sqrt{\Sigma Y^2 - \frac{(\Sigma Y)^2}{N}}}$ & hence the result
Q14	a	Apply the formula as given in Q13
Q15	c	
Q16	b	As coefficient of correlation is independent of the origin and scale of reference. So if each item of X and Y in the data set is changed by a fixed quantity (here each X by 3X+7 and each Y by 2Y-3), then coefficient will not change as obtained from the original data set
Q17	a	Population Density (X) = Population / Area, Death rate (Y) = No of deaths/Population. Hence find r between X and Y
Q18	b	Given $\Sigma X = 140$ & $\Sigma Y = 150$ & $\Sigma(X - 10)^2 = 180$, $\Sigma(Y - 15)^2 = 215$. Therefore let $dx = X - 10$ & $dy = Y - 15$ $\Sigma dx = \Sigma(X-10) = \Sigma X - 10N = 140 - 10 * 10 = 40$ $\Sigma dy = \Sigma(Y-15) = \Sigma Y - 15N = 150 - 15 * 10 = 0$

		$r = \frac{\Sigma dx \cdot dy - \frac{\Sigma dx \cdot \Sigma dy}{N}}{\sqrt{\Sigma dx^2 - \frac{(\Sigma dx)^2}{N}} \cdot \sqrt{\Sigma dy^2 - \frac{(\Sigma dy)^2}{N}}}$ $\Sigma(X - 10)^2 = \Sigma dx^2 = 180, \Sigma(Y - 15)^2 = \Sigma dy^2 = 215$ $\Sigma(X - 10)(Y - 15) = \Sigma dx \cdot dy = 60$ <p>Hence the result</p>
Q19	a	$r = \frac{\Sigma dx \cdot dy - \frac{\Sigma dx \cdot \Sigma dy}{N}}{\sqrt{\Sigma dx^2 - \frac{(\Sigma dx)^2}{N}} \cdot \sqrt{\Sigma dy^2 - \frac{(\Sigma dy)^2}{N}}}$ find $dx = X - 20$ & $dy = Y - 100$ Then find $\Sigma dx, \Sigma dy, \Sigma dx^2, \Sigma dy^2, \Sigma dx \cdot dy$ and hence the result
Q20	d	$r = \frac{\Sigma dx \cdot dy - \frac{\Sigma dx \cdot \Sigma dy}{N}}{\sqrt{\Sigma dx^2 - \frac{(\Sigma dx)^2}{N}} \cdot \sqrt{\Sigma dy^2 - \frac{(\Sigma dy)^2}{N}}}$ find $dx = (X - 170)/10$ & $dy = (Y - 1500)/10$ Then find $\Sigma dx, \Sigma dy, \Sigma dx^2, \Sigma dy^2, \Sigma dx \cdot dy$ and hence the result. 170 and 1500 are chosen as approximate mid value of respective variables so that we get a zero in respective deviations. And division by 10 as all deviation values are multiples of 10

Suggestions:

The study guide needs to be read thoroughly. Supplementary readings could be made from other resources. In this issue discussions are held with MCQs on correlation, without going detailing of formulae. Formulae are available in guide book. These sort of problems could facilitate in attempting MCQs. This could be used as supplement to the study guide. In next few issues on statistics discussions will be held on further MCQs on correlation/ regression. Students should go thoroughly for clear concept on formula from Guide book on the paper 4- Fundamental of Business mathematics and Statistics written and issued by Institute on Syllabus -16.

Examination Time Table



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)
Friday, 13th January, 2023	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)

Practical Advice



PRACTICAL Advice

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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



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 excellencel 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.

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Send your Feedback to:
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Message from Directorate of Studies



Message from Directorate of Studies

Dear Students,

We from the Directorate of Studies understand your expectations from us and accordingly we are trying to deliver some meaningful tips through various publications in soft versions like-E-bulletins, Mock Test Papers (MTPs), and we also have conducted Webinar Sessions for the benefit of the students. Supplementary and Amendments are also uploaded from time to time to keep the students updated about the recent changes made in the papers; wherever applicable.

You must be aware that India is celebrating Azadi Ka Amrit Mahotsav, which is an initiative of the Government of India to celebrate and commemorate 75 years of independence and the glorious history of its people, culture and achievements. Along with pan India, your Institute has also observed and took part in various meaningful activities throughout the year. We also expect that our students should also take part in the development of the nation and make the country proud.

“Freedom has only one motto, may our country be happy and prosperous”

let you all observe the message cited above.

- Certain general guidelines are listed below and which will help you in preparing for the examinations:
- Conceptual understanding and overall understanding of the subjects should be clear,
- Students are advised to go through the study material provided by the Institute meticulously,
- Students should know and learn the basic understandings of the subjects with focus on core concepts,
- Students are expected to give to the point answer which is a pre-requisite for any professional examination,
- To strengthen the answers, students are advised to answer precisely and in the structured manner,
- Proper time management is also important while answering.

Please refer the link mentioned below:

<https://icmai.in/studentswebsite/index.php>

GOOD LUCK

Be prepared and be successful

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Few Snapshots

Few Snapshots



CMA Vijender Sharma elected as President and CMA Rakesh Bhalla as Vice President of the Institute for the year 2022-23.



CMA Vijender Sharma elected as President and CMA Rakesh Bhalla as Vice President of the Institute for the year 2022-23.



CMA Vijender Sharma, President of the Institute along with CMA B.B. Goyal, Former Addl Chief Advisor (Cost), MoF, GoI extending greetings to Shri Gyanesh Kumar, IAS, Secretary to the Government of India, Ministry of Cooperation on 6th December, 2022.



CMA Vijender Sharma, President along with CMA Rakesh Bhalla, Vice President, CMA Biswarup Basu, Past President and CMA Kaushik Banerjee, Secretary of the Institute extending greetings to Shri Manoj Govil, IAS, Secretary to the Government of India, Ministry of Corporate Affairs on 29th November 2022.



CMA Vijender Sharma, President along with CMA Rakesh Bhalla, Vice President, CMA Biswarup Basu, Past President and CMA Kaushik Banerjee, Secretary of the Institute extending greetings to Shri Manoj Govil, IAS, Secretary to the Government of India, Ministry of Corporate Affairs on 29th November 2022.



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