ICMAI
THE INSTITUTE OF
COST ACCOUNTANTS OF INDIA
भारतीय लागत लेखाकार संस्थान
Statutory Body under an Act of Parliament
(Under the jurisdiction of Ministry of Corporate Affairs)
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CMA STUDENT E-Bulletin

VOL 11 | NO. 06 | JUNE 2026

An Initiative of Directorate of Studies

Behind every successful business decision, there is always a CMA

About the Institute

The Institute of Cost Accountants of India (ICMAI) is a statutory body set up under an Act of Parliament in the year 1959. The Institute as a part of its obligation, regulates the profession of Cost and Management Accountancy, enrols students for its courses, provides coaching facilities to the students, organizes professional development programmes for the members and undertakes research programmes in the field of Cost and Management Accountancy. The Institute pursues the vision of cost competitiveness, cost management, efficient use of resources and structured approach to cost accounting as the key drivers of the profession. In today's world, the profession of conventional accounting and auditing has taken a back seat and cost and management accountants increasingly contributing towards the management of scarce resources like funds, land and apply strategic decisions. This has opened up further scope and tremendous opportunities for cost accountants in India and abroad.

The Institute is headquartered in New Delhi having four Regional Councils at Kolkata, Delhi, Mumbai and Chennai, 113 Chapters in India and 11 Overseas Centres. The Institute is the largest Cost & Management Accounting body in the world with about 1,00,000^{+} qualified professionals and over 6,00,000^{+} students pursuing the CMA Course. The Institute is a founder member of International Federation of Accountants (IFAC), Confederation of Asian and Pacific Accountants (CAPA) and South Asian Federation of Accountants (SAFA). The Institute is also an Associate Member of ASEAN Federation of Accountants (AFA) and member in the Council of International Integrated Reporting Council (IIRC), UK.

Vision Statement

"The Institute of Cost Accountants of India would be the preferred source of resources and professionals for the financial leadership of enterprises globally."

Mission Statement

"The CMA Professionals would ethically drive enterprises globally by creating value to stakeholders in the socio-economic context through competencies drawn from the integration of strategy, management and accounting."

Institute Motto

असतोमा सद्गमय तमसोमा ज्योतिर् गमय मृत्योर्मामृतं गमय ॐ शान्ति शान्ति शान्तिः	From ignorance, lead me to truth From darkness, lead me to light From death, lead me to immortality Peace, Peace, Peace

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CHAIRMAN'S COMMUNIQUE

Dear CMA Students,

It gives me immense pleasure to connect with you through the June 2026 issue of the CMA Student E-Bulletin. As the Chairman of the Training & Educational Facilities Committee of ICMAI, I am excited to share the latest developments and initiatives that aim to enhance your learning experience and professional growth.

At ICMAI, our commitment to excellence in education and training remains unwavering. We continuously strive to provide you with the best resources, state-of-the-art facilities, and cutting-edge training programs that will prepare you to excel in the field of cost and management accounting. Your success is our primary motivation, and we are dedicated to supporting you every step of the way.

In today's digital age, leveraging technology to facilitate learning is paramount. We have introduced several innovative learning platforms to ensure that you have access to high-quality education regardless of your location. Our online classes, interactive webinars, and virtual workshops provide you with the flexibility to learn at your own pace while maintaining the highest standards of education.

In addition to theoretical knowledge, practical skills are crucial for your professional development. We have designed a variety of skill development programs that focus on real-world applications and industry-relevant practices. These programs include case studies, simulation exercises, and hands-on training sessions that bridge the gap between academic knowledge and practical implementation.

Our collaborations with leading organizations and industry experts provide you with invaluable insights and opportunities to apply your knowledge in real-world scenarios. Through internships, live projects, and guest lectures, you can gain practical experience and understand the nuances of the industry. These collaborations also open doors to networking opportunities that can be instrumental in your career growth.

At ICMAI, we believe in the holistic development of our students. Alongside academic excellence, we emphasize the importance of soft skills such as communication, leadership, and teamwork. Our comprehensive training programs include workshops and seminars focused on developing these essential skills, ensuring that you are well-rounded professionals ready to take on leadership roles.

I am confident that the initiatives and programs we have implemented will significantly enhance your learning experience and prepare you for a successful career. I encourage you to take full advantage of these opportunities and remain dedicated to your goals.

I extend my best wishes to all of you. Your hard work, determination, and passion are the driving forces behind our efforts. Let us continue to work together to achieve excellence and elevate the standards of the cost and management accounting profession.

Warm regards,

CMA Vinayranjan P.

Chairman, Training & Educational Facilities Committee, ICMAI

CMA FOUNDATION COURSE

Syllabus 2022

Topic

Fundamentals of Business Laws -

Module 4: Negotiable Instruments Act, 1881

Business Communication -

Module 5: Business Communication

FOUNDATION

Paper-1

Fundamentals of Business Laws and Business Communication (FBLC)

SECTION – A: FUNDAMENTALS OF BUSINESS LAWS

1. Which of the following is NOT a characteristic of a negotiable instrument under the Negotiable Instruments Act, 1881?
   (a) It is freely transferable by delivery or by endorsement and delivery
   (b) A holder in due course takes it free from defects in the title of the transferor
   (c) The transferee must always give prior notice to the maker or drawer before transfer
   (d) The holder can sue upon it in their own name
2. A written instrument signed by the maker, containing an unconditional undertaking to pay a certain sum of money only to a specified person or to the bearer, is called a:
   (a) Bill of exchange
   (b) Cheque
   (c) Promissory note
   (d) Bank draft
3. Which of the following correctly distinguishes a bill of exchange from a promissory note under the Negotiable Instruments Act, 1881?
   (a) A promissory note requires acceptance; a bill of exchange does not
   (b) A bill of exchange has three parties - drawer, drawee, and payee; a promissory note has only two parties - maker and payee
   (c) A promissory note is always payable on demand; a bill of exchange is always payable after a fixed period
   (d) A bill of exchange cannot be endorsed; a promissory note can be endorsed freely
4. A cheque that bears the words 'not negotiable' between two parallel transverse lines across its face is called a:
   (a) Account payee cheque that cannot be transferred under any circumstances
   (b) Crossed cheque where the transferee cannot acquire a better title than the transferor had
   (c) Bearer cheque payable only to the named person
   (d) Certified cheque guaranteed by the banker
5. Ravi draws a cheque favouring 'Sunita or bearer' and crosses it with two parallel lines and writes 'Account Payee' between them. Sunita endorses the cheque to Kavya. The banker pays Kavya. Which of the following is the correct legal position?
   (a) The banker has made a valid payment since the cheque was bearer
   (b) The banker is liable because 'Account Payee' crossing restricts payment to the named payee's account only and endorsement has no effect
   (c) Kavya acquires good title since she received the cheque by endorsement
   (d) The 'Account Payee' crossing has no legal significance and endorsement is fully valid
6. Priya endorses a cheque payable to her order with the words 'Pay to Ram only'. This type of endorsement is known as:
   (a) Blank endorsement
   (b) Special endorsement
   (c) Restrictive endorsement
   (d) Conditional endorsement
7. Arun endorses a bill of exchange to Bala by signing his name on the back without adding any words. Bala then transfers the bill to Chitra by mere delivery. The type of endorsement made by Arun is:
   (a) Special endorsement - because no words were added
   (b) Blank endorsement - which converts an order instrument into a bearer instrument until further endorsement
   (c) Restrictive endorsement - because Arun signed without conditions
   (d) Partial endorsement-which is valid only between the parties
8. Which of the following conditions must ALL be satisfied for a person to qualify as a 'holder in due course' under Section 9 of the Negotiable Instruments Act, 1881?
   (a) The instrument must be received as a gift, and the holder must have taken it before maturity
   (b) The holder must have obtained the instrument for value, in good faith, without notice of any defect, and before maturity
   (c) The holder must be the original payee named on the instrument
   (d) The holder must obtain the instrument after maturity to allow adequate time for enquiry
9. Suresh receives a bill of exchange by endorsement in good faith, for value, and before maturity, unaware

that it was obtained from the original holder by coercion. Suresh is a holder in due course. Which of the following best describes Suresh's legal position?

(a) Suresh cannot enforce the instrument because its origin was tainted by coercion

(b) Suresh can enforce the instrument free from the defect of coercion affecting his transferor's title

(c) Suresh must return the instrument to the original holder who was coerced

(d) Suresh acquires title only if the original holder ratifies the transfer

10. A bill of exchange is drawn on Mehta & Co. requiring payment in 90 days. Mehta & Co. writes 'Accepted - payable at 60 days only' across the bill. This type of acceptance is called:

(a) General acceptance, as the drawee has accepted the bill

(b) Qualified acceptance, as the drawee has altered the period of payment

(c) Conditional acceptance, as a condition has been added about place of payment

(d) Partial acceptance, as only part of the amount is accepted

11. A promissory note is made on 1st January 2025 and is payable '3 months after date'. After adding the grace period of 3 days, the instrument falls due on:

(a) 1st April 2025

(b) 3rd April 2025

(c) 4th April 2025

(d) 31st March 2025

12. When a bill of exchange is dishonoured by non-acceptance, the holder has the bill formally recorded by a Notary Public with the date and reason for dishonour. This process is called:

(a) Protest

(b) Noting

(c) Notice of dishonour

(d) Presentment

13. A bill of exchange is dishonoured by non-payment. Rajesh, the holder, is required to give notice of dishonour. To whom must this notice be given?

(a) Only to the drawer of the bill

(b) Only to the drawee who refused payment

(c) To all prior parties - including the drawer and all endorsers - to preserve the right of recourse against them

(d) Only to the payee named in the instrument

14. In which of the following situations is notice of dishonour NOT required to be given under the Negotiable Instruments Act, 1881?

(a) When the party entitled to notice has been declared insolvent

(b) When the instrument is dishonoured for the first time

(c) When the instrument was accepted for honour

(d) When the drawee is a bank

15. After a promissory note is made, the holder alters the date of payment from '30 days' to '60 days' without the consent of the maker. The effect of this alteration on the instrument is:

(a) The instrument remains valid since the alteration benefited the maker by extending time

(b) The instrument becomes void against all parties who were not party to and did not consent to the alteration

(c) The alteration makes the instrument voidable at the option of the holder only

(d) The instrument is merely irregular and can be enforced at the original date

16. The drawer of a bill of exchange, when the bill is dishonoured by the drawee, is liable to:

(a) Pay the amount of the bill to the holder, but only if the drawee is insolvent

(b) Compensate the holder as if he were an endorser, provided proper notice of dishonour is given

(c) Accept the bill himself and make payment

(d) No liability, since the primary liability lies with the drawee

17. Kiran, the acceptor of a bill of exchange, pays the full amount on the due date to Lata, the holder. The effect on the instrument is that:

(a) Only Kiran is discharged; endorsers remain liable to each other

(b) The instrument is discharged and all parties - including the drawer and endorsers - are released from liability

(c) Only the immediate parties are discharged; prior endorsers remain liable

(d) The instrument continues in force for any outstanding claims between endorsers

18. For an offence under Section 138 of the Negotiable Instruments Act, 1881 to be made out, which of the following conditions must be established?

(a) The cheque must have been drawn in payment of a future obligation not yet due

(b) The cheque must have been drawn on an account maintained by the drawer, issued for legally enforceable debt or liability, returned unpaid due to insufficiency of funds or exceeding arrangement, and the payee must have issued a demand notice within 30 days of receiving the return memo

(c) The drawer must have issued the cheque knowing that the account would be closed on the date of presentation

(d) The payee must file a criminal complaint directly without giving any notice to the drawer

19. Ashok issues a cheque to Bharat dated 10th March 2025. The cheque is presented on 12th March 2025 and returned unpaid for insufficient funds. The bank return memo reaches Bharat on 15th March 2025. Bharat sends the statutory demand notice on 14th April 2025. Is the notice valid?

(a) Yes, the notice is valid as it was sent within 30 days of the cheque date

(b) No, the notice is invalid because it was sent more than 30 days after receiving the bank return memo dated 15th March

(c) Yes, because there is no time limit for sending the demand notice

(d) No, because the demand notice must be sent before the cheque is presented

20. After a statutory demand notice is served on the drawer of a dishonoured cheque and the drawer fails to make payment within 15 days, the payee must file a complaint in court within:

(a) 30 days of the expiry of the 15-day notice period

(b) 60 days of the expiry of the 15-day notice period

(c) 90 days of the date the cheque was returned unpaid

(d) One year from the date of issue of the cheque

21. Under Section 138 of the Negotiable Instruments Act, 1881, as amended, the punishment for dishonour of cheque is imprisonment for a term which may extend to:

(a) Six months, or a fine of up to the cheque amount, or both

(b) Two years, or a fine which may extend to twice the amount of the cheque, or both

(c) Three years with a mandatory fine equal to the cheque amount

(d) One year, or a fine of up to the cheque amount, or both

22. Pankaj signs a blank stamped paper and hands it to his agent Qureshi, authorising him to fill it as a promissory note for any amount not exceeding ₹50,000. Qureshi fills in ₹80,000 and transfers the instrument to Rohit, a holder in due course, for value. How much can Rohit recover from Pankaj?

(a) Nothing, since Qureshi exceeded his authority

(b) ₹50,000, which was the limit of Pankaj's authority

(c) ₹80,000, because Rohit is a holder in due course and can enforce the instrument as completed

(d) ₹80,000 only from Qureshi, not from Pankaj

23. Under the Negotiable Instruments Act, 1881, which of the following statements correctly describes the effect of delay in presentment for payment of a bill of exchange payable after sight?

(a) Delay in presentment discharges all parties - including the acceptor - from liability on the instrument

(b) Delay in presentment discharges only the drawer; endorsers remain fully liable

(c) Delay in presentment discharges endorsers to the extent of any loss caused by the delay, but the acceptor remains primarily liable

(d) Delay in presentment has no legal consequence whatsoever under the Negotiable Instruments Act, 1881

24. A cheque payable to 'Rajani or order' is stolen and the thief forges Rajani's endorsement and presents it to a bank. The bank pays the cheque in good faith. Which of the following correctly states the legal position?

(a) The bank is protected since it paid in good faith and in the ordinary course of business

(b) The true owner Rajani has no remedy since the bank acted without negligence

(c) A forged endorsement is wholly inoperative and confers no title; Rajani can recover from the bank since payment over a forged endorsement is not a valid discharge

(d) The thief acquires valid title since the bank's payment in good faith validates the transaction

25. An employee receives a WhatsApp message from an unknown number claiming to be the company's CEO asking for an urgent fund transfer. The employee becomes suspicious. Which principle of effective communication is the original sender violating?

(a) Completeness

(b) Credibility and authenticity

(c) Conciseness

(d) Courtesy

26. A company publishes its annual report for the benefit of shareholders, regulators, and the general public. This is an example of:

(a) Informal internal communication

(b) Downward internal communication only

(c) Formal external communication

(d) Horizontal peer communication

27. The term 'proxemics' in the context of non-verbal communication refers to:

(a) The use of pitch and tone in speech

(b) The physical distance maintained between communicating parties

(c) The use of hand gestures during a presentation

(d) The interpretation of written symbols and signs

28. A notice calling a meeting of the Board of Directors must generally be sent at least how many days in advance as per good secretarial practice and statutory requirements?

(a) Three days

(b) Seven days

(c) Fourteen days

(d) Twenty-one days

29. In report writing, an 'executive summary' is placed:

(a) At the end of the report as a concluding chapter

(b) In the appendix for reference purposes

(c) At the beginning of the report to give a brief overview to senior readers

(d) After the main body but before the recommendations

30. Which of the following is a characteristic feature of a 'formal report' as distinguished from an informal report?

(a) It is usually written in first person

(b) It follows a prescribed structure with title page, index, findings, and recommendations

(c) It is used only for external communication

(d) It does not require any supporting data or appendices

Answer:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	c	b	b	b	c	b	b	b	b	b	b	c	a	b
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
b	b	b	a	a	b	c	c	c	b	c	b	b	c	b

Topic

Fundamentals of Financial Accounting -

Module 3: Preparation of Final Accounts

Fundamentals of Cost Accounting -

Module 4: Fundamentals of Cost Accounting

FOUNDATION

Paper-2

Fundamentals of Financial and Cost Accounting (FFCA)

FUNDAMENTALS OF FINANCIAL ACCOUNTING

1. What do final accounts include?
   A) Trading Account
   B) Profit & Loss Account
   C) Balance Sheet
   D) All of the above
2. Which account helps determine gross profit?
   A) Balance Sheet
   B) Trading Account
   C) P&L Account
   D) Receipt Account
3. Which section lists assets and liabilities?
   A) Trading Account
   B) P&L Account
   C) Balance Sheet
   D) Cash Book
4. What is not shown in the final accounts?
   A) Assets
   B) Liabilities
   C) Owners' Equity
   D) Transaction receipts
5. Organise the order of the process of final accounting
   A) Final accounts, journal, ledger
   B) Ledger, journal final accounts
   C) Journal, ledger, final accounts
   D) They do not have an order
6. A profit and loss appropriation account is used to
   A) To divide the profit and loss between the owners of the company
   B) To show an ideal profit and loss situation of the company according to the market.
   C) To compare the profit and loss of the company with other companies
   D) None of the above
7. A profit and loss appropriation account is prepared by the following:
   A) All businesses
   B) Corporations
   C) Partnership firms
   D) All of the above
8. Final accounts are prepared on a
   A) Yearly basis
   B) Quarterly basis
   C) Half Yearly basis
   D) Differs from company to company
9. Which one of the following is not prepared by non-profit organisations:
   A) Profit and Loss Account
   B) Income & Expenditure Account
   C) Receipts and Payments Account
   D) Balance Sheet
10. Trial Balance when not agreed, then …….. Account is used to make it agreed
    A) Suspense
    B) Tally
    C) Disagreed
    D) Difference
11. Which of the following statements about a Trial Balance is correct?
    A) It is an account showing only debit balances
    B) It proves complete accounting accuracy of the books of accounts
    C) It is a list of debit and cr. balances extracted from ledger accounts to check arithmetical accuracy
    D) It forms a part of the final financial statements
12. A machine is purchased for ₹1,20,000 with ₹20,000 installation expenses. Residual value is ₹30,000 and life is 10 years. What is the rate of depreciation under the Straight-Line Method (SLM)?
    A) 8%
    B) 10%
    C) 12%
    D) 15%
13. Factory Cost is ₹3,95,000. Office and Administration Overheads are 7.315% of Factory Cost. Find the amount of Office and Administration Overheads
    A) ₹27,894
    B) ₹28,894
    C) ₹29,500
    D) ₹30,894

14. Carriage outwards is charged to:
    A) Trading Account
    B) Profit & Loss Account
    C) Balance Sheet
    D) Suspense Account
15. Which of these errors affect only one account
    A) errors of casting
    B) errors of carry forward
    C) errors of posting
    D) All the three
16. If closing stock is ₹20,000 more, profit will:
    A) Increase by ₹20,000
    B) Decrease by ₹20,000
    C) Remain unchanged
    D) Cannot be determined
17. The closing stock of raw materials is valued at—
    A) Cost price or market price, whichever is higher
    B) Cost price or market price, whichever is lower
    C) Replacement cost
    D) Standard cost
18. Inventory is
    A) Included in the category of fixed assets
    B) An investment
    C) A part of current assets
    D) An intangible fixed asset
19. Copyrights, Patents, and Trademarks are instances of
    A) Fixed resources
    B) Current resources
    C) Investments
    D) Intellectual property
20. The resources that changed over into cash inside a brief period, known as
    A) Investments
    B) Intangible resources
    C) Fixed resources
    D) Current resources
21. Gross profit is
    A) Sales – Purchases
    B) Sales – Cost of products sold
    C) Cost of products sold + Opening stock
    D) Net benefit – costs
22. The total of all direct costs is known as:
    A) Prime cost
    B) Factory cost
    C) Cost of production
    D) Works cost
23. What type of costing is most suitable for a toy-manufacturing company?
    A) Job costing
    B) Process costing
    C) Batch costing
    D) Contract costing
24. Process costing is suitable for which of the following industries?
    A) Hospitals
    B) Oil refining firms
    C) Construction firms
    D) Repair shops
25. Which of the following items is EXCLUDED from cost accounts?
    A) Direct wages
    B) Factory rent
    C) Purely financial charges (e.g., goodwill written off)
    D) Depreciation on office equipment
26. Which method of costing is used in transport undertakings?
    A) Process costing
    B) Operating (or Service) costing
    C) Batch costing
    D) Job costing
27. What is the basic premise of cost concept?
    A) Cost ascertainment
    B) Tax compliance
    C) Financial audit
    D) Profit analysis

28. Which cost is incurred even if the company is closed?
    A) Sunk cost
    B) Historical cost
    C) Shut-down cost
    D) Imputed cost
29. Which one is Fixed Cost ?
    A) Direct Material Cost
    B) Direct Labour Cost
    C) Factory Rent
    D) Power Consumed in Production
30. Process cost is very much applicable in:
    A) Construction industry
    B) Pharmaceutical industry
    C) Airline company
    D) None of these

Answer:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
D	B	C	D	C	A	C	D	A	A	C	B	B	B	D
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	B	C	D	D	B	A	C	B	C	B	A	C	C	B

Topic

Fundamentals of Business Mathematics -

Module 3: Calculus - Application in Business

Fundamentals of Business Statistics -

Module 5: Measures of Central Tendency and Dispersion

Module 7: Probability

FOUNDATION

Paper-3

Fundamentals of Business Mathematics and Statistics (FBMS)

FUNDAMENTALS OF BUSINESS MATHEMATICS AND STATISTICS

In this issue we will carry out MCQs on Calculus and Statistics--Refer Module 3 and Module 4-8 of Study guide

1. Given: Revenue $R(x) = 18x^2 + 1000x$, Cost $C(x) = 25x + 1300$ The profit function
   a) $9x^2 - 5x - 250$
   b) $18x^2 - 25x - 300$
   c) $12x^2 - 7x - 350$
   d) $11x^2 - 5x - 450$
2. In business calculus, the Cost Function C(x) represents:
   a) Total sales revenue from selling xxx units
   b) Total cost incurred in producing xxx units
   c) Profit earned from xxx units
   d) Market demand for xxx units
3. Assume that the fixed cost is ₹800, the variable cost is ₹45/unit and the selling price is ₹65/unit. The cost function
   a) 25x+650
   b) 45x+800
   c) 25x+800
   d) 45x+650
4. Assume that the fixed cost is ₹800, the variable cost is ₹45/unit and the selling price is ₹65/unit. The Revenue function
   a) 45x
   b) 65x
   c) 25x
   d) 35x
5. Assume that the fixed cost is ₹800, the variable cost is ₹45/unit and the selling price is ₹65/unit. The Break Even quantity is
   a) 30
   b) 35
   c) 40
   d) 45
6. If a firm sells x units at a price of ₹800 per unit, the Revenue Function is:
   a) R(x) = 800
   b) R(x) = 800 + x
   c) R(x) = 800x
   d) R(x) = x/800
7. The derivative $\frac{d}{dx}C(x)$ is called:
   a) Marginal Revenue
   b) Marginal Profit
   c) Marginal Cost
   d) Average Cost
8. If P(x) = R(x) - C(x) then marginal profit is
   a) P'(x) = R'(x) + C'(x)
   b) P'(x) = R'(x) * C'(x)
   c) P'(x) = R'(x)/C'(x)
   d) P'(x) = R'(x) - C'(x)
9. A profit-maximizing firm generally operates at a production level where:
   a) Marginal Cost = 0
   b) Marginal Revenue = 0
   c) Marginal Revenue = Marginal Cost
   d) Revenue = Cost
10. If (x) = 500 + 15x , then the marginal cost is
    a) 500
    b) 15x
    c) 500 + 15x
    d) 15
11. The fixed cost of a business is represented by:
    a) The variable part of the cost function
    b) The derivative of the cost function
    c) The constant term in the cost function
    d) The revenue function
12. If R'(x) > C'(x), then for the next unit produced:
    a) Profit is increasing
    b) Profit is decreasing
    c) Revenue is zero
    d) Cost is fixed
13. What is the Standard deviation of 5, 5, 9, 9, 9, 9, 10 5, 10, 10?
    (a) 14
    (b) 42
    (c) 50
    (d) 8

14. If x and y are related by y = 2x + 5 and the Standard deviation and AM of x are known to be 5 and10 respectively, then the coefficient of variation is

    (a) 25

    (b) 30

    (c) 40

    (d) 20

15. Find the standard deviation and the coefficient of variation for the following numbers: 5, 8, 9, 2, 6

    (a) 2.45, 40.83

    (b) 1.96, 39.25

    (c) 2.45, 38.29

    (d) 2.05, 33.24

16. If Arithmetic Mean and coefficient of variation of x are 5 and 20 respectively. What is the variance of (15 - 2x)?

    (a) 16

    (b) 2

    (c) 4

    (d) 32

17. Median of distribution can be obtained from

    (a) Less than type Ogives

    (b) Point of Intersection of Less than and greater than Ogives

    (c) Both a and b

    (d) None of these

18. Most of the commonly used frequency curves are

    (a) Mixed

    (b) Inverted J-shaped

    (c) U-shaped

    (d) Bell-shaped

19. The distribution of profits of a company follows

    (a) J-shaped

    (b) U-shaped

    (c) Bell-shaped frequency curve

    (d) Any of these

20. Cost of sugar in a month under the heads Raw-materials, Labour, direct production and others were 12, 20, 35 and 23 units respectively. What is the difference between the central angles for the largest and smallest components of the cost of sugar?

    (a) 72o

    (b) 48o

    (c) 56o

    (d) 92o

21. The number of accidents for seven days in a locality are given below:

C	0	1	2	3	4	5	6
Frequency	15	19	22	31	9	3	2

    What is the number of cases when 3 or less accident occurred?

    (a) 56

    (b) 6

    (c) 68

    (d) 87

22. The center for child care reports on 540 children and marital status of their parents. There are 334 married, 182 divorced, and 24 widowed parents. The probability of a particular child chosen at random will have a parent who is married is

    (a) 0.62 by classical probability approach

    (b) 0.5 by empirical probability approach

    (c) 0.62 by empirical probability approach

    (d) 0.62 by subjective probability approach

23. Addition rule for mutually exclusive events A & B is

    (a) P (A or B) = P(A) + P(B)

    (b) P (A or B) = P (A + B)

    (c) P (A or B) = P (A) + P (B) - P (AB)

    (d) P (A or B) = P (A + B - AB)

24. Addition rule for not mutually exclusive events A & B is

    (a) P (A or B) = P (A) + P(B)

    (b) P (A or B) = P (A + B)

    (c) P (A or B) = P (A) + P(B) - P(AB)

    (d) P (A or B) = P (A + B - AB)

25. Joint probabilities of events A&B under statistical independence is

    (a) P (AB) = P(A) + P(B)

    (b) P (AB) = P(A) * P(B)

    (c) P (AB) = P(A) * P(B) - P(AB)

    (d) P (AB) = 1 - P(A) * P(B)

26. Conditional probability under statistical independence is

(a) P (B/A) = P (BA)

(b) P (B/A) = P (B) P(A)

(c) P (B/A) = P (BA) /P(A)

(d) P (B/A) = P (B)

27. Conditional probability under statistical dependence is

(a) P (B/A) = P (BA)

(b) P (B/A) = P (B) P(A)

(c) P (B/A) = P (BA) / P(A)

(d) P (B/A) = P (B)

28. Joint probabilities of events A & B under statistical dependence is

(a) P (BA) = P (B/A) * P(B)

(b) P (BA) = P (B/A) * P(A)

(c) P (BA) = P (B/A) / P(AB)

(d) P (BA) = P (B/A)

29. A golfer has 12 golf shirts in his closet. Suppose 9 of these shirts are white and the others blue. He gets dressed in the dark. So he just grabs a shirt and puts it on. He plays golf two days in a row and does not launder and return the used shirts to the closet. The likelihood that both the shirts selected are white is represented as

(a) $P(W_2/W_1) = P(W_2W_1) / P(W_1)$, Where W_1W_2 are events of wearing white shirts

(b) $P(W_2W_1) = P(W_2/W_1) * P(W_1)$, Where W_1&W_2 are events of wearing white shirts

(c) $P(W_2W_1) = P(W_2/W_1)$, Where W_1&W_2 are events of wearing white shirts

(d) $P(W_1W_2) = P(W_2/W_1) * P(W_2)$, Where W_1&W_2 are events of wearing white shirts

30. A golfer has 12 golf shirts in his closet. Suppose 9 of these shirts are white and the others blue. He gets dressed in the dark. So he just grabs a shirt and puts it on. He plays golf three days in a row and does not launder and return the used shirts to the closet. The likelihood that all the three shirts selected are white is

(a) 0.38

(b) 0.55

(c) 0.75

(d) 0.16

Answer:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	b	b	b	c	c	c	d	c	d	c	a	b	c	a
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
c	c	d	c	d	d	c	a	c	b	d	c	b	b	a

Suggestions:

The study guide needs to be read thoroughly. Supplementary readings could be made from other resources. In this issue MCQs are based on basic concepts taught in the respective modules/sub modules of the study guide. Students should try to solve individual questions with expertise developed after studying guide book to understand the correct answer of each question. Formula used here are all covered in study guide.

Best Wishes.

Topic

Fundamentals of Business Economics -

Module 1 : Basic Concepts

Fundamentals of Management -

Module 5: Fundamentals of Management

FOUNDATION

Paper-4

Fundamentals of Business Economics and Management (FBEM)

FUNDAMENTALS OF BUSINESS ECONOMICS AND MANAGEMENT

Let us now start our usual exercise of Mock Test:

I. Choose the correct answer:

1. Who proposed the growth definition of economics?
   A. Keynes
   B. Marshall
   C. Samuelson
   D. Pigou
2. What is the normal shape of the PPF curve?
   A. Concave to the origin
   B. Convex to the origin
   C. Straight line rising upward to the right
   D. None of the above
3. If the seller sells at a fixed market price, then the MR curve will be
   A. Vertical
   B. Horizontal
   C. Upward rising
   D. Downward falling
4. If the seller has to reduce the price to increase sales, then with an increase in sales
   A. Both AR & MR will rise
   B. AR falls & MR rises
   C. Both AR & MR will fall
   D. MR falls & AR rises
5. Ceteris paribus means other things remaining
   A. Negatively changed
   B. Positively changed
   C. Constant
   D. None of the above
6. If the quantity demanded for good X is given by: Qx=K/Px, where, K>0, Px=Price of good X,

   Then the MR curve is
   A. Downward sloping
   B. Indeterminate
   C. Flat (horizontal) and lies above the horizontal axis
   D. Coincides with the horizontal axis
7. For a normal demand curve the MR curve will
   A. Appear below the demand curve
   B. Appear above the demand curve
   C. Parallel to the demand curve
   D. None of the above
8. When both AR and MR are downward sloping straight lines, then the absolute slope of the AR curve will be
   A. Twice that of the MR curve
   B. Half of that of the MR curve
   C. Equal to that of the MR curve
   D. None of the above
9. The third phase of returns to a variable factor shows
   A. Diminishing returns
   B. Increasing returns
   C. Negative returns
   D. None of the above
10. When TP curve becomes an upward sloping straight line passing through the origin, then the MP=AP curve becomes
    A. Horizontal
    B. Vertical
    C. Upward sloping
    D. Downward sloping
11. In the long run, the possibility of greater technical division of labour in any factory leads to
    A. Decreasing returns to scale
    B. Constant returns to scale
    C. Increasing returns to scale
    D. None of the above
12. The MR curve of a competitive firm becomes
    A. Vertical
    B. Horizontal
    C. Upward rising
    D. None of the above
13. The long run equilibrium of a firm under perfect competition indicates that the plant size will be
    A. Below optimum size
    B. Over optimum size
    C. Optimum size
    D. None of the above

14. If SAC = AR of a competitive firm at its short-run equilibrium point, then it is called
    A. Shut down point
    B. Break-even point
    C. Turning point
    D. None of the above
15. A monopoly firm sells equilibrium quantity corresponding to which the price elasticity of demand is
    A. Relatively inelastic
    B. Relatively elastic
    C. Unit elastic
    D. Perfectly inelastic
16. At the profit maximizing output level of a monopolist, the marginal cost curve has to be upward rising
    A. True
    B. False
    C. Not necessarily true
    D. Usually false
17. A monopolist does not have a supply curve for its product because
    A. It is a price taker in the product market
    B. It can select both its output and its price
    C. The price is always fixed by the Govt.
    D. None of the above
18. Inflation means
    A. High price situation
    B. Stable price situation
    C. Rising price situation
    D. None of these
19. Monetary policy means
    A. Change in money supply of the economy
    B. Change in the tax rate of the economy
    C. Change in the Govt. expenditure of the economy
    D. All of these
20. "Uber taxi service is user friendly" – which category this statement belongs to, in a PESTEL analysis?
    A. Political factor
    B. Economic factor
    C. Social factor
    D. Legal factor
21. The term "U" in VUCA stands for
    A. Universe
    B. Uncertainty
    C. Utopian
    D. None of the above
22. Leadership is a part of
    A. Organization
    B. Management
    C. Both A & B
    D. None of the above
23. Accountability is the liability created for the use of
    A. Authority
    B. Responsibility
    C. Accountability
    D. All of the above
24. The process of co-ordination must begin in the early stages of
    A. Control
    B. Planning
    C. Organizing
    D. Staffing
25. The premises which can be controlled by the management are known as
    A. Internal premises
    B. External premises
    C. Controllable premises
    D. Tangible premises
26. Which of the following is not an agency cost?
    A. Residual loss
    B. Bonding costs
    C. Concurrent loss
    D. Monitoring costs
27. Introduction of a person to the job and the organization is called
    A. Induction
    B. Placement
    C. Orientation
    D. None of the above

28. Which of the following are the methods of off-the-job training?
    A. Role playing
    B. Case studies
    C. Lectures and classroom instruction
    D. All of the above
29. Selection of language in which the message is to be given is called
    A. Medium
    B. Decoding
    C. Encoding
    D. Feedback
30. Informal means of circulating the information is called as
    A. Grapevine
    B. Verbal
    C. Horizontal
    D. Written

Answer:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	A	B	C	C	D	A	B	C	A	C	B	C	B	B
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
C	D	C	A	C	B	B	A	B	C	C	A	D	C	A

So friends,

Hope you have enjoyed this mock test. But please do not consult the key before you finish off solving all the problems given in this mock test. Keep a record of the test result so that you can measure your progress yourself.

Best of luck for your exam !!!.

CMA INTERMEDIATE COURSE

Syllabus 2022

Topic

Module 13: Business Ethics and Emotional Intelligence

INTERMEDIATE

Group I - Paper-5

Business Laws and Ethics (BLE)

THE RULE BOOK FROM WITHIN: INTERNAL CODE OF ETHICS IN ORGANISATIONS

Every organisation eventually faces a moment of ethical ambiguity. A procurement manager notices that a supplier invoice looks suspicious, but is unsure whether to raise it with their boss, who approved the vendor. A junior accountant is asked to post an entry that doesn't quite make sense, but is told not to worry about it. A client offers a salesperson a gift that is generous enough to feel uncomfortable but small enough to seem harmless. In each of these moments, what guides the individual is not primarily the law, which is too distant and general, but the organisation's own internal code of ethics, which is specific, proximate, and institutionally backed.

An Internal Code of Ethics is a formalised set of principles, rules, and guidelines that an organisation adopts to govern the conduct of its employees, directors, and other stakeholders. For ICMAI Intermediate students, understanding this concept is directly relevant not just to the examination but to professional life, because in every role they will occupy as CMAs, they will either be subject to such a code, responsible for implementing it, or advising on its design.

What Is an Internal Code of Ethics?

An Internal Code of Ethics (also called a Code of Conduct, or Employee Code) is a document that translates an organisation's abstract values into concrete behavioural expectations. Where corporate values say 'we believe in integrity', the code says 'employees must not accept gifts valued above ₹500 from vendors'. Where values say 'we respect all stakeholders', the code says 'no employee will use unpublished price-sensitive information for personal financial transactions'. It bridges the gap between the philosophical and the practical.

The most effective codes share several features: they are written in plain language that all employees can understand; they cover a wide range of situations, including conflicts of interest, confidentiality, anti-bribery, harassment, and use of company assets; they clearly state consequences for violations; and they are endorsed visibly by the most senior leadership of the organisation. A code signed by the Chairman and CEO sends a very different message than one buried in the employee handbook appendix.

Why Organisations Need an Internal Code

The business case for an internal code of ethics is now very well established, and it goes well beyond legal compliance. Organisations with strong ethical cultures attract better talent, because people generally prefer to work for employers they respect. They retain talent more effectively because employees who feel proud of where they work are less likely to leave. They enjoy better relationships with suppliers, customers, and regulators. And they face lower legal and reputational risk, because when individual conduct is guided by a strong code, the probability of costly violations decreases.

For listed companies, the legal requirement is explicit. Regulation 17 of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 requires listed entities to adopt a Code of Conduct for Board Members and Senior Management, which must be posted on the company's website and affirmed annually by each Board member and senior manager. The Companies Act, 2013, through Section 177, also requires listed and certain other companies to establish a Vigil Mechanism, which is essentially the enforcement and reporting arm of an internal ethical code.

Core Elements of an Effective Internal Code

A well-structured internal code of ethics typically covers the following areas, each of which addresses a distinct category of ethical risk in organisational life.

Conflicts of Interest: Employees must declare any personal financial interests, family relationships, or other connections that could compromise their objectivity in professional decisions. For instance, a purchasing manager whose spouse runs a vendor firm is clearly in a conflict of interest and must disclose it immediately rather than proceed quietly.

Anti-Bribery and Anti-Corruption: This section prohibits offering or accepting bribes in any form, whether cash, gifts, hospitality, or favours. The Foreign Corrupt Practices Act in the US and the UK Bribery Act are international benchmarks. In India, the Prevention of Corruption Act, 1988, as amended in 2018, applies to public officials, but best-practice corporate codes extend zero-tolerance bribery policies to all dealings, whether with government officials or private parties.

Confidentiality and Data Privacy: Employees must protect sensitive business information and personal data. With India's Digital Personal Data Protection Act, 2023, now in force, data privacy obligations have moved from good practice to a statutory requirement, and internal codes must be updated accordingly. The treatment of material non-public information is particularly critical for companies whose securities are publicly traded.

Fair Dealing and Competition: The code must prohibit anticompetitive practices, price fixing, bid rigging, and abuse of market dominance. The Competition Act, 2002, and its regulations make India's competition law framework robust, and the internal code is the first line of institutional compliance.

Workplace Dignity and Non-Discrimination: Every employee has the right to work in an environment free from harassment, discrimination, and bullying. The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 mandates the formation of Internal Complaints Committees, which function as a formal adjudicatory mechanism within the organisation's own ethical framework.

Case Study: Infosys Code of Conduct and the CEO Controversy

In 2017, Infosys's then-CEO, Vishal Sikka, resigned following a prolonged public dispute with founder N. R. Narayana Murthy over alleged governance lapses, including concerns about executive compensation and severance pay to departing CFO David Kennedy. Murthy argued that the payments and decision-making processes violated the spirit of the company's own governance standards. The episode, while complex and contested, illustrated powerfully that even leading technology companies can face internal ethical challenges when decisions appear to conflict with the values they publicly champion. It also demonstrated the market consequences: Infosys's share price fell sharply in the days around Sikka's resignation. An internal code of ethics that is only observed when convenient is not an ethical code at all. It is a public relations document.

The Vigil Mechanism: Internal Ethics Gets Teeth

Section 177(9) of the Companies Act, 2013 requires every listed company and certain other categories of companies to establish a Vigil Mechanism to report genuine concerns. This mechanism must provide adequate safeguards against victimisation of persons who use it, and must make provision for direct access to the Chairperson of the Audit Committee in appropriate or exceptional cases. The mechanism is to be disclosed on the company's website and in the Board's Report.

In practice, the Vigil Mechanism is the reporting and investigation arm of the internal ethics code. It answers the question: if I see something wrong, what do I do, and will I be safe if I speak up? Organisations that have well-designed and genuinely functional vigil mechanisms tend to catch ethical violations earlier, at lower cost, and with less reputational damage than organisations that either have no such mechanism or maintain one that employees are afraid to use.

Case Study: Cognizant FCPA Settlement (2019)

Cognizant Technology Solutions, one of India's largest IT services companies, paid USD 25 million to the US Department of Justice and USD 6 million to the SEC in 2019 to settle allegations under the US Foreign Corrupt Practices Act. The company admitted that certain employees had authorised payments to government officials in India to secure construction permits for its campus facilities. Crucially, the settlement noted that Cognizant had failed to implement adequate internal controls and had not maintained effective anti-bribery compliance processes. The case underlines, in stark financial and reputational terms, what the absence or inadequacy of an internal ethics code can cost. Since the settlement, Cognizant undertook a comprehensive overhaul of its compliance programme, including a revised Code of Ethics, mandatory ethics training for all employees, and enhanced vendor due diligence processes.

Implementing the Code: From Paper to Practice

The most common failure of internal codes of ethics is not their design but their implementation. A code that employees have never read, that is not reinforced through training, and whose violations are inconsistently punished, is effectively non-existent. Effective implementation requires several elements working together.

Communication and Training must be ongoing, not a one-time induction exercise. Every employee, from the newest recruit to the most senior director, should understand what the code requires of them in their specific role. Annual refresher training, translated into regional languages where necessary, significantly improves comprehension and internalisation. Senior leaders who personally speak about the code in town halls or team meetings signal that it is a live document rather than a compliance checkbox.

Consistent Enforcement is perhaps the most important element. Nothing undermines an ethics code faster than the perception that it applies to junior employees but not to senior ones. When a company takes disciplinary action against a frontline worker for a minor expense policy violation but ignores a serious conflict-of-interest issue involving a vice president, the message received by the organisation is clear and corrosive. Enforcement must be, and must be seen to be, genuinely uniform.

Periodic Review is essential because the world is constantly changing. New laws are enacted, new business risks emerge, and the code must evolve to stay relevant. A code written in 2015 that has never been updated will not address data privacy under the 2023 Act, will not reflect updated anti-bribery standards, and will be silent on ethical questions raised by the use of artificial intelligence in decision-making, a frontier that is rapidly moving into mainstream corporate life.

Conclusion

External regulation will always be necessary, but it will also always be insufficient. No regulator can be present in every meeting room, every vendor negotiation, and every late-night decision about whether to round up a number or leave it as it is. The internal code of ethics is the organisation's attempt to govern itself, to build a culture where the right behaviour is the default rather than the exception.

MORE THAN NUMBERS: VALUES AND ATTITUDES OF PROFESSIONAL ACCOUNTANTS

Imagine two accountants sitting side by side. Both graduated from the same institution, both cleared the same examinations, and both know how to read a balance sheet. But one of them, when faced with pressure from a client to sign off on inflated revenue figures, will look for a polite way to comply. The other will refuse, clearly and without hesitation. The difference between them is not technical knowledge. It is values. And that difference, quiet as it may seem in normal times, becomes the difference between institutional trust and institutional collapse in moments of crisis.

For professional accountants, values are not aspirational slogans printed on office walls. They are the operating system that runs underneath every professional judgment, every report, every conversation with a client or an employer. The ICMAI Intermediate syllabus rightly includes this topic because a CMA who understands debits and credits but not integrity is, quite literally, a liability waiting to happen.

What Do We Mean by Professional Values?

Professional values are the deeply held beliefs that guide how an accountant behaves in their work, especially in situations where the right thing to do is not automatically the easy thing to do. The International Ethics Standards Board for Accountants (IESBA), which publishes the Code of Ethics for Professional Accountants, identifies five fundamental principles that capture these values. They are: Integrity, Objectivity, Professional Competence and Due Care, Confidentiality, and Professional Behaviour. The ICAI and ICMAI codes, along with the Companies Act, 2013, and the Cost and Works Accountants Act, 1959, operate in alignment with these internationally recognised principles.

Integrity: Saying What You Mean, Meaning What You Say

Integrity is the foundational value. It means being straightforward and honest in all professional and business relationships. An accountant with integrity does not allow themselves to be associated with information they believe to be false, misleading, or recklessly prepared. It is not enough to avoid lying. Integrity also prohibits half-truths, selective omissions, and technically accurate statements designed to mislead.

In practice, integrity shows up in small moments. It is the cost auditor who records an observation in the Cost Audit Report, even though the management is unhappy about it. It is the CFO who insists on provisioning for doubtful debt, even when it drags down quarterly numbers. It is the management accountant who tells a supervisor that a project is not financially viable, even when the supervisor has already committed to it publicly. None of these is a comfortable conversation. All of them are acts of professional integrity.

Objectivity: Keeping Personal Bias at the Door

Objectivity requires professional accountants not to allow bias, conflict of interest, or undue influence of others to override their professional judgments. This is easier said than done, because human beings are naturally inclined to see what they want to see, especially when financial incentives or personal relationships are involved.

The threat to objectivity most commonly takes the form of what the IESBA Code calls 'familiarity threats' and 'self-interest threats'. A familiarity threat arises when a professional accountant has been associated with a client for so long that they begin to empathise with the client's interests rather than maintain a professional distance. A self-interest threat arises when the accountant has a financial stake in the outcome of their own work, for instance, when an auditor's firm has a consulting contract with the same entity being audited.

Case Study: Deloitte and IL&FS

The Infrastructure Leasing and Financial Services (IL&FS) crisis of 2018 raised serious questions about auditors' roles. Deloitte Haskins and Sells was barred by the National Company Law Tribunal (NCLT) from performing audit work for a period following findings that suggested serious lapses in auditing IL&FS subsidiaries. One of the central allegations was that auditors had continued signing off on accounts despite clear warning signs of liquidity stress and misreporting. Critics pointed to long auditor-client relationships and financial dependence as factors that may have compromised objectivity. The case became a landmark moment in discussions about mandatory audit rotation, which was subsequently strengthened in India under the Companies Act, 2013, specifically requiring rotation of statutory auditors for listed and certain other companies every five or ten years.

Professional Competence and Due Care: Knowing What You Are Doing

Professional accountants have a duty to maintain the knowledge and skills necessary to provide competent service to clients, employers, and the public. This duty has two components: attaining competence through education and training, and maintaining competence through continuing professional development.

In an environment where accounting standards, tax laws, and regulatory requirements change frequently, competence is not a one-time achievement. It is a continuous commitment. A CMA who qualified a decade ago and has not kept pace with Ind AS updates, the

latest SEBI disclosures framework, or the revised Cost Audit Report format is, however, unintentionally a risk to clients who rely on their expertise. Due care means being thorough, acting diligently, and completing work in accordance with applicable technical and professional standards. It is the value that prevents casualness from masquerading as efficiency.

Confidentiality: Silence as a Professional Obligation

Professional accountants often access sensitive information, such as financial projections, internal disputes, pricing strategies, acquisition plans, or financial difficulties. Confidentiality requires that such information not be disclosed to third parties without proper authority or a legal or professional obligation to do so.

Confidentiality does not mean that an accountant is always silent. It means that disclosure must be purposeful, authorised, and legally appropriate. A professional accountant who is required to testify under oath, report a suspected money laundering transaction to the Financial Intelligence Unit under the Prevention of Money Laundering Act, 2002, or comply with a court order must disclose. But casual conversations at dinner parties, informal tips to friends in the market, or leaking internal reports to competitors are clear violations of this fundamental principle, regardless of whether they are ever caught.

Professional Behaviour: Respecting the Reputation of the Profession

Professional behaviour requires compliance with relevant laws and regulations and the avoidance of any action that the professional accountant knows, or should know, may discredit the profession. This extends beyond personal conduct to how one presents oneself publicly, how one markets services, and how one responds to criticism.

An accountant who exaggerates qualifications, makes disparaging remarks about a competitor to win a client, or takes shortcuts in documentation to save time is damaging not just their own reputation but the credibility of the entire profession. CMAs, as cost and management accountants, carry an additional responsibility because they are trusted with internal financial data that external auditors may not even have access to. That trust, once broken, is very difficult to rebuild.

Attitudes Matter as Much as Values

Values are beliefs. Attitudes are the dispositions that flow from those beliefs. A professional accountant who values integrity will adopt a cautious attitude when presented with unusual transactions. An accountant who values objectivity will develop a habit of seeking second opinions and documenting reasoning transparently. Attitudes translate values into everyday professional behaviour, and they are shaped over time by the environments in which accountants work.

When senior accountants model good attitudes, junior professionals learn them almost by osmosis. When senior professionals cut corners, justify compromises, and treat ethical guidelines as inconveniences, that culture spreads too. The attitude of any firm or department is ultimately a reflection of its leadership, and the attitude of the profession is a reflection of its institutions.

Case Study: Infosys Whistleblower Complaint (2019)

In 2019, a group of anonymous Infosys employees wrote to the US Securities and Exchange Commission and the company's own Audit Committee, alleging that CEO Salil Parekh and CFO Nilanjan Roy had pressured employees to inflate short-term revenue and earnings by adopting improper accounting practices. The allegations, though not all ultimately proved, triggered a sharp fall in Infosys's stock price and a formal investigation. What is striking about this case is not just the alleged misconduct but the fact that employees lower in the hierarchy felt compelled to report it. They demonstrated, in a very real way, the professional responsibility attitude that values-driven accounting education seeks to foster. The case also highlighted the critical importance of anonymous reporting mechanisms and the protection of whistleblowers, which is now addressed under the Companies Act, 2013, through the Vigil Mechanism under Section 177.

Values in the Context of Cost and Management Accounting

For a CMA specifically, these values interact with a unique set of professional responsibilities. A cost auditor certifying Cost Audit Reports under Section 148 of the Companies Act, 2013 must ensure that the report reflects a true and fair view of the cost of production and operations. Any distortion, whether to protect a client or to avoid an awkward conversation, is a violation of all five fundamental principles simultaneously. The same applies to a CMA serving as an internal auditor, a financial controller, or a management consultant: the information they produce, the judgments they make, and the recommendations they give must always be grounded in professional values rather than personal convenience or institutional pressure.

Conclusion

Laws, regulations, and auditing standards are all external controls. They matter enormously, but they are ultimately reactive. They catch violations after they happen. Professional values, on the other hand, are preventive. They operate inside the profession before any violation occurs. They are the reason a well-trained accountant hesitates before signing, asks one more question, requests one more document, and pushes back one more time. In a world where financial information shapes investment decisions, employment, and the allocation of resources across society, the values of professional accountants are genuinely one of the most important safeguards we have.

Topic

Module 2:
Bills of Exchange, Consignment, Joint Venture

INTERMEDIATE

Group I - Paper-6

Financial Accounting (FA)

Consignment

Question No: 1

- Mr. A sent 100 units to Mr. B costing ₹200 each.
- Expenses by Mr. A for carriage ₹5000.
- 2 units were lost – in – transit.

Options:

Value of Abnormal Loss is —

(i) ₹400

(ii) ₹500

(iii) ₹200

(iv) None of these

Answer:

The answer is (ii) ₹500.

Particulars	₹
Cost 100 × ₹200	**20,000**
Add: Carriage	**5,000**
	25,000
Less: Abnormal Loss	**500**
	24,500

Question No: 2

- Mr. P consigned 5000 liters of oil to Mr. M @ ₹50 per litre.
- Expenses incurred by Mr. P ₹3,000.
- Non - recurring Expenses by Mr. M ₹2,000.
- Normal Loss = 2%.
- Total Loss = 120 litres.
- Mr. M sold 4,700 litres @ ₹80/ litre.
- Commission @ 10%.

Computation

Particulars	₹
Cost 5,000 @ ₹50	2,50,000
Add: Expenses	3,000
	2,53,000
Less: Abnormal Loss (2%) $\left(\frac{₹2,53,000}{5,000} \times 20\right)$	1,020
Add: Non-recurring Expenses	2,000
	2,53,980

Quantity
5,000 – 100 – 20 = 4,880 litres

Quantity	
litres [5,000 – 100 – 20]	= 4,880
litres	- 4,700
litres	180

(i) **Value of Abnormal Loss is**

Options :

(i) ₹2,530,

(ii) ₹1,012,

(iii) ₹2,500,

(iv) None of these

Answer :

The answer is — (ii) ₹1,012.

Working Note:

$\left(\frac{₹2,53,000}{5,000} \times 20\right) = ₹1,012$

(ii) **Value of Normal Loss is**

Options :

(i) ₹2,530

(ii) ₹1,012

(iii) ₹3,000

(iv) None of these

Answer :

The answer is — (iv) None of these

(iii) **Value of Closing Stock is**

Options :

(i) ₹2,530

(ii) ₹1,012

(iii) ₹9,368

(iv) None of these

Answer :

The answer is — (iv) ₹9,368

Working Note:

$\left(\frac{₹2,53,980}{4,880} \times 180\right)$

=₹9,368

Question No: 3

- Cost Price — ₹100
- Invoice Price — ₹120
- Sale Price — ₹150
- Ordinary Commission — 10%
- Del Credere Commission — 5%
- Special Commission — 25%

Options:

A. Ordinary Commission is (i)₹12, (ii)₹10, (iii)₹30, (iv)₹15.

B. Del Credere Commission is (i)₹5, (ii)₹7.50, (iii)₹10, (iv)₹6.

C. Special Commission (i)₹5, (ii)₹7.50, (iii)₹6, (iv)₹30.

Answer of A.

The answer is — (iv) ₹15.

Ordinary Commission

=10% of ₹150

= ₹15.

Answer of B.

The answer is — (ii) ₹7.5.

Del Credere Commission

= 5% of ₹150

= ₹7.50.

Answer of C.

The answer is — (iv) ₹7.50.

Special Commission is

= 25% of (Sale Price – Invoice Price)
= 25% of ₹(150 - 120)
= 25% of ₹30
= ₹7.50.

Stock Valuation

- Mr. M of Mumbai sent 500 cases @ ₹150 each to Mr. C of Chennai to be sold on his account and at his risk for 7½% Commission and 2½% Del Credere Commission and incurred ₹5,500 expenses.
- ₹20,000 advance has been received. Mr. C sent an Account Sale disclosing that 300 cases have been sold for ₹230 each and another 100 cases for @ ₹220 each.
- He has incurred Unloading Expenses etc. ₹750 and Selling Expenses ₹1,000 was proved bad since the customer became insolvent and another customer deducted ₹500 due to dispute in quality of goods.
- Compute the value of unsold stock.

Valuation of Unsold Stock

Particulars	Amount (₹)
Total Cost	75,000
Add: Expenses of Consignor	5,500
Add: Non-recurring Expenses of Consignee	750
Cost Price of 500 cases	81,250
Value of Unsold Stock	16,250

Abnormal Loss and Normal Loss

- L Ltd. of Mumbai consigned 1,000 barrels of lubricant oil costing ₹800 per barrel to Central Oil Co. of Kolkata on 1.1.2026. B Ltd. paid ₹50,000 as freight and insurance.
- 25 barrels were destroyed on 7.1.2026 in-transit. The insurance claim was settled at ₹15,000 and was paid directly to the consignor.
- Central Oil took delivery of the consignment on 19.1.2026 and accepted a bill drawn upon them by L Ltd., for ₹5,00,000 for 3 months. On 31.3.2026, Central Oil reported as follows:
- 750 barrels were sold as ₹1,200 per barrel.

The other expenses were:

Particulars	₹
Clearing charges	11,250
Godown Rent	10,000
Wages	30,000
Printing, Stationery, Advertisement	20,000

- 25 barrels of oil were lost due to leakage which is considered to be normal loss.
- Central Oil Co. is entitled to a commission of 5% on all the sales effected by them. Central Oil Company paid the amount due in respect of the consignment on 31st March itself.
- Show the Consignment Account, the account of Central Oil Co., and the Lost-in-Transit Account as they will appear in the books of Ltd.

Valuation of Goods Lost–in–transit and Unsold Stock

Particulars	Amount (₹)
Total Cost (1000 × ₹800)	8,00,000
Add: Consignor's expenses	50,000
Value of 1,000 barrels	8,50,000
Less: Lost – in – transit $\left[\frac{₹8,50,000}{1,000} \times 25\right]$	21,250
	8,28,750
Add: Non-recurring expenses of Consignee	11,250
Value of (1,000 – 25 – 25) = 950 kg	8,40,000
Therefore, Value of Stock $\left[\frac{₹8,40,000}{950} \times 200\right]$	1,76,842

In the Books of L Ltd.

Consignment to Kolkata Account

Dr. Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
			2026 Jan. 7	**By Abnormal Loss A/c**	**21,250**

In the Books of L Ltd.

Consignment to Kolkata Account

Dr. Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2026 Jan. 7	**To, Consignment to Kolkata A/c**	**21,250**	**2026 Jan. 7**	**By Bank-Insurance claim**	**15,000**
			Mar. 31	**By Profit and Loss A/c (Bal. Fig.)**	**6,250**
		21,250			**21,250**

Topic

Module 3: Total Income and Tax Liability of Individuals & HUF

INTERMEDIATE

Group I - Paper-7A

Direct Taxation (DT)

Alternate Minimum Tax & Alternative Tax Regime

The concept of Alternate Minimum Tax (AMT) acts as a critical statutory safeguard, ensuring that taxpayers claiming substantial profit-linked or investment-linked deductions do not entirely escape their equitable tax liabilities. Governed by sec. 115JC, AMT operates as a parallel tax computation mechanism applicable to all non-corporate entities, including LLPs, Firms, and Individuals. If a taxpayer's regular income tax liability falls below a prescribed threshold—currently 18.5% of their specially calculated 'Adjusted Total Income' (ATI)—the law mandates that this ATI be deemed as their total income, and tax is levied at the AMT rate. Mastering the mechanics of AMT, recognizing specific triggers like deductions u/s 10AA, 35AD, and Chapter VI-A (Part C), and understanding its exclusion under the new alternative tax regimes is essential for accurate tax planning and compliance.

Concept	Highlight
Applicability	Non-companies claiming major deductions
Rate	18.5% (9% or 15% in special cases)
Exception	Income ≤ ₹20 lakhs (not applicable for Firm / LLP)
Form	Form 29C from an accountant
Credit c/f	15 years

Alternate Minimum Tax (AMT) [Sec. 115JC]

Applicable to

All assessee (other than company) who has claimed any deduction under:

- Sec. 80H to Sec. 80RRB (other than sec. 80P); or
- Sec.10AA
- Sec.35AD

Exception:

The provisions shall not apply to an individual or a HUF or an AOP or a BOI, whether incorporated or not, or an artificial juridical person, if the adjusted total income of such person does **not exceed ₹ 20 lakh**.

Taxpoint:

- *The exception is not applicable in case of a Firm and Limited Liability Partnership. That means AMT is applicable on LLP/Firm (claiming deduction under aforesaid section) even though adjusted total income does not exceed ₹20 lakh.*
- *The provisions of this section shall not apply to a person who has exercised the option referred to in sec. 115BAC or 115BAD [alternative tax regime]*
- *The provision is not applicable to the specified fund referred to in clause (c) of the Explanation to sec. 10(4D).*

Scheme of Alternate Minimum Tax (AMT)

Step 1	Compute regular income tax liability (before Cess) of the assessee covered under these provisions		**A**	****
Step 2	Compute Adjusted Total income of the assessee i.e.			*****
	Total income of the assessee	****	**B**	
	Add:			
	• Deduction claimed u/s 80H to sec. 80RRB (other than sec. 80P)	***	**C**	
	• Deduction claimed u/s 35AD *less* Depreciation u/s 32	***	**D**	
	• Deduction u/s 10AA	***	**E**	
	Adjusted Total Income	****	**F**	
	Note: **(i)** If 'C', 'D' and 'E' is zero, then these provisions are not applicable to any assessee. **(ii)** if 'F' does not exceed ₹ 20 lakh, then these provisions are not applicable in case of an Individual / HUF / AOP / BOI / Artificial juridical person. However, the provision is applicable on LLP / Firm.			
Step 3	Compute Alternate Minimum Tax (AMT) [Being 18.5% of Adjusted Total Income]		**G = F * 18.5%**	****
Step 4	Income Tax liability		**Higher of A&G**	****
	Add: Health & Education Cess			**
	Tax liability after Cess			****

Exceptions

- **Unit in IFSC**: Where the assessee is a unit located in an International Financial Services Centre and derives its income solely in convertible foreign exchange, the rate of AMT shall be 9%
- **Co-operative Society**: In the case of co-operative societies the rate would be 15%.
- Further the provision of AMT is not applicable if the assessee is paying tax u/s 115BAC(1A) [i.e., under new tax regime] or co-operative societies paying tax u/s 115BAD or sec. 115BAE.

Impact where AMT is applicable i.e., a case where the value of Step 3 is higher than the value of Step 1

a. Adjusted total income (as computed in step 2) shall be deemed as total income of the assessee.

b. Tax liability of the assessee shall be 18.5%[1] (+ surcharge + cess) of adjusted total income of the assessee.

c. A report in Form 29C from a chartered accountant is required to be upload one month prior to the due date of furnishing of return of income u/s 139(1).

d. All other provisions of the Act, like advance tax, interest, etc. apply to such assessee.

Tax credit for alternate minimum tax [Sec. 115JD]

- The excess of alternate minimum tax paid over the regular income tax payable of that year shall be allowed as tax credit.

  Mathematically, tax credit available = Tax paid u/s 115JC – Regular Tax payable

- However, no interest shall be payable on the tax credit allowed.
- The amount of tax credit determined shall be carried forward and set off but such carry forward shall not be allowed beyond the 15th assessment year immediately succeeding the assessment year in which tax credit becomes allowable.
- The tax credit shall be allowed set-off in a year when regular tax becomes payable by the assessee.
- Set off in respect of brought forward tax credit shall be allowed for any assessment year to the extent of the difference between the alternate minimum tax payable u/s 115JC for that assessment year and the balance of the tax credit, if any, shall be carried forward. In other words, after setting off of AMT credit, tax liability of the year cannot be less than AMT for that year.
- The amount of tax credit in respect of any income-tax paid in any country or specified territory outside India u/s 90 or 90A or 91, allowed against the alternate minimum tax payable, exceeds the amount of the tax credit admissible against the regular income-tax payable by the assessee, then, while computing the amount of credit u/s 115JD, such excess amount shall be ignored.
- If the amount of regular income-tax or the AMT is reduced or increased as a result of any order passed under this Act, the amount of tax credit allowed under this section shall also be varied accordingly.

Tax Credit for AMT (Sec. 115JD)

When AMT is **more than** regular tax, the **excess amount** is allowed as **credit**.

Tax Credit = AMT paid – Regular Tax

Key Points:

- No interest on credit
- Can be carried forward **up to 15 years**
- Set off allowed **only when regular tax > AMT** in a future year

Conclusion

In conclusion, the Alternate Minimum Tax (AMT) framework effectively bridges the gap between significant statutory tax incentives and minimum revenue contributions. While it imposes a strict baseline tax liability calculated at 18.5% (or reduced rates of 9% for IFSC units and 15% for co-operative societies) of the Adjusted Total Income the legislation balances this burden through a robust tax credit mechanism. Under section 115JD, any excess AMT paid over the regular tax liability can be carried forward for up to 15 subsequent assessment years to be set off against future regular tax dues. For seamless compliance, taxpayers must proactively monitor their ATI thresholds, file the mandatory Form 29C certification from a Chartered Accountant one month prior to the return filing due date, and continually evaluate whether opting into alternative tax regimes (such as sec. 115BAC) provides a more beneficial, AMT-free tax outcome.

***Remember**: Even if deductions reduce your regular tax liability, AMT ensures a minimum tax is always paid.*

1 Or 15% or 9% as the case may be

Topic

Module 6: Customs Act & Rules

INTERMEDIATE

Group I - Paper-7B

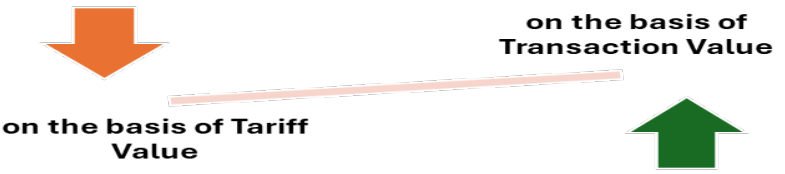
Indirect Taxation (IDT)

Customs Valuation Rules

The term 'customs' derives its colour and essence from the term 'custom', which means a habitual practice or course of action that is characteristically repeated in like circumstances. The collection of revenue through Customs has been recognized in India since time immemorial. Laws for collection of revenue and punishments for violation thereof are indicated as early as in Kautilya's "Arthasasthra". Customs, as a major source of revenue, plays a very important role in the economy of our country.

Entry No. 83 of List I to Schedule VII of the Constitution empowers the Union Government to legislate and collect duties on imports and exports. Accordingly, the Customs Act, 1962, effective from 1-2-1963, provides vide its section 12 for the levy of duties on goods imported into or exported from India. The items and the rates of duties leviable thereon are specified in two Schedules to the Customs Tariff Act, 1975. The First Schedule specifies the various import items in systematic and well-considered categories, in accordance with an international scheme of classification of internationally traded goods known as the 'Harmonized System of Commodity Classification', and specifies the rates of import duties thereon, as prescribed by the legislature. The Second Schedule incorporates items that are subject to export duties and the rates of duties thereof.

The duties on imported or exported items are usually levied either on a specific or ad-valorem basis, though in a few cases, specific-cum-ad valorem duties are also levied. In the case of an ad valorem duty (i.e., as a percentage of the value of goods), the valuation of the goods may be determined in any of the following manners:



Valuation on the basis of Transaction Value [Sec. 14(1)]

1. Valuation of Imported Goods: The value of the imported goods shall be the transaction value of such goods, that is to say,

- the price actually paid or payable for the goods;
- when sold for export to India;
- for delivery at the time and place of importation;
- where the buyer and seller of the goods are not related; and
- price is the sole consideration for the sale

subject to such other conditions as may be specified in the rules[1] made in this behalf.

Taxpoint

- Such transaction value in the case of imported goods shall include, in addition to the price as aforesaid, any amount paid or payable for costs and services, including
  - commissions and brokerage (excluding buying commission);
  - engineering, design work;
  - royalties and licence fees;
  - costs of transportation to the place of importation;
  - insurance;
  - loading, unloading and handling charges

  to the extent and in the manner specified in the Customs Valuation (Determination of Value of Imported Goods) Rules, 2007

1 The Customs Valuation (Determination of Value of Imported Goods) Rules, 2007 have been specified.

In nutshell, valuation shall be determined as under:

Particulars	₹
Value of material (ex-factory price)	xxx
Carriage / Freight / insurance up to the port of shipment in the exporter's country	xxx
Charges for loading on to the ship at the shipping port in the exporter's country	xxx
Free on Board (FOB)	xxx
Add: if not included above	
• Commission and brokerage (except buying commission)	xxx
• Packing cost (except cost of durable and returnable packing)	xxx
• Cost of engineering, development and plan or sketches (undertaken outside India)	xxx
• Royalties and Licence Fee	xxx
• Value of subsequent re-sale if payable to foreign supplier	xxx
• Value of material supplied by the buyer free of cost	xxx
FOB value as per Customs	xxx
Actual Cost of freight (if not specified, then @ 20% of FOB value as per customs) [in case of air transport max. 20%]	xxx
Ship demurrage charges on chartered vessels, lighterage or barge charges	xxx
Actual Insurance charges (if not specified, then @ 1.125% of FOB value as per customs)	xxx
Cost, Insurance and Freight (CIF) i.e., Assessable Value	xxx

Customs Valuation (Determination of price of imported goods) Rules

Methods to be followed (in hierarchal order) for determination of the price of imported goods

- Primary Method: Transaction value [Rule 3]
- Secondary Method
    1. Transaction value of identical goods [Rule 4]
    2. Transaction value of similar goods [Rule 5]
    3. Deductive value [Rule 7]
    4. Computed value [Rule 8]
    5. Residual method [Rule 9]

Note: On request, the order of application of rules 7 (i.e. Deductive value) and 8 (i.e. Computed value) shall be reversed.

Transaction Value [Rule 3]

Transaction value shall be accepted as price, provided the following conditions are satisfied –

1. The sale is in the ordinary course of trade under fully competitive conditions;
2. There are no restriction as to the disposition or use of the goods by the buyer other than restrictions which –
    a. are imposed or required by law or by public authorities in India; or
    b. limit the geographical area in which the goods may be resold; or
    c. do not substantially affect the value of the goods;
3. The sale or price is not subject to condition or consideration for which a value cannot be determined;

4. Any part of the proceeds of subsequent resale, disposal or use of the goods by the buyer will not be shared with the seller unless an appropriate adjustment is made;
5. The buyer and seller are not related.

Transaction value of identical goods [Rule 4]

The value of imported goods shall be the transaction value of identical goods sold for export to India and imported at or about the same time as the goods being valued.

Taxpoint

1. *Identical goods* means imported goods –
   a) which are same in all respects, including physical characteristics, quality and reputation as the goods being valued except for minor differences in appearance that do not affect the value of goods;
   b) produced in the country in which the goods being valued were produced; and
   c) produced by the same person who produced the goods or where no such goods are available, then goods produced by a different manufacturer.

   However, identical goods do not include goods where engineering, development, art work, design work, plan or sketch was done by the buyer in India free of charge or at a reduced cost.
2. Such identical goods shall be sold at the same commercial and quantity level. Where no such sale is found, the transaction value of identical goods sold at a different commercial level or in different quantity or both shall be used with certain adjustment.
3. Where more than one transaction value of identical goods is found, then the lowest of such value shall be used for determining the value of imported goods.

Transaction value of similar goods [Rule 5]

The value of imported goods shall be the transaction value of similar goods sold for export to India and imported at or about the same time as the goods being valued.

Notes

1. *Similar goods* means imported goods –
   a) which although not alike in all respect, have like characteristics and like component materials which enable them to perform the same function. Such goods shall be commercially interchangeable with the goods being valued having regard to the quality, reputation and the existence of trade-mark.
   b) produced in the country in which the goods being valued were produced; and
   c) produced by the same person who produced the goods or where no such goods are available, then goods produced by a different manufacturer.

   However, similar goods do not include goods where engineering, development, art work, design work, plan or sketch was done by the buyer in India free of charge or at a reduced cost.
2. Such similar goods shall be sold at the same commercial and quantity level. Where no such sale is found, the transaction value of similar goods sold at a different commercial level or in different quantity or both shall be used with certain adjustment.
3. Where more than one transaction value of similar goods is found, then the lowest of such value shall be used for determining the value of imported goods.

Deductive Value [Rule 7]

Where the goods being valued or identical or similar imported goods are sold in India at or about the time of determination of value, then the value of imported goods shall be based on the unit price at which such goods are sold in the *greatest aggregate quantity* to the *unrelated* person in India as reduced by -

a) the commission usually paid or payable or the additions usually made for profits and general expenses for sales in India;
b) the cost of transport and insurance and other cost incurred within India;
c) the customs duty and other taxes payable in India by reason of importation or sale of the goods.

Notes

1. Where such goods are not sold at or about the same time of importation of the goods being valued, then the value of imported goods shall be based on the unit price at which the imported goods or identical or similar imported goods are sold in India at the earliest date after importation but before the expiry of 90 days after such importation.
2. Where such goods are sold in India after further processing, then the value shall be based on the unit price at which the imported goods after processing are sold in the greatest aggregate quantity to an unrelated person in India as reduced by processing and other cost (as referred above) incurred in India.

Computed value [Rule 8]

The value of imported goods shall consist of –

a) The cost or value of materials and fabrication or other processing employed in producing the imported goods;

b) An amount for general expenses and profit made by producers in the country of exportation for export to India;

c) The cost of transport, insurance, etc.

Residual method [Rule 9]

Where the value of imported goods shall not be determined as per any preceding rules, then the value shall be determined using -

- reasonable means consistent with the principles;
- general provisions of these rules; and
- data available in India.

Ultimately, the hierarchical methods prescribed under the Customs Valuation Rules are meticulously designed to ensure that customs valuation remains firmly rooted in real economic transactions, thereby reflecting the true commercial value of imported goods. To substantiate their declared transaction value, importers are strictly mandated to maintain and provide detailed documentation, including commercial invoices, trading contracts, and other relevant supporting evidence. Compliance is critical; failure to adhere to these valuation principles or to provide adequate documentary proof can expose importers to severe departmental actions, including the imposition of additional duties and substantial fines. Therefore, a thorough, rule-by-rule understanding of the Customs Valuation (Determination of Value of Imported Goods) Rules, 2007, is indispensable for ensuring seamless cross-border trade and robust statutory compliance.

Topic

Module 6: Cost Accounting Techniques

INTERMEDIATE

Group I - Paper-8

Cost Accounting (CA)

CIMA defines Marginal Costing as 'the accounting system in which variable costs are charged to the cost units and fixed costs of the period are written-off in full against the aggregate contribution. Its special value is in decision-making'.

Marginal costing is concerned basically with the determination of product costs, which consist of total cost less the fixed cost. It is said to have begun around the turn of the 19th century when the idea of estimating overhead in advance and predetermined overhead rate was developed.

Marginal costing has been used mainly for internal reporting with a view to enabling the management to effectively plan and control the operations. It is a management technique of ascertaining marginal costs and of the effect on profit of changes in volume or type of output by differentiating the total cost into fixed and variable.

It is a technique, which considers the accumulation of all costs i.e. both fixed and variable cost. Here all manufacturing expenses are charged to product cost. It is also known as total costing or conventional costing.

Contribution

It is the difference between sales and variable costs or marginal costs is known as contribution. It is vital in marginal costing. It is the margin not the profit.

Break-even point

Break-even point is a point where there is neither profit nor loss. Here the contribution is equal to fixed cost. It is the level of output which breaks even the costs and revenues and hence called BEP. In graphical representation of cost volume profit relationship break-even point is point at which the total cost line and the total sales line intersect each other.

Break-even Chart

The Break-even Chart is a graphical representation of marginal costing. It can be defined as a chart which shows the profitability or otherwise of an undertaking at various levels of activity and as a result indicates the point at which neither profit nor loss is made.

The B.E. Chart can express the following information at various level of activity:

(1) Variable Cost, Fixed Cost and Total Costs.

(2) Total sales and Break-even point or B.E. Sales

(3) Profit or loss

(4) Margin of safety

(5) Angle of incidence.

Profit Volume (P/V) Ratio :

It is the ratio of contribution to sale. Generally it is expressed in percentage form. It can be symbolically expressed as p/v ratio = C/S × 100 or (S - V)/S × 100

Where C = Contribution, S = Sales, V = Variable cost.

It can also be expressed as a ratio of change in contribution to change in sales i.e.

P/V Ratio = Changes in contribution ÷ change in sales.

Or, Changes in Profit ÷ Changes in sales (in case of Profit).

It remains constant at different levels of operations, in spite of changing its fixed cost, as P/V ratio is the relationship between contribution and sales.

Importance of P/V ratio :

As P/V ratio is a function of sales and variable cost, its improvement implies an increase in the gap between sales and variable cost. This can be done in the following ways:

(i) Increase in selling price

(ii) Reducing marginal cost

(iii) Altering the sales mixture

Margin of Safety :

It represents the difference between the actual sales and B.E. sales. In other words, it is the excess of sales (budgeted or actual) over the B.E. sales. The soundness of the business can be measured with the help of margin of safety. It depends on the level of fixed cost, rate of contribution and level of sales. The relationship of margin of safety with sales can be expressed as :

(i) Margin of safety = Sales - Break-even Sales.

(ii) Margin of Safety = Profit ÷ P.V. Ratio.

Angle of incidence :

It is the angle formed between the sales line and the total cost line. It indicates the rate at which profits are earned. It also indicates the profit-earning capacity of a business. When the angle of incidence is large, it indicates a high margin of profit. On the other hand, a low angle of incidence means a low rate of profit. The soundness and weakness of a business can also be indicated with the help of the angle of incidence and the margin of safety.

Application of Marginal Costing

(1) **Fixation of Selling Price**

The following are some of the important areas where marginal costing can be applied to serve the day-to-day needs of management in taking many strategic decisions.

Price fixation is one of the principal functions of the management. Product pricing is necessar under different circumstances such as

(a) Under normal situations;

(b) In times of competitions or trade depressions;

(c) At the time of accepting additional order for utilizing idle capacity, exporting etc.

(2) **Selling at or below Marginal Cost**

In most of the cases the prices are equal to marginal costs plus certain markup.

(3) level of Activity Planning

Where contribution is maximum that will be the optimum level of activity.

(4) **Evaluation of Profitability**

The decision for continuation of a department depends to a large extent on their comparative profitability

(5) **Selection of Profitable Sales Mix**

Here the best product mix is that which yields the maximum contribution.

(6) **Key/limiting Factor**

The key factor is that which puts a limit on production or sales.

(7) **Make or Buy**

A concern may have idle capacity which can be utilized for producing a component or part instead of buying that from outside suppliers.

Profit is always the final goal to the businessman as well as to the management. The expression cost-volume-profit relationship is thus important to the management. Profit is actually the result of interplay of cost-volume and selling price. The effectiveness of a manager largely depends upon his ability to make correct prediction about future profits. The knowledge of cost-volume profit relationship helps the management to find out the right path to solve the various problems that it faces in the course of its actions

A Problem based on Marginal Costing is given below:-

Problem

Two Manufacturing Companies, which have the following operating details, decide to marge:

	Company-A	Company-B
Utilization of Capacity.	90%	60%
Sales (₹ In lakhs)	540	300
Variable Costs (₹ In lakhs)	396	225
Fixed Costs (₹ In lakhs)	80	50

In the current year the Proposal is executed, calculate –

a) The Break-even sales of the merged plant and the capacity utilization at that stage.

b) At 80% of Capacity utilization, Profitability of the merged plant .

c) Sales turnover of the merged plant to earn a profit of ₹75 lakhs.

d) When merged plant is working at a capacity to earn a profit of ₹75 lakhs, what % increase in selling is required to sustain an increase of 10% in Fixed cost.

Solution :

a) Capacity utilization	Company A	B	Merged Plant (₹ lakhs)
	100%	100%	100%
Sales Value in lakhs (₹)	600	500	110
Variable Costs ,,	440	375	815
Contribution	160	125	285
Fixed Cost	80	50	130
Profit	80	75	155

Therefore, P/V Ratio of Merged Plant = C/S × 100 = 285/1100 × 100 = 25.91%

BEP of the Merged Plant = 130/25.91 × 100 = 501.74

Hence, Capacity utilization at BEP = 501.74 /1100 × 100 = 45.61%

b) Profitability of the Merged Plant at 80% capacity –

Sales 1100 × 80%	₹ 880	
Variable cost	₹ 652	
Contribution.	228	
Less: Fixed cost	130	
Profit	₹ 98	i.e., 11.14% on Sales.

c) Sales turnover to earn a profit of ₹75 lakhs.

Contribution required = Fixed cost + Desired Profit = 130 + 75 = 205 lakhs

Required Sales = Required Contribution / P/V Ratio = 205 lks / 25.91 × 100= 791.20 lks

d) Percentage increase in selling price to set off 10% increase in Fixed cost

Revised Fixed cost = 130 × 110/100 = 143 lakhs.

Selling price to be increased = 13/791.20 × 100 = 1.64307%

There may be of short type Questions also, which are of following types:

Problem:

Indicate whether the statements are true or false :

a) Profit = Contribution – Fixed Cost

b) P/V Ratio = Profit / Sales

c) Marginal Costing and direct costing are the same.

d) Profit = P/V Ratio x Margin of safety.

e) For decision making , Absorption Costing is more suitable than Marginal costing

f) Marginal costing is based on the distinction between fixed cost and variable cost.

g) In Marginal costing under or over-absorption of fixed overheads is bound to arise

h) Marginal costing can not be applied in Job costing

i) Marginal of safety = Contribution / P/V Ratio.

j) Marginal costing can be used with Process costing.

k) In Marginal costing , valuation of stock is done on total cost basis.

l) Profit = Sales – Contribution.

m) Variable cost + Profit = Sales.

Answers:

Sl. No.	a	b	c	d	e	f	g	h	i	j	k	l	m
Answer	T	F	F	T	F	T	F	F	F	T	F	F	F

Topic

Module 6: Project Management, Monitoring and Control

INTERMEDIATE

Group II - Paper-9

Operations Management and Strategic Management (OMSM)

Operations Management

In this issue we will discuss some preliminary features on Project Management.

What is Project?

In simple language any capital expenditure also referred to as capital investment is called project.

A project is a

- Set of tasks
- That must be completed within a defined timeline
- To accomplish a specific set of goals.
- That must be completed by a group of people known as the project team
- Which is led by a leader called project manager,
- Who oversees the planning, scheduling, tracking and successful completion of projects

Essentially, projects are

- Temporary efforts
- To create value through
- Unique products, services, and processes.

Projects are

- Amalgamations of tasks, activities, and deliverables
- That must be structured and executed carefully
- To achieve a desired outcome.

What is Project Management?

Before an outcome is achieved from a Project, each aspect of a project must go through phases of initiation, planning, and execution. This process is known as the project management lifecycle, and it is the lifeblood of successful projects.

What is Project Selection?

Project selection in project management is the

- Process of selecting the project among many projects
- That align best with the organization's objective and
- That results in the highest return with minimal risks.

So Project selection

- Involves choosing which projects to pursue based on their *potential value* and *strategic fit.*
- To ensure that resources are invested in projects that are aligned with the *organization's goals* and have the potential to *deliver value*. e.g.
  - ➢ Organisation's objective is to win the championship
  - ➢ So a striker, as resource, is needed to fulfill the objective
  - ➢ And the striker should be effective in delivering goal i.e. value

  When we have a number of interesting and challenging projects to choose from, selecting a project that is the
- Right fit for your team's skill set,
- Level of competence, and
- Has the best chance of success

is the first step in effective project management.

What is Project Planning?

- Once a project has been selected, the next step is to plan it in detail.
- Project planning involves
  - ➢ Developing a detailed *roadmap*;
  - ➢ Outlining the *resources required*; And
  - ➢ Establishing a *timeline for completion*.
- A well-planned project can help ensure that the project is completed
  - ✓ On time,
  - ✓ Within budget, and
  - ✓ Meets the intended objectives.
  - ✓ Help Identifying and managing risks that may arise during the project's lifecycle.

Benefits of Project Selection and Prioritization

- *Project selection and prioritization are essential processes that help organizations choose and focus on the most important projects that align with their strategic objectives. Here are some benefits of project selection and prioritization:*
  - ➢ *Maximizing resources:* Organizations can allocate their limited resources more effectively to prioritized projects by curtailing resources on projects that are less important or less likely to succeed.
  - ➢ *Strategic alignment:* It helps organizations ensure that their projects align with their overall strategy. This ensures that the organization is moving in the right direction and progressing towards its long-term goals.

➢ *Improved decision-making:* It involves analyzing and comparing different project options. This helps organizations make more informed decisions about projects to pursue and avoid.

- *Risk management:* It involves assessing the risks associated with different projects. This helps organizations identify and mitigate potential risks, ensuring that projects are completed on time, within budget, and with minimal risk.
- *Increased success rates:* Organizations increase their chances of success by selecting and prioritizing the most critical projects. This is because they can focus their resources and efforts on the projects that are most likely to deliver value and achieve their goals.
- *Enhanced communication and collaboration:* It involves input from various stakeholders, including executives, project managers, and team members. This helps promote communication and collaboration among different parts of the organization, leading to better outcomes and greater buy-in from stakeholders.

Project Network Analysis:

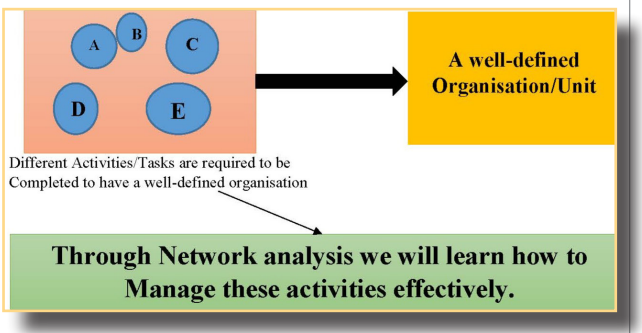
Network analysis plays an important role in Project Management. By analysis a network, which is a graphic description of "activities" and "events", the planning, scheduling and control of a project becomes much easier.

PERT: Programme Evaluation and Review Technique (PERT)

CPM: Critical Path Method (CPM)

Since we know that a **project** is a series of tasks that need to be completed in certain sequence in order to reach a specific outcome—a well-defined organisation----say establishment of a Power Plant.

Super Thermal Power Station of NTPC at Farakka is an established organisation. The construction of this power plant started in the 8th decades of the last century. Our concern in this topic is to know the management procedures during the construction period.



Initial step in PERT/CPM project scheduling process is the determination of all specific activities that comprise the project and their independent relationships.

Let us take a simple example.

Suppose that

- a new machine is required by a department for which budget approval is needed
- a new machine necessitates employment of an operator who would be trained for operating the machine
- the operator can be hired as soon as the proposal for buying the machine is cleared
- the operator will be trained on a similar machine in the training division of the department
- once the machine is installed and the worker trained the trial production can commence.

In this project the various activities required to be performed along with the time needed for the execution are given in the following table:

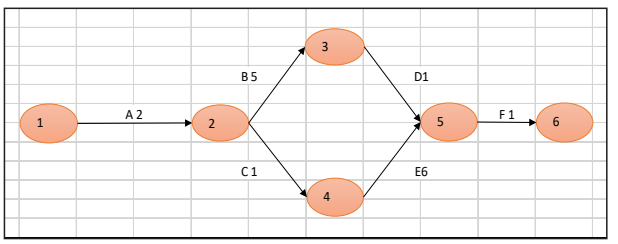
List of activities and precedence relationships

Activity	Description	Duration (Weeks)	Immediate Predecessor/s
A	Obtain the Budget approval	2	-
B	Obtain the machine	5	A
C	Hire the Operator	1	A
D	Install the machine	1	B
E	Train the operator	6	C
F	Produce the goods	1	D, E

Once the activities comprising a project as also the interdependency relationships among them are clearly identified(i.e. for each activity the activities which precede it, the activities which follow it, the activities which take place concurrently etc.) , they can be portrayed graphically by a network or an arrow diagram

Development of project network:

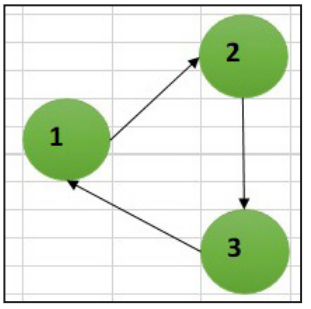
- Network can be constructed through the use of arrows and nodes
- An activity is represented by an arrow
- The head of the arrow marks the completion of the activity and the tail of the arrow marks its beginning
- Nodes represent start and finish of an activity
- Nodes at tail indicate event of start of an activity and nodes at head indicate event of end of an activity



Network representing our illustration is shown above

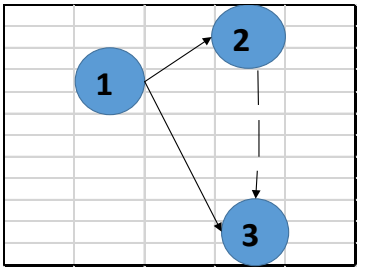
Node 1 & Node 2 indicates the event of starting the activity A and the event of end of activity A. Arrow 1-2 indicates the activity A. Activity and its time are written as shown. In many cases activity is indicated in terms of nodes attached. Say activity A could be indicated as 1-2. So

- Each activity must have a preceding and succeeding event
- An activity is numerically denoted by the pair of preceding and succeeding events
- Each event should have a distinct number and normally the number at the head of the arrow is greater than that in tail
- There should be no loops in the project network. A situation like the following is not permissible

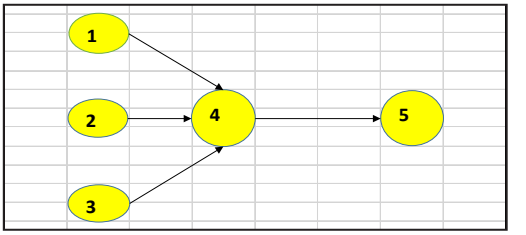


- Not more than one activity can have the same preceding and succeeding events. i.e. following not permissible

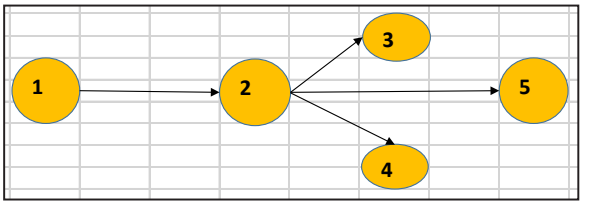
- To ensure that each activity is uniquely numbered it may be necessary sometimes to introduce dummy activities like following



- Activity 2-3 is dummy which is an imaginary activity, can be accomplished in zero time without consuming any resources. But an efficient network must contain minimum no of dummies
- When a number of activities terminate at one point, it indicates that no activity emanating from that event may start unless all activities terminating there have been completed. Two figures may emerge as follows



Activity 4-5 cannot be started unless activities 1-4, 2-4 and 3-4 are completed. Event 4 is called merged event



Activities 2-3, 2-5 & 2-4 cannot be started unless activity 1-2 is completed. Event 2 is called burst event

Network analysis plays an important role in project management and Critical path method (CPM) is one of the important network analysis techniques used to assist managers involved in project management.

CPM is most appropriately used in projects in which the activity duration are known with certainty. Not only the amount of time needed to complete the various factors of the project but also the amounts of resources required for performing each of the activities are assumed to be known. This technique is basically concerned with obtaining the tradeoffs between the project duration and cost.

Initial step in CPM project management process is the determination of all specific activities that comprise the project and their interdependence relationship.

Initial step in CPM project management process is the determination of all specific activities that comprise the project and their interdependence relationship.

Let us take a simple example

Activity	Time
1-2	13
1-3	12
2-4	2
3-4	8
2-5	15
4-5	2

The initial step for the above problem is to draw the network diagram.

Then we have to compute for each event:

EOT = Earliest Occurrence Time;

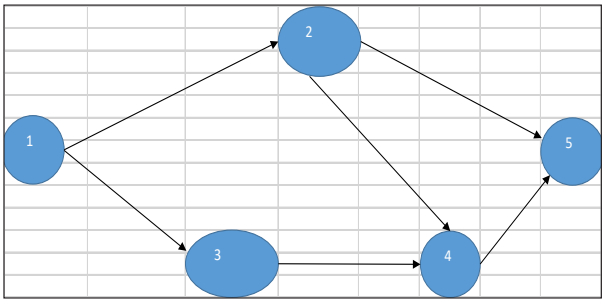
LOT = Latest Occurrence Time;

Then we have to compute for each activity:

EST, EFT=Earliest Starting Time/Earliest Finishing Time;

LST, LFT= Latest Starting Time/Latest Finishing time;

The details now as follows:



Activity	Time		Event	EOT	LOT	Slack
1-2	13		1	0	0	0
1-3	12		2	13	13	0
2-4	2		3	12	18	6
3-4	8		4	20	26	6
2-5	15		5	28	28	0
4-5	2					

EOT of an event i = EOT (i) = Max [EOT (k) + d (k, i)]

Where EOT (k) = earliest occurrence time of event k, where k precedes i and there may be several k's;

d (k, i) = duration of activity (k, i);

LOT of an event i = LOT (i) = Min [LOT (k) – d (k, i)]

Where LOT (k) = latest occurrence time of event k, where k follows i and there may be several k's;

d (k, i) = duration of activity (k, i);

Slack of an event = LOT-EOT;

Events with 0 slack falls on the critical path.

Critical path starts with the beginning event, terminates with the end event and is marked by events which have a zero slack.

So in the above diagram there are following paths starting from first event 1 and ends up with last event 5:

A) Path 1-2-5;

B) Path 1-3-4-5;

C) Path 1-2-4-5;

Out of these three paths only path (A) has all the events with 0 slack. In path B event (4) has not zero slack. Similarly in path (C) also event (4) has nonzero slack.

So path (A) is the critical path.

Now we could determine different floats of respective activities. To compute floats we require to calculate EST/EFT and LST/LFT.

EST (i, j) = EOT (i);

EFT (i, j) = EOT (i) + d (i, j);

LFT (i, j) = LOT (j);

LST (i, j) = LOT (j) - d (i, j);

With these formulas in hand the details of different activities for our sample problem are as follows:

Activity	EST	EFT	LST	LFT
1-2	0	13	0	13
1-3	0	12	6	18
2-4	13	15	24	26
3-4	12	20	18	26
2-5	13	28	13	28
4-5	20	22	26	28

From here we could calculate floats of different activities. Different floats are

Total float of activity (i, j) = LOT of (j) – EOT of (i) – d (i, j);

Free float of activity (i, j) = EOT of (j) – EOT of (i) – d (i, j);

Independent float of activity (i, j) = EOT of (j) – LOT of (i) – d (i, j);

Details of float for our sample example:

Activity	Total Float	Free Float	Independent Float
1-2	0	0	0
1-3	6	0	0
2-4	11	5	5
3-4	6	0	-6
2-5	0	0	0
4-5	6	6	0

Total float of an activity is the extra time available to complete the activity if it is started as early as possible and finished as late as possible. Activities which do not have a float under these conditions, the most favourable one, are critical to the project and hence lie on the critical path.

The free float of an activity is the extra time available to complete the activity if all activities commence as early as possible.

The independent float of an activity is the extra time available to complete the activity when the activity is started at the LOT of its preceding event and completed by the EOT of the succeeding event. This is the most adverse condition and when an activity has a positive independent float it means that the activity has cushion irrespective of what happens elsewhere.

Independent float of an activity may be negative but the total float and free float can never be negative.

Suggestions:

This writing is an aid to the topic discussed in study guide on the paper 9- Operations Management & Strategic Management written and issued by Institute. Further knowledge could be developed from supplementary readings- Modern Production/Operations Management by Buffa and Sarin, Operations Management by R.S Russell & BW Taylor, Operations Management by Lee J Krajewski, Comprehensive productions and Operations management by Dr KC Arora.

Best Wishes.

Topic

Module 1: Accounting for Shares and Debentures

Module 8: Auditing of Different Types of Undertakings

INTERMEDIATE

Group II - Paper-10

Corporate Accounting and Auditing (CAA)

Section A: Corporate Accounting

Topic: Redemption of Debenture Through Open Market Operation

- **Purchase in the Open Market**

A company may redeem its debentures prior to maturity by purchasing its own debentures from stock market either: (i) for immediate cancellation, or (ii) as an investment (to be cancelled when required). This process is often known as Open Market Operation.

The principal reason behind cancelling debentures before maturity date is to relieve the issuing company of the obligation to make future interest payments. If the debentures are listed in the stock market, they can be bought and sold easily.

The company is interested to purchase its own debentures when the interest rate on the debentures is considerably higher than the current market interest rate. In such a case, the company may be benefitted by issuing new debentures or by arranging loan at a lower interest rate and using the funds to reacquire the original, higher interest debentures.

- **Accounting for Purchase and Cancellation of Own Debentures**

There are four possible situations in this context:

Situation 1: Purchase of Debentures for Immediate Cancellation - on the Date of Interest

Situation 2: Purchase of Debentures for Immediate Cancellation – other than on the Date of Interest

Situation 3: Purchase of Debentures as Investment - on the Date of Interest

Situation 4: Purchase of Debentures as Investment – other than on the Date of Interest

These are discussed as follows:

Situation 1: Purchase of Debentures for Immediate Cancellation - on the Date of Interest

A Company may purchase its own debentures at any date for immediate cancellation. If the date of purchase of debentures and the date for payment of interest on debentures are the same, interest up to the date of purchase would have already be paid to the (old) debenture holders. Hence, entry for interest payment will not be separately required. The entries for purchase and cancellation of debentures will be as follows:

(a) When debentures are purchased

Debentures Redemption Account ……..…Dr.
[Quoted price × No. of debentures purchased]
To Bank Account

(b) When debentures are cancelled

(i) Debentures Account [Face value] ……..Dr.

To Debentures Redemption Account [Purchase price]

To Profit on Cancellation of Debentures Account [Profit]

(ii) If there is a loss on cancellation, it is transferred to Statement of Profit and Loss)

Profit and Loss A/c ……Dr. [Loss]

To Debentures Redemption Account

(c) When profit on cancellation of debentures is transferred to Capital Reserve

Profit on Cancellation of Debentures Account …Dr.

To Capital Reserve Account*

(*Profit on cancellation is a capital profit, it should be transferred to capital reserve)

(d) When face value of debentures is transferred to General Reserve

Profit and Loss A/c ……Dr.

To General Reserve Account

Consider the following illustration.

Illustration 1

On 1st January 2021, Dell Ltd. had 20,000, 10% Debentures of ₹100 each. As per the provision of the deed, the directors acquired in the open market the following debentures for immediate cancellation:

June 30, 2021: 4,000 debentures @ ₹98;

December 31, 2021: 8,000 debentures @ ₹96.

Debentures interest is payable half-yearly, on 30th June and 31st December.

Pass necessary Journal Entries (ignore interest and tax).

Solution:

Since, debentures were purchased on the date of payment of interest, separate entry for interest payment on the debentures purchased is not required.

In the books of Dell Ltd
Journal

Date	Particulars	₹ (Dr.)	₹ (Cr.)
2016 June 30	Debentures Redemption Aie (Note 1)……Dr. To Bank A/c (Being the purchase of 4*2,000 debentures of ₹100 each @ ₹98 each for immediate cancellation)	3,92,000	 3,92,000
June 30	12% Debentures A/c……Dr. To Debentures Redemption A/c To Profit on Cancellation of Debentures A/c (Being the cancellation of 4,000 debentures as per Board's Resolution No.... dated...)	4,00,000	 3,92,000 8,000
Dec. 31	Debentures Redemption A/c……..Dr. To Bank A/c (Being the purchase of 8,000 debentures of ₹100 each @ ₹96 each for immediate cancellation)	7,68,000	 7,68,000
Dec. 31	12% Debenture A/c……..Dr. To Debentures Redemption A/c To Profit on Cancellation of Debentures A/c (Being the cancellation of 8,000 debentures as per Board's Resolution No.... dated...)	8,00,000	 7,68,000 32,000
Dec. 31	Profit on Cancellation of Debentures A/c…Dr. To Capital Reserve A/c (Note 2) (Being the profit on cancellation transferred to Capital Reserve)	40,000	 40,000
Dec. 31	Profit and Loss A/c.....Dr. To General Reserve A/c (Being the amount equal to the face value of debentures redeemed transferred to general reserve)	12,00,000	 12,00,000

Illustration 2

On 1st January 2021, Dell Ltd. had 20,000, 10% Debentures of ₹100 each. As per the provision of the deed, the directors acquired in the open market the following debentures for immediate cancellation:

June 30, 2021: 4,000 debentures @ ₹104;

December 31, 2021: 8,000 debentures @ ₹102.

Debentures interest is payable half-yearly, on 30th June and 31st December.

Pass necessary Journal Entries (ignore interest and tax).

Solution:

Since, debentures were purchased on the date of payment of interest, separate entry for interest payment on the debentures purchased is not required.

In the books of Dell Ltd
Journal

Date	Particulars	Dr. (₹)	Cr. (₹)
2016 June 30	Debentures Redemption A/c……Dr. To Bank A/c (Being the purchase of 4,000 debentures of ₹100 each @ ₹104 each for immediate cancellation)	4,16,000	 4,16,000
June 30	12% Debentures A/c ……Dr. Profit and Loss A/c ……..Dr. To Debentures Redemption A/c (Being the cancellation of 4,000 debentures as per Board's Resolution No.... dated...)	4,00,000 16,000	 4,16,000

Date	Particulars	Dr. (₹)	Cr. (₹)
Dec. 31	Debentures Redemption A/c……..Dr. To Bank A/c (Being the purchase of 8,000 debentures of ₹100 each @ ₹102 each for immediate cancellation)	8,16,000	8,16,000
Dec. 31	12% Debentures A/c……Dr. Profit and Loss A/c ……..Dr. To Debentures Redemption A/c (Being the cancellation of 8,000 debentures as per Board's Resolution No.... dated...)	8,00,000 16,000	8,16,000
Dec. 31	Profit and Loss A/c.....Dr. To General Reserve A/c (Being the amount equal to the face value of debentures redeemed transferred to general reserve)	12,00,000	12,00,000

Section B: Auditing

Question: Suggest the audit procedure for the audit of a Travel and Tourism Agency

Answer:

Audit Procedure for a Travel and Tourism Agency:

A travel and tourism agency earns revenue from tour packages, ticket bookings, hotel reservations, visa assistance, travel insurance, and commissions from airlines and hotels. The auditor should focus on revenue recognition, customer advances, and transactions with service providers.

1. Review of Internal Control System

The auditor should evaluate the internal controls over booking, billing, collection of customer payments, cancellation procedures, and settlement with airlines, hotels, and other service providers.

2. Verification of Revenue

Revenue from tour packages, ticket bookings, hotel reservations, visa services, and other travel-related services should be verified with invoices, booking confirmations, and customer records. The auditor should ensure that revenue is recognized in the appropriate accounting period.

3. Verification of Commission Income

Commission received from airlines, hotels, cruise operators, and travel partners should be verified with agreements, commission statements, and supporting documents. The auditor should ensure that all commissions due have been accounted for.

4. Verification of Customer Advances

Travel agencies often receive advance payments from customers. The auditor should verify that such advances are properly recorded as liabilities until the related services are rendered.

5. Examination of Cancellation and Refund Transactions

The auditor should review cancelled bookings, refund claims, and cancellation charges. Proper authorization and supporting documents should be examined to prevent revenue leakage or fraud.

6. Verification of Payments to Service Providers

Payments made to airlines, hotels, transport operators, guides, and tour organizers should be verified with contracts, invoices, and booking records. Outstanding liabilities should also be reviewed.

7. Verification of Cash and Bank Transactions

The auditor should reconcile cash receipts, online collections, and bank deposits with booking records. Particular attention should be paid to electronic payments and foreign currency transactions.

8. Audit of Foreign Currency Transactions

Where the agency deals in international travel, foreign currency receipts and payments should be verified. Exchange gains or losses should be correctly accounted for in accordance with applicable accounting standards.

9. Verification of Payroll and Administrative Expenses

Salaries, incentives, travel expenses, office expenses, and marketing expenses should be checked with supporting documents and approvals.

10. Verification of Statutory Compliance

The auditor should verify compliance with GST, Tax Deducted at Source (TDS), foreign exchange regulations, and other applicable laws. Returns filed and taxes paid should be examined.

11. Verification of Licences and Regulatory Requirements

The auditor should examine licences issued by tourism authorities, accreditation certificates, and memberships of tourism associations. Compliance with regulatory requirements should be reviewed.

12. Analytical Review

The auditor should compare current-year sales, commission income, customer advances, and profitability with previous years and investigate significant variations.

Topic

Module 7:
Financing Decisions of a Firm

Module 10:
Data Presentation: Visualisation and Graphical Presentation

INTERMEDIATE

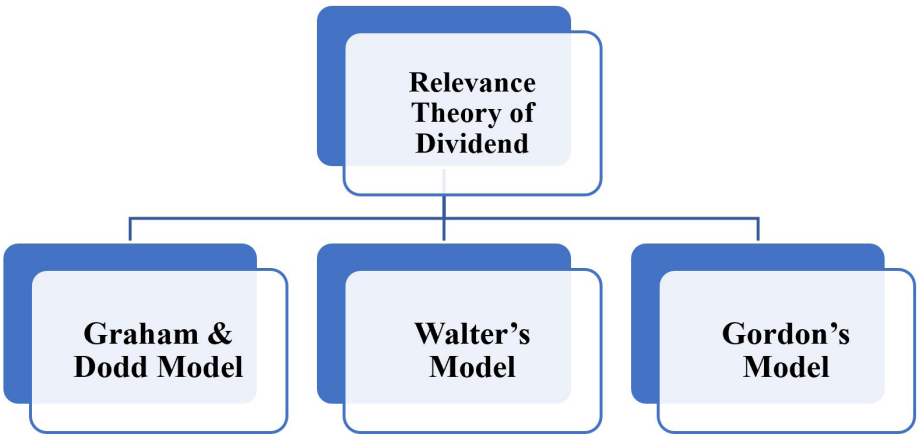
Group II - Paper-11

Financial Management and Business Data Analytics (FMDA)

Financial Management

Relevance Theory of Dividend

Dividend Relevance Theory argues that a company's dividend policy does affect its market value and shareholders' wealth. In contrast to the Dividend Irrelevance Theory, it suggests that investors generally prefer certain current dividends over uncertain future capital gains.



In this model weight attached to dividends is four times of weight attached to retained earnings.

Quantitatively,

P = m (D +A/Q)

Where:

P is the market price per share

M is a multiplier

D is the dividend per share

E is the earnings per share

Critics argue that Graham and Dodd provided weight subjectively and did not derive them from any empirical analysis.

2. Walter's Dividend Model.

James E. Walter explains the relationship between a company's **dividend policy** and its **market value** in the model which is known as **Walter's Dividend Model.**

The model suggests that the choice between distributing profits as dividends or retaining them for reinvestment directly affects the value of the firm.

The market price of a share is:

$$P_0 = \frac{\left(D + \frac{r}{k_e}(E - D)\right)}{k_e}$$

Where:

P_0 = The prevailing market price of a share

D = Dividend per share

E = Earnings per share

r = The internal rate of return on the investments and

k_e = Cost of capital.

Assumptions of Walter's Model

1. All financing is through retained earnings; no external financing.
2. The firm's rate of return (**r**) and cost of capital (**k**) remain constant.
3. Earnings and dividends are constant.
4. The firm has an infinite life.
5. All earnings are either distributed as dividends or reinvested immediately.

Decision Rules

The relationship between **r** and **k** determines the optimal dividend policy:

Situation	Dividend Policy	Effect on Firm Value
r > k	Retain earnings (low dividend payout)	Firm value increases
r = k	Dividend policy is irrelevant	No effect on value
r < k	Pay higher dividends	Firm value increases

Limitations of the model:

1. Walter's model assumes that the firm's investments are financed exclusively by retained earnings; no external financing is used. The model would be applicable to all equity firms.
2. The model assumes that r is constant. This is not a realistic assumption. When increased investments are made by the firm, r also changes.
3. As, k_e is constant, the model ignores the effect of risk on the value of the firm.
4. Gordon's Dividend Model (Dividend Growth Model)

Gordon's Dividend Model (Dividend Growth Model) was developed by Myron J. Gordon. It is used to determine the intrinsic value of a share based on the present value of future dividends that are expected to grow at a constant rate.

The model assumes that investors value a share according to the dividends they expect to receive in the future.

Assumptions of Gordon's Model

1. The firm is financed entirely through retained earnings.
2. Retention ratio (**b**) remains constant.
3. Rate of return (**r**) remains constant.
4. Cost of equity ($\mathbf{K_e}$) remains constant.
5. Growth rate (**g**) is constant forever.
6. The firm has an infinite life.
7. $\mathbf{K_e > g}$.

Formula

Current Market Price Per Share:

$P_0 = D_1/(k_e + g) = P_0 = D_0 \times (1 + g)/(k_e - g)$

P_0 = Current market value of the share

D_1 = Dividend expected next year

k_e = Cost of equity (required rate of return)

g = Constant growth rate of dividends = Retention Ratio × Return of Investment

Since,

g = br

Where:

b = Retention ratio

r = Rate of return on retained earnings

Alternatively, When EPS is given,

$P_0 = E_1 \times (1 - b) / (k - br)$

Where:

E = Earnings per share (EPS) for the next year

(1 − b) = Dividend payout ratio

Limitations of the Gordon's Model

1. Assumes constant growth forever.
2. Not suitable for companies that do not pay dividends.
3. Sensitive to small changes in growth rate and cost of equity.
4. Assumes stable business conditions.

Comparison of Walter's Model and Gordon's Model

Basis	**Walter's Model**	**Gordon's Model**
Focus	Dividend policy and firm value	Dividend growth and firm value
Growth	Not explicitly modeled	Explicitly includes growth (g = br)
Valuation Formula	Based on earnings and dividends	Based on growing dividends
Assumption	No external financing	No external financing and constant growth

Example 1

P Ltd. furnishes the following information relevant to its dividend policies:

(i) Cost of Capital (Ke) = 12%

(ii) Return on Investment (r) = 15%

(iii) Retention Ratio (b) = 60%

Ascertain the Value per Share under Gordon's Model if for the year ending today, P Ltd. has an EPS of: (a) ₹30; (b) ₹50 and (c) ₹100.

Answer:

Market Price per Share (MPS) under Gordon's Model:

$P_0 = (D_0 \times (1 + g) / (k_e - g)$

$D_0 = E_0 \times$ **(100%** Retention Ratio; 60%) $= E_0 \times$ **40%**

$g = br = 60\% \times 15\% = 9\%$

Value of Shares of P Ltd. under Gordon's Model

EPS (E_0)	Value per Share (P_0)
₹30	(₹30 × 40% × 1.09) / (12% - 9%) = ₹436.00
₹50	(₹50 × 40% × 1.09) / (12% - 9%) = ₹726.67
₹100	(₹50 × 40% × 1.09) / (12% - 9%) = ₹1,453.33

Example 2

The following figures and information were extracted from Company A Ltd.

Particulars	Amount
Earnings of the Company	₹10,00,000
Dividend Paid	₹6,00,000
No. of Shares Outstanding	2,00,000
Price Earnings Ratio (P/E Ratio)	10
Rate of Return on Investment (r)	20%

You are required to calculate:

(i) Current Market Price of the Share

(ii) Capitalisation Rate of its Risk Class (k)

(iii) Optimum Payout Ratio

(iv) Market Price per Share at Optimum Payout Ratio

(Use Walter's Model)

Answer:

EPS = Earnings / No. of Shares = ₹10,00,000 / 2,00,000 = ₹5

(i) Current Market Price per Share

P = EPS × P/E Ratio

P = ₹5 × 10 = ₹50

(ii) Capitalisation Rate of its Risk Class (k_e) = 1/PE ratio = 10%

(iii) Optimum Payout Ratio

Since, the Company's earning capacity, i.e., (20%) is greater than Shareholder's Expectation of 10%, the Shareholder's Expectation would be maximum at Zero payout.

Therefore, Optimum Payout Ratio = 0%

(iv) Value of Price per Share at Optimum Payout Ratio

At optimum payout ratio: D = 0

Walter's Formula becomes:

$$P_0 = \frac{\left(\frac{r}{k_e}(E - D)\right)}{k_e}$$

$$P_0 = \frac{\left(\frac{0.20}{0.10}(5 - 0)\right)}{0.10}$$

P_0 = ₹100

DATA ANALYTICS

(Non-Financial Data Visualization and Presentation)

Non-financial data represents the operational, strategic, and human elements of a business. It measures the activities that *create* future value—like how fast you answer support tickets, how engaged your employees are, or how efficiently a factory runs.

Examples of Non-Financial Data

- Customer Satisfaction Scores
- Employee Productivity
- Employee Turnover Rate
- Customer Complaints
- Product Quality Defects
- Market Share
- Delivery Time
- Customer Retention Rate
- Training Hours
- Website Traffic
- Production Efficiency

Non-Financial Data Visualization and Presentation refer to the graphical and systematic presentation of non-monetary business information through charts, graphs, dashboards, tables, scorecards, and reports.

It helps management understand operational performance, customer behavior, employee productivity, quality standards, and other business indicators.

Methods of Non-Financial Data Visualization

1. **Bar Chart:** It used to compare different categories of data. **Example:** Number of customer complaints by department, Customer complaints by department
2. **Line Charts:** It used to show trends over time. **Example:** Employee productivity over months, Customer satisfaction trends.
3. **Pie Charts:** It used to show proportion or composition. **Example:** Market share of different companies, Types of customer complaints.
4. **Dashboards:** Dashboards provide a consolidated view of multiple Key Performance Indicators (KPIs). **Example KPIs:** Customer Satisfaction Index, Employee Turnover Rate, Delivery Performance, Production Efficiency
5. **Balanced Scorecard:** A performance measurement tool that combines financial and non-financial indicators from: Financial Perspective, Customer Perspective, Internal Business Process Perspective, Learning and Growth Perspective.
6. **Heat Maps**: It used to identify areas requiring attention by using color intensity. **Example:** Department-wise performance ratings.
7. **Tables and Reports:** Structured presentation of non-financial information in tabular form for management review.

MCQs:

1. Which of the following is a non-financial performance indicator?
   A. Net Profit Margin
   B. Earnings Per Share
   C. Customer Retention Rate
   D. Return on Investment
   Answer: C.
2. Data visualization means:
   A. Collecting data only
   B. Presenting data graphically for better understanding
   C. Storing data in a database
   D. Auditing financial statements
   Answer: B.
3. Which chart is most suitable for comparing employee performance across departments?
   A. Pie Chart
   B. Bar Chart
   C. Flow Chart
   D. Network Diagram
   Answer: B.
4. Pie charts are best used to:
   A. Show trends over time
   B. Compare many variables
   C. Show proportions of a whole
   D. Calculate averages
   Answer: C.
5. Dashboards are used to:
   A. Record transactions
   B. Display multiple KPIs in one place
   C. Calculate depreciation
   D. Prepare journal entries
   Answer: B.

Topic

Module 9: Responsibility Accounting

Module 10: Decision Theory

INTERMEDIATE

Group II - Paper-12

Management Accounting (MA)

Responsibility Accounting

In modern, decentralized organizations, managing operations through a single, centralized authority becomes increasingly cumbersome and inefficient. To navigate this complexity, entities adopt a decentralized structure, delegating decision-making power across various levels of management. The key management control tool that facilitates this decentralization is **Responsibility Accounting**.

Also referred to as activity or profitability accounting, responsibility accounting is an information system designed to accumulate and report cost and revenue information according to defined areas of responsibility within a company. It operates on the fundamental premise that every cost incurred or revenue generated must be the responsibility of a specific individual somewhere in the corporate hierarchy. Rather than merely determining product costs, this system shifts the emphasis to *who* spent the money and *why* it was spent.

The Foundational Assumptions

For a responsibility accounting system to function effectively, it must be built upon several critical assumptions:

- **Defined Areas:** Responsibility areas must be clearly demarcated so managers know exactly what they are accountable for.
- **Controllability:** Managers should only be charged with items over which they can exercise a significant degree of direct control.
- **Participative Budgeting:** Managers must actively participate in establishing the goals or budgets against which their performance will be measured.
- **Attainability:** The objectives defined for each center must be achievable through efficient and effective performance.
- **Goal Congruence:** Responsibility center managers should strive to accomplish their individual budgets in a way that aligns with the broader organizational objectives.

The Architecture of Control: Types of Responsibility Centers

When an entity divides its operations into segments with specific managerial oversight, these segments are known as responsibility centers. The specific types of responsibility areas depend on the nature of the firm and its activities, but they generally fall into four distinct categories:

1. **Cost (or Expense) Center** This is the most elementary form of a responsibility center. Managers here have the authority only to incur costs and are evaluated specifically on their ability to control expenses against a fixed or semi-variable budget. They have no control over sales or marketing activities. Common examples include human resources, accounting, and traditional manufacturing or production departments.
2. **Revenue Center** In a revenue center, the organizational unit is strictly responsible for generating sales and has no authority over setting selling prices, budgeting costs, or managing the cost of the goods sold. For example, a specific sales department in a retail store might be evaluated solely on total revenues. Performance here is measured by comparing budgeted revenues against actual revenues, often broken down into sales price variances and sales volume variances to understand performance drivers.
3. **Profit (or Earnings) Center** A profit center combines the responsibilities of both cost and revenue centers. The manager is assigned control over both generating revenues and managing current expenses. The primary goal is to maximize the center's net income or contribution margin. This structure provides a strong incentive to pursue profitable sales while simultaneously keeping expenses in check. If a center does not sell directly to outside customers (like a lumber-cutting department providing materials to an assembly unit), a "transfer price" can be used as internal revenue to evaluate profitability.
4. **Investment Center** Representing the highest level of sophistication, an investment center holds managers accountable not only for revenues and costs but also for the capital funds invested in their unit. Managers have the authority to acquire, use, and dispose of plant assets. Because they act almost as independent businesses, performance is evaluated using metrics like Return on Investment (ROI) and Economic Value Added (EVA). This autonomy allows for rapid decision-making to capitalize on local business conditions without waiting for central approval.

Responsibility Reporting

The lifeblood of this system is the **Responsibility Report**. These reports facilitate the upward flow of information, illustrating the broadening scope of responsibility as one moves up the organizational chart.

The Pyramiding of Information Reports are tailored to the recipient. At the lowest operational levels, reports are highly detailed, focusing heavily on specific variances. As the reports move up to middle and top management, the data is consolidated and summarized. For example, a foreman receives a report itemizing specific direct material and labor variances, whereas the production vice president receives a summary of the entire manufacturing division. Upper management utilizes the **management-by-exception** principle, focusing their attention only on

major deviations from expectations rather than minor daily operational fluctuations.

Characteristics of Effective Reports

To be useful, responsibility reports must be:

- **Prompt and Timely:** Information must be available when needed to allow for swift corrective action.
- **Easy to Understand:** They should avoid overly complex accounting jargon that operating managers might not grasp.
- **Analytical and Comparative:** They must compare actual results against budgeted figures or standards and isolate variances to explain poor (or exceptional) performance.

Furthermore, modern reports go beyond simple financial metrics. They include critical **non-monetary information** such as the number of customer complaints, defect rates, percentage of on-time deliveries, and employee safety violations. This provides a holistic view of the center's operational health.

Behavioral Dynamics and Managerial Focus

A critical nuance of responsibility accounting is its psychological and behavioral impact. While controllability is important, the ultimate focus of the system is *information and knowledge, not control or blame*. The system seeks to identify the individual who is in the best position to explain a specific event, regardless of their absolute ability to exert personal control over it.

If managers feel the system is used merely as a tool for criticism when unfavorable variances occur, they will view it with skepticism and may attempt to undermine it. Conversely, when the system emphasizes its informational role, managers react constructively and strive for organizational improvement. Management must also remain vigilant against **sub-optimization**—a scenario where independent responsibility center managers act to optimize only their own segment's performance at the expense of the company's best interests.

By effectively categorizing operations, establishing clear lines of accountability, and fostering a culture of informative reporting, responsibility accounting ensures that vast, complex organizations can operate with the agility and financial discipline of much smaller entities.

Multiple Choice Question (MCQs):

1. Why do shareholders' equity balances not appear on individual responsibility center balance sheets?
   A) Equity balances are only relevant for revenue centers, not investment centers.
   B) Equity belongs to the whole corporation and cannot be affected by any operating decision made by an individual division manager.
   C) Responsibility centers are legally forbidden from preparing balance sheets.
   D) Division managers use only cash accounting rather than accrual accounting.
2. Which of the following defines "sub optimization" in a decentralized responsibility accounting environment?
   A) The pursuit of goals and objectives that are in the interests of individual managers/segments rather than the company's best interests.
   B) Operating an investment center at a loss temporarily to secure long-term market share.
   C) Creating cross-functional teams to eliminate departmental boundaries.
   D) The continuous optimization of standard cost variances to zero.
3. When evaluating a territorial manager's performance or deciding whether to close an unprofitable territory, how should national magazine advertising costs (allocated by an index of relative buying power) be treated?
   A) It should be heavily weighted since it acts as a direct fixed cost controllable by the segment manager.
   B) It is appropriate for deciding to close the territory but not for evaluating the manager.
   C) It is strictly uncontrollable by the manager and irrelevant for the decision to close the territory since it will not be saved.
   D) It must be treated as a purely variable selling cost.
4. What major managerial issue arises from the "rolling up" (or aggregating) of information at successively higher levels within a responsibility accounting system?
   A) Goal congruence is automatically achieved, requiring less management oversight.
   B) The reports become excessively detailed, overwhelming top executives.
   C) Important details regarding lower-level inefficiencies could be buried in summary figures.
   D) It converts all cost centers into investment centers automatically.
5. How does the inclusion of uncontrollable items in responsibility centre performance reports align with top management goals, according to Horngreen, Datar, and Foster?
   A) Uncontrollable items should strictly be excluded to maintain mathematical accuracy.
   B) They are included because it could change behaviour in the direction top management desires.
   C) They are included to assign blame effectively to lower-level managers.

D) They are utilized exclusively for external financial reporting..

6. According to the contribution approach to cost allocation outlined in the module, how is "Segment Margin" calculated?
   A) Contribution margin less direct fixed costs controllable by segment managers
   B) Sales less variable costs
   C) Contribution controllable by segment managers less fixed costs controllable by others
   D) Net income less unallocated common fixed costs.
7. If a revenue center's budgeted sales volume is 5,000 units at a budgeted price of ₹50, and the actual sales volume is 6,000 units at an actual price of ₹48, what is the sales volume variance calculated purely by distinguishing price and volume components?
   A) ₹12,000 Adverse
   B) ₹10,000 Favorable
   C) ₹50,000 Favorable
   D) ₹48,000 Favorable.
8. Devon Industries evaluates divisions based on ROI. The Goods Division has ₹80,000 income on ₹4,00,000 invested. The Health Care Division has ₹41,600 income on ₹2,60,000 invested. The Commercial Division has ₹70,000 income on ₹3,20,000 invested. Which division is the most profitable in terms of the amount invested?
   A) Commercial Division
   B) Goods Division
   C) Health Care Division
   D) Goods and Commercial are tied
9. X Division has an operating profit of ₹8,00,000. Its total assets at acquisition cost are ₹40,00,000, but its total assets based on current replacement cost are ₹60,00,000. What is X Division's ROI using the current replacement cost investment base?
   A) 20.00%
   B) 15.00%
   C) 13.33%
   D) 18.25%
10. XYZ Company is financed by 30% long-term debt and 70% equity. The after-tax cost of debt is 5% and the cost of equity is 11%. What is the company's weighted average cost of capital (WACC)?
   A) 10.5%
   B) 9.2%
   C) 8.0%
   D) 16.0%

Answer

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

Fill in the blanks

1. A _____ center is an organizational unit whose manager has the authority only to incur costs and is specifically evaluated on the basis of how well costs are controlled.
2. The selling price of an internal sale between two departments inside the same entity is called the _____ price.
3. Under the management-by-_____ principle, major deviations from expectations are highlighted to assist upper-level managers in determining whether they need to become involved.
4. According to the text, a step beyond the profit center in its level of sophistication is the _____ center, which includes accountability for the capital utilized.
5. The _____ variance is calculated by multiplying the actual number of units sold by the difference between actual and budgeted sales prices.

Answer

1	2	3	4	5
Cost	Transfer	Exception	Investment	Sales price

State True or False

1. A manager of a revenue center (like a retail sales department) typically has full authority to adjust selling prices and control budgeted costs to affect volume and margins.
2. Contemporary corporate practice is moving away from the traditional, cumbersome pyramid structure and toward a flattened hierarchy, which is more consistent with decentralization.
3. In a responsibility accounting system, the primary form of control in a cost center is against a fixed or semi-variable budget determined at the beginning of the year.
4. When used properly, the primary emphasis of a responsibility accounting system is to identify the individual to blame so that severe rebukes can deter unfavourable variances.
5. Allocating a portion of common costs to operating departments reminds them that they are part of a larger organization and formalizes their accountability to maintain earnings to cover those indirect costs.

Answer

1	2	3	4	5
F	T	T	F	T

Decision Theory

Decision theory is a vital part of management accounting and plays a central role in effective managerial decision making. Every managerial function, including planning, organising and control, depends on sound decisions. Decision theory provides a structured and logical framework that helps managers select the most appropriate course of action when several alternatives are available and future outcomes are uncertain. The primary objective of decision making is to achieve organisational goals, usually through maximising profit or minimising cost.

Decision theory focuses on analysing choices under different conditions relating to the availability of information about future events. These conditions are broadly classified as certainty, risk and uncertainty. The theory applies economic and statistical reasoning to support rational decision making and is widely used by managers, economists and analysts to understand business behaviour and outcomes.

Decision-Making Process

The decision-making process involves a series of logical steps. First, the decision problem must be clearly identified. Understanding the nature of the decision is essential, as different problems require different approaches. Second, relevant information must be gathered from both internal and external sources. Reliable information reduces ambiguity and improves decision quality.

Third, all possible alternatives must be identified. Listing alternatives ensures that no viable option is ignored. Fourth, the decision maker evaluates evidence by analysing the likely consequences of each alternative. Both quantitative and qualitative aspects may be considered. Fifth, the most suitable alternative is selected and implemented. Finally, the decision must be reviewed to assess whether it has achieved the desired outcome. If results are unsatisfactory, corrective action may be required.

Concept of Decision Theory

Decision theory studies how decisions are made when outcomes depend on uncertain future events. In this framework, alternatives available to the decision maker are known as *acts*, while possible future events beyond managerial control are referred to as *states of nature*. Each combination of an act and a state of nature produces a specific result known as a *payoff*, usually expressed in monetary terms such as profit or cost.

A fundamental assumption in business decision problems is that the best alternative is one that yields the highest expected profit or the lowest expected cost over time. Decision theory provides tools to evaluate these alternatives systematically.

Decision Making under Certainty

Decision making under certainty occurs when the decision maker has complete and reliable information about future outcomes. In this situation, only one state of nature exists, and its probability is equal to one. The outcome of each alternative is known in advance, and there is no ambiguity regarding future events.

Most short-term managerial decisions operate under conditions of certainty. Examples include routine operational decisions such as wage payments or purchasing standard materials. These decisions rely on deterministic models, where cause-and-effect relationships are clearly established.

Under certainty, decision making is relatively straightforward. The decision maker simply compares the known payoffs of each alternative and selects the one with the best outcome. Although certainty is often assumed for simplicity, it rarely exists in real-world business environments due to constant change and unpredictability.

Decision Matrix

A decision matrix, also known as a payoff matrix, is a standard tool used in decision theory. It presents alternatives as rows and states of nature as columns. Each cell in the matrix shows the payoff associated with a particular combination of an alternative and a state of nature.

Under certainty, the decision matrix contains only one column, representing the single known state of nature. The decision maker chooses the alternative with the highest payoff or lowest cost.

Decision Making under Risk

Decision making under risk occurs when the decision maker does not know with certainty which future event will occur but can assign probabilities to different states of nature. Risk arises due to incomplete information, yet the likelihood of outcomes can be estimated using historical data, statistical analysis or experience.

In a risky environment, managers understand the problem and available alternatives but cannot predict outcomes with complete confidence. Many strategic and financial decisions fall under this category. Risk is considered measurable because probabilities can be assigned.

Probability Concepts

Probability measures the likelihood that a particular event will occur and ranges between zero and one. A probability of zero indicates impossibility, while a probability of one indicates certainty. The total probability of all possible outcomes must always equal one.

Probabilities may be objective or subjective. Objective probabilities are based on mathematical logic or statistical evidence, such as coin tosses or historical sales data. Subjective probabilities are based on managerial judgement and personal experience, particularly when reliable data is unavailable.

Expected Value

Expected value is one of the most important concepts in decision making under risk. It represents a weighted average of all possible outcomes, where the weights are the probabilities of occurrence. The expected value helps decision makers compare alternatives by considering both payoffs and their likelihood.

The alternative with the highest expected value is selected in profit-maximising decisions, while the lowest expected value is chosen in cost-minimising decisions. Expected value is widely used in capital budgeting, investment appraisal and forecasting future cash flows.

Risk Measurement

Risk is measured by examining the variability of possible outcomes around the expected value. Two common statistical measures are variance and standard deviation. Variance measures the dispersion of outcomes from the mean, while standard deviation is the square root of variance and is expressed in the same units as the data.

A higher standard deviation indicates greater variability and higher risk. To compare risk across projects with different expected returns, the coefficient of variation is used. It measures relative risk by dividing standard deviation by expected return.

Expected Value of Perfect Information (EVPI)

Perfect information refers to complete and accurate knowledge of future states of nature. Although perfect information rarely exists, its value can be estimated using EVPI. EVPI represents the maximum amount a decision maker would be willing to pay for information that removes uncertainty.

EVPI is calculated as the difference between the expected value with perfect information and the expected value without perfect information. Managers compare EVPI with the cost of obtaining information to decide whether additional information is worthwhile.

Decision Making under Uncertainty

Decision making under uncertainty arises when future events are known but probabilities cannot be assigned due to lack of data. In such cases, outcomes depend heavily on judgement rather than statistical analysis. This situation is common in long-term strategic decisions, such as launching new products or entering new markets.

Unlike risk, uncertainty is considered unmeasurable. The absence of probability information has led to the development of special decision criteria.

Decision Criteria under Uncertainty

Several rules are used to guide decisions under uncertainty. The **maximin criterion** focuses on selecting the alternative with the best worst-case outcome and reflects a pessimistic attitude. The **maximax criterion**, in contrast, selects the alternative with the best possible outcome and reflects optimism.

The **Laplace criterion** assumes equal probability for all states of nature and selects the alternative with the highest average payoff. The **Savage criterion**, also known as minimax regret, focuses on minimising the maximum regret associated with a decision.

The **Hurwicz criterion** combines optimism and pessimism by assigning a coefficient of optimism. It allows decision makers to balance best and worst outcomes based on their attitude towards risk.

Conclusion

Decision theory provides a structured framework for making rational choices in complex business environments. By classifying decisions under certainty, risk and uncertainty, it helps managers select appropriate analytical tools. Techniques such as expected value, variance, EVPI and decision criteria under uncertainty enhance decision quality. Although models have limitations, decision theory remains an essential foundation for managerial and financial decision making

Multiple Choice Questions (MCQs):

1. The Savage Criterion transforms a standard gain or loss payoff matrix into a regret matrix. This methodology is fundamentally based upon which principle?

   A) The principle of insufficient reason.

   B) The opportunity cost principle.

   C) The time value of money.

   D) The objective probability principle

2. Which of the following is explicitly listed in the module as a limitation of the Expected Value model?

   A) It strictly requires the decision maker to be risk averse.

   B) It accurately assesses qualitative factors, rendering quantitative data obsolete.

   C) It assumes future events are independent of each other, though overlap can occur.

   D) It relies exclusively on objective probabilities and rejects subjective inputs.

3. According to Frank Knight (1921), probabilities derived from inherent symmetries, such as the throw of a die, are classified as:

   A) Subjective probabilities.

   B) Statistical inferences.

   C) A priori probabilities.

   D) Unmeasurable uncertainty.

4. In the graphical construction of a decision tree, how are decision points and outcome points conventionally represented?

   A) Triangles for decision points, squares for outcome points.

   B) Circles for decision points, squares for outcome points.

   C) Squares for decision points, circles for outcome points.

   D) Arrows for decision points, triangles for outcome points.

5. The Laplace Criterion in decision making under uncertainty operates on the assumption that:

   A) The decision maker must assume the worst possible conditions will occur.

   B) The index of optimism dictates the weighted average.

   C) All states of nature are equally likely to occur due to the principle of insufficient reason.

   D) The opportunity cost matrix reveals the dominant strategy.

6. According to the comparison chart provided in the module, what is a key distinction regarding the "Outcome" between Risk and Uncertainty?

   A) Under risk the outcome is unknown; under uncertainty chances of outcomes are known.

   B) Under risk chances of outcomes are known; under uncertainty the outcome is unknown.

   C) Both conditions have strictly controllable outcomes.

   D) Both conditions involve predictable probabilities of mutually exclusive outcomes.

7. XYZ Co. considers rearranging its plant. The anticipated operating costs are ₹200,000 (Success, 50%), ₹310,000 (Partial success, 30%), and ₹510,000 (Failure, 20%). What is the expected operating cost if the company chooses to rearrange?

   A) ₹3,40,000

   B) ₹2,95,000

   C) ₹3,10,000

   D) ₹4,00,000

8. ABC Company Co is setting sales prices. The total contributions toward fixed costs for the "Worst possible" scenario are ₹20,000 (at price ₹4.00), ₹18,400 (at price ₹4.30), and ₹14,400 (at price ₹4.40). Using the maximin criterion, which price should be selected?

   A) Price ₹4.30

   B) Price ₹4.40

   C) Price ₹4.00

   D) Indifferent between all three

9. In the probabilistic profit budget of ABC Company, selling 1,10,000 units has a probability of 0.2, and incurring a variable manufacturing cost of ₹4.80 per

unit has a probability of 0.2. The Profit After Tax (PAT) for this exact scenario is ₹83,500. What is the joint probability of this scenario and its expected contribution to the aggregate PAT?

A) Joint Probability 0.20; EV ₹83,500

B) Joint Probability 0.04; EV ₹3,340

C) Joint Probability 0.40; EV ₹33,400

D) Joint Probability 0.04; EV ₹8,350

10. B Ltd. conducts a test market costing ₹1,00,000. If the response is positive, the company markets full scale yielding potential net gains/(losses) of (-200k) at 0.20 probability, (+200k) at 0.50 probability, and (+1,000k) at 0.30 probability. Given a positive test response, what is the expected net gain from the decision to market full scale (ignoring the initial test cost)?

A) ₹2,60,000

B) ₹1,00,000

C) ₹3,60,000

D) ₹50,000

11. A newsagent buys magazines for ₹0.30 and sells them for ₹0.50. If he orders 30 magazines, the probability of demand is 20 units (0.20), 30 units (0.55), and 40 units (0.25). Unsold items have no value. What is the expected profit for ordering exactly 30 magazines?

A) ₹3.25

B) ₹4.00

C) ₹5.00

D) ₹6.00

12. Julien Point School is preparing a summer camp. The cost matrix for alternative a_4 under states S_1, S_2, S_3, S_4 is (30, 22, 19, 15). The respective column minimums (best outcomes) for those states across all alternatives are (5, 7, 12, 15). Under the Savage Criterion (Minimax regret), what is the maximum regret associated with alternative a_4?

A) 30

B) 0

C) 15

D) 25

Answer

1. B
2. C
3. C
4. C
5. C
6. B
7. B
8. C
9. B
10. C
11. C
12. D

Fill in the blanks

1. In decision theory, the alternatives are referred to as acts, and the possible future events over which the decision maker has no control are referred to as _____.
2. The _____ criterion is based on the conservative attitude of making the best of the worst-possible conditions.
3. A _____ is a pictorial method of showing a sequence of interrelated decisions and their expected outcomes using a branching method.
4. The _____ method of assigning probabilities assumes that each possible outcome has an equal probability of occurring, such as in coin tosses or dice rolls.
5. Two events are considered _____ if the occurrence or non-occurrence of one event does not change the probability of the occurrence of the other event.

Answer

1. states of nature
2. minimax (or maximin)
3. decision tree
4. classical
5. independent

State True or False

1. A standard deviation of a probability distribution expresses the dispersion of possible returns and is always expressed as an annual percentage, regardless of the original data's units.
2. When utilizing the Hurwicz Criterion, if the index of optimism parameter alpha is equal to 1, the decision rule is generous because it is based on the underlying assumption of the best of the best conditions.
3. When drawing a two-stage decision tree where one decision leads to future choices, the tree must be constructed in chronological order from right to left.
4. A priori probabilities and statistical probabilities are both classifications of objective probabilities.
5. Under conditions of certainty, only one state of nature is considered to exist and the probability of that state occurring is exactly 1.0.

Answer

1. False
2. True
3. False
4. True
5. True

CMA FINAL COURSE

Syllabus 2022

Topic

Module 11 : Laws and Regulations related to Anti-Money Laundering

FINAL

Group III - Paper-13

Corporate and Economic Laws (CEL)

Prevention of Money Laundering Act: offenses, penalties and power of Authorities

1.0 Introduction.

The Prevention of Money Laundering Act, 2002 (PMLA) is one of the most significant legislative measures enacted by the Indian Parliament to combat the growing threat of money laundering and related financial crimes. In the contemporary world, economic offences have become increasingly sophisticated due to globalization, technological advancement, liberalized financial markets, and rapid international movement of capital. Criminal enterprises no longer operate within national boundaries; rather, they function through complex transnational networks involving corruption, drug trafficking, cybercrime, terrorism financing, human trafficking, smuggling, tax evasion, and organized crime. These criminal activities generate enormous amounts of illicit wealth, which offenders attempt to integrate into the legitimate economy through various mechanisms. The process through which illegally obtained money is disguised as lawful income is known as money laundering.

Money laundering poses a serious challenge to economic governance and the rule of law. It undermines the integrity of financial institutions, distorts market competition, reduces government revenue, weakens public confidence in economic systems, and facilitates the continuation of criminal activities. Criminals often seek to conceal the origins of illicit funds through sophisticated financial transactions involving shell companies, offshore accounts, fictitious businesses, real estate investments, trade-based transactions, and digital assets. Consequently, governments around the world have recognized the necessity of creating legal frameworks capable of tracing, freezing, confiscating, and prosecuting proceeds of crime.

1.1 Objectives of the PMLA

The important objectives of the Act are:

1. To prevent money laundering and related economic offences.
2. To confiscate proceeds of crime and illegally acquired property.
3. To punish persons involved in money laundering activities.
4. To protect financial institutions from misuse by criminals.
5. To prevent financing of terrorism and organized crime.
6. To ensure India's compliance with international standards such as FATF recommendations.

2.0 Offence & penalties of money laundering

2.1. Offence of money laundering (Section 3)

The definition of money laundering is exhaustive enough to cover most of the instances of converting black money into white. The definition of money laundering is exhaustively covered under Section 3 of the PMLA. It says, a person is guilty of the offence of money laundering if he/she is found to have, directly or indirectly:

- Attempts to engage in money laundering;
- Knowingly assists in the process;
- Is knowingly a party to the activity; or
- Is involved in handling the proceeds of crime through:
  - Concealment,
  - Possession,
  - Acquisition,
  - Use,
  - Projecting it as legitimate property, or
  - Claiming it as legitimate property.

2.2. Punishment for money laundering (Section 4)

Under Section 4 of the PMLA, any individual who commits the crime of money laundering will be accountable to receive a punishment that involves rigorous imprisonment up to 3 years, which may extend to 7 years, and will also be culpable to pay a penalty.

A point must be noted that, in case if the crime in question is related to any offence specifically mentioned under the Narcotic Drugs and Psychotropic Substances Act, 1985, the penalty may be extended to a rigorous imprisonment of 10 years instead of 7 years.

3.0 Attachment, Adjudication & Confiscation

1. Attachment of Property Involved in Money Laundering (Section 5)

Section 5 empowers the Director, Joint Director, or Deputy Director to provisionally attach property suspected to be involved in money laundering for a period of up to **180 days**. The authority must have reasons to believe, recorded in writing.

2. Adjudicating Authority (Section 6)

The Central Government appoints an Adjudicating Authority consisting of:

- A Chairperson, and
- Two Members (with expertise in law, finance, accountancy, or administration).

The Authority functions according to the principles of natural justice and is not bound by the provisions of the Code of Civil Procedure, 1908.

3. Powers and Functions of the Adjudicating Authority

The Adjudicating Authority:

- Examines complaints regarding attached or seized property.
- Issues notices to concerned persons.
- Conducts hearings.
- Determines whether the property is involved in money laundering.
- Confirms or releases provisional attachment orders.

4. Tenure and Removal of Members

The Chairperson and Members hold office for **five years** and cannot continue after attaining the age of **65 years**. They may resign by giving notice to the Central Government and can be removed only in accordance with the procedure prescribed under the Act.

5. Adjudication Proceedings (Section 8)

Upon receiving a complaint, the Adjudicating Authority issues a notice of at least **30 days** to the person concerned, requiring an explanation regarding the source of income or property. After considering the evidence and hearing the parties, the Authority decides whether the property is involved in money laundering. If confirmed, the attachment continues until the conclusion of the trial.

6. Confiscation and Vesting of Property (Sections 8 & 9)

If the Special Court finds that money laundering has been committed, the property involved is confiscated and vests absolutely in the Central Government free from all encumbrances. Any transfer, lease, or encumbrance created to defeat the provisions of the Act may be declared void.

4.0 Power of Authorities under PMLA

1. Survey (Section 16)

Authorizes officers to enter and inspect any place where money laundering activities are suspected. The authority may examine records, verify documents, and record statements after recording reasons in writing.

2. Search and Seizure (Section 17)

Empowers authorized officers to search premises, vehicles, vessels, aircraft, lockers, and seize records or property connected with money laundering. If seizure is not possible, the property may be frozen.

Case Law: *OPTO Circuit India Ltd. v. Axis Bank & Ors.* (2021) – The Supreme Court held that search and seizure must strictly follow the procedure prescribed under the Act; otherwise, the action may be invalid.

3. Search of Persons (Section 18)

Allows authorized officers to search any person suspected of concealing proceeds of crime or relevant records and to seize such property or documents.

4. Power to Arrest (Section 19)

Authorizes the Director, Deputy Director, Assistant Director, or other authorized officers to arrest a person if there is reason to believe that the person is guilty of money laundering, and such reasons are recorded in writing.

5. Retention of Property (Section 20)

Property seized or frozen may be retained for up to 180 days. The Adjudicating Authority may permit further retention if the property is involved in money laundering.

6. Retention of Records (Section 21)

Records seized during investigation may be retained for 180 days and further if necessary. Copies of records may be provided upon request.

7. Inter-Connected Transactions (Section 23)

Where one transaction in a chain is proved to involve money laundering, other connected transactions may also be presumed to be involved.

8. Presumptions and Burden of Proof (Section 24)

The burden of proving that the alleged proceeds of crime are not involved in money laundering lies on the accused or the person claiming ownership.

9. Cognizable and Non-Bailable Offences (Section 45)

Money laundering offences are cognizable and generally non-bailable. Bail is granted only subject to strict conditions prescribed under the Act.

10. Offences with Cross-Border Implications

PMLA applies to offences involving international transactions and foreign assets. Such offences are covered under Part C of the Schedule to the Act.

11. Limitation Period

There is no specific limitation period under the PMLA. Since the punishment exceeds three years, proceedings can be initiated even after a considerable lapse of time.

5.0 Authorities that can investigate under PMLA

5.1 Enforcement Directorate

The enforcement directorate in the Department of Revenue, Ministry of Finance, the Government of India, has the authority to investigate matters of money laundering in India under the PMLA.

5.2 Financial Intelligence Unit- India (FIU-IND)

The Financial Intelligence Unit- India (FIU-IND) under the Department of Revenue, Ministry of Finance, is an autonomous body that reports directly to the Economic Intelligence Council (EIC). The EIC is headed by the Finance Minister. FIU-IND is a central agency with the responsibility of receiving, processing, analysing, and disseminating information in matters related to suspicious economic transactions. It is also responsible for:

1. Corresponding and building up the efforts of national and international intelligence,
2. Carrying out inquiries for pursuing the global efforts against money laundering and connected offences.

5.3 Agencies

The scheduled offences are individually investigated by agencies mentioned under the respective Acts, for instance, the local police, CBI, customs departments, SEBI, or any other investigative agency, as the needs of the case may be.

Topic

Module 8: Portfolio Theory and Practice

FINAL

Group III - Paper-14

Strategic Financial Management (SFM)

Topic: Portfolio Theory and Practice

- **Multiple Choice Questions**

1. An investor allocates 40% of funds to Asset A with an expected return of 12% and 60% to Asset B with an expected return of 18%.

   The expected return of the portfolio is:

   A. 14.4%

   B. 15.6%

   C. 16.8%

   D. 17.4%

   Answer: B. 15.6%

   Explanation

   Expected portfolio return:

   Rp = (0.4×12%)+(0.6×18%) = 4.8%+10.8% = 15.6%

2. Two assets have the following characteristics:

Asset	Weight	Std. Deviation
A	50%	10%
B	50%	20%

   Correlation coefficient = 1.

   Portfolio standard deviation equals:

   A. 10%

   B. 15%

   C. 20%

   D. 25%

   Answer: B. 15%

   Explanation

   When correlation = +1

   $\sigma_p = 0.5(10\%) + 0.5(20\%) = 15\%$

3. A portfolio consists of:

Asset	Weight	Beta
X	30%	0.8
Y	50%	1.2
Z	20%	1.5

   Portfolio beta is:

   A. 1.09

   B. 1.14

   C. 1.17

   D. 1.25

   Answer: B. 1.14

   Explanation

   $\beta p = \sum w_i \beta_i = (0.3\times0.8)+(0.5\times1.2)+(0.2\times1.5) = 1.14$

4. A portfolio earned 15%.

   Risk-free rate = 4%.

   Market return = 12%.

   Portfolio beta = 1.2.

   Jensen's Alpha equals:

   A. 0.4%

   B. 1.4%

   C. 2.6%

   D. 3.4%

   Answer: B. 1.4%

   Explanation

   Expected return from CAPM:

   = 4% + 1.2 (12% − 4%) = 13.6%

   Jensen's Alpha:

   α = 15% − 13.6% =1.4%

5. Portfolio return = 18%

   Risk-free rate = 6%

   Portfolio standard deviation = 24%

   Sharpe Ratio equals:

   A. 0.40

   B. 0.50

   C. 0.60

   D. 0.75

   Answer: B. 0.50

   Explanation

   Sharpe Ratio = $(R_p - R_f)/\sigma_p = (18 - 6)/24 = 0.50$

6. An investor has ₹10,00,000.

   40% is invested in Treasury Bills and 60% in a risky portfolio.

   If the risky portfolio earns 15% and T-Bills earn 6%, the combined portfolio return is:

   A. 9.6%

   B. 10.8%

   C. 11.4%

   D. 12.6%

   Answer: C. 11.4%

   Explanation

   Rp = (0.4×6%)+(0.6×15%) = 2.4% + 9.0% = 11.4% =11.4%

- **Comprehensive Problems**

1. The rate of return on Stocks X and Y under different states of the economy are given below:

	Boom	Normal	Recession
Probability of occurrences	0.35	0.50	0.15
Rate of return on stock X (%)	20	30	40
Rate of return on stock Y (%)	40	30	20

(i) Calculate the expected return and standard deviation of returns of both stocks.

(ii) If you could invest in either stock X and Y but not in both, which stock would you prefer?

(iii) What would be your decision if the probability changes to 30:40:30?

Solution:

(i) **(a) Calculation of expected return:**

State of economy	Rate of return (%)		Probability	Expected returns (%)	
	X	Y		X	Y
Boom	20	140	0.35	07	14
Depression	30	30	0.50	15	15
Recession	40	20	0.15	06	03
		Expected Return		28	32

(b) Calculation of the standard deviation of stock X:

State of the economy	Return on X (%)	$(X - \overline{X})$	$(X - \overline{X})^2$	P	$P(X - \overline{X})^2$
Boom	20	-8	64	0.35	22.40
Normal	30	2	4	0.50	2.00
Recession	40	12	144	0.15	21.60
					46.00

Standard deviation = $\sqrt{46.00}$ = 6.78%

(c) Calculation of the standard deviation of Y:

State of the economy	Return on Y (%)	$(Y - \overline{Y})$	$(Y - \overline{Y})^2$	P	$P(Y - \overline{Y})^2$
Boom	40	8	64	0.35	22.40
Normal	30	-2	4	0.50	2.00
Recession	20	-12	144	0.15	21.60
					46.00

Standard deviation = $\sqrt{46.00}$ = 6.78%

(ii) Standard deviation measures the risk of a security. The standard deviation of both stocks is the same. Return on stock 'Y' is higher by 4% as compared to return on stock 'X', though the risk is the same. Therefore, it is preferable to invest in stock 'Y'.

(iii) **(a) Calculation of expected return:**

State of the economy	Rate of return		Probability	Expected returns	
	X (%)	Y (%)		X	Y
Boom	20	40	0.30	6	12
Depression	30	30	0.40	12	112
Recession	40	20	0.30	12	6
		Expected Return		30	30

(b) Calculation of Standard Deviation of X:

State of the economy	Return on X (%)	$(X - \overline{X})$	$(X - \overline{X})^2$	P	$P(X - \overline{X})^2$
Boom	20	-10	100	0.30	30.00
Normal	30	0	0	0.40	0.00
Recession	40	10	100	0.30	30.00
					60.00

Standard deviation = $\sqrt{60.00}$ = 7.75%

(c) Calculation of Standard Deviation of Y:

State of the economy	Return on Y (%)	$(Y - \overline{Y})$	$(Y - \overline{Y})^2$	P	$P(Y - \overline{Y})^2$
Boom	40	-10	100	0.30	30.00
Normal	30	0	0	0.40	0.00
Recession	20	10	100	0.30	30.00
					60.00

Standard deviation = $\sqrt{60.00}$ = 7.75%

If the probability changes to 30:40:30, then both stocks have the same returns as well as risk. Hence, investment can be made in any stock.

2. Mr. A purchased 400 shares of S Ltd. @ ₹61 each on 15th October. 2022. He paid brokerage of ₹600. The company paid the following dividends:

June, 2023	₹800
June, 2024	₹1,000
June, 2025	₹1,200

He sold all his holdings for ₹34.500 (net) on 15th October. 2025

(i) What is the holding period return?

(ii) What is annualized return?

Solution:

Purchases 400 × 61 = ₹24,400

Brokerage = ₹600

Total = ₹25,000

Dividend = 800 + 1,000 + 1,200 = ₹3,000

Capital Gains = 34,500 - 25,000 = ₹9,500

Total Returns = 3,000 + 9,500 = ₹12,500

Holding period = 3 years

Holding period return = (12500/25000) × 100 = 50%

Annualized return = 50/3 = 16.67%

3. The Stock Research Division of Bharati Investment Services Ltd. has developed an ex-ante probability distribution for the likely economic scenarios over the next one year and estimates the corresponding one-period rates of return on Stock A, B and market index as follows:

Economic scenarios	Probability	One period rate of return %		
		Stock A	Stock B	Market
Recession	0.15	-15	-3	-10
Low growth	0.25	10	7	13
Medium growth	0.45	25	15	18
High growth	0.15	40	25	32

The expected risk-free real rate of return and the premium for inflation are 3.0% and 6.5% p.a., respectively. As a financial analyst in the Research Division, you are required to calculate the following for stock A and stock B:

(i) Expected return

(ii) Covariance of returns with the market returns

(iii) Beta

Solution:

(i) **Expected return on stock**

$E(R_A) = 0.15(-15)+0.25\times10+0.45\times25+0.15\times40 = 17.5\%$

$E(R_B) = 0.15\times(-3)+0.25\times7+0.45\times15+0.15\times25 = 11.8\%$

$E(R_M) = 0.15\times(-10)+0.25\times13+0.45\times18+0.15\times32 = 14.65\%$

(ii) **Covariances**

$COV_{AM} = 0.15[(-15)-17.5][(-10)-14.65]+0.25[10-17.5](13-14.65]+0.45[25-17.5][18-14.65]+0.15[40- 17.5][32-14.65]$

$= 120.16875+3.09375+11.30625+58.55625$

$= 193.13$

$COV_{BM} = 0.15[(-3)-11.8][(-10)-14.65]+0.25[7-11.8][13-14.65]+0.45[15-11.8][18-14.65]+ 0.15 [25 -11.8][32-14.65]$

$= 54.723+1.98+4.824+34.353$

$= 95.88$

$VAR_M = 0.15[(-10)-14.65]^2+0.25[13-14.65]^2+0.45[18-14.65]^2$

$= 0.15[32-14.65]^2$

$=142.03$

(iii) Beta

$\beta_A = COV_{AM}/VAR_M = 193.13/142.03 = 1.36$

$\beta_B = COV_{BM}/VAR_M = 95.88/142.03 = 0.68$

4. Your client holds the following securities:

Particulars of Securities	Cost (₹)	Dividends (T)	Market Price (₹)	BETA
Equity Shares:				
Co. T	8,000	800	8,200	0.8
Co. Q	10,000	800	10,500	0.7
Co. M	16,000	800	22,000	0.5
Co. P	34,000	3,400	32,300	0.2

Assuming a Risk-free rate of 6%, calculate the expected rate of return in each, using the Capital Asset Pricing Model (CAPM). Assume equal proportion of securities for market portfolio as also for the client. Calculations should be presented up to two decimal places.

Solution:

Calculation of expected return on market portfolio (Rm)

Investment	Cost (₹)	Dividends (₹)	Capital Gains (₹)
Shares T	8,000	800	200
Shares Q	10,000	800	500
Shares M	16,000	800	6,000
Shares P	34,000	3,400	-1,700
	68,000	5,800	5,000

Rm = (5,800 + 5,000) / 68,000 × 100 = 15.88%

Calculation of expected rate of return on individual security:

Security

Share T: 6 + 0.8(15.88-6.0) = 13.90%

Share Q: 6 + 0.7(15.88-6.0) = 12.92%

Share M: 6 + 0.5(15.88-6.0) = 10.94%

Share P: 6 + 0.2(15.88-6.0) = 7.98%

Topic

Module 13: Transfer Pricing

FINAL

Group III - Paper-15

Direct Tax Laws and International Taxation (DIT)

Transfer Pricing

The rapid expansion of multinational enterprises has transformed the way businesses operate across borders. Transactions involving goods, services, financing arrangements, and intangible assets frequently take place between entities belonging to the same corporate group. While such transactions are commercially necessary, they also create opportunities for shifting profits from high-tax jurisdictions to low-tax jurisdictions through the manipulation of intra-group prices.

To address this challenge, transfer pricing regulations require related-party transactions to be undertaken at the **Arm's Length Price (ALP)**—the price that would have been charged between independent parties under comparable circumstances. These provisions play a pivotal role in protecting tax revenues, preventing base erosion, and ensuring equitable allocation of profits among jurisdictions.

Transfer pricing refers to the rules and methods used to determine the pricing of transactions between associated enterprises. The objective is to ensure that such transactions are conducted on terms similar to those that would prevail between independent parties in an open market. Consequently, transfer pricing has become a cornerstone of international taxation and an essential area of study for tax professionals, accountants, and business leaders engaged in cross-border transactions.

Transfer pricing regulations revolve around a few fundamental concepts such as transfer price, arm's length price, and associated enterprises. A clear understanding of these concepts is crucial before examining the statutory provisions and methods for determining arm's length price. The key terms are explained below:

Term	Description
Transfer Price	The price at which goods or services are transferred between related parties.
Arm's Length Price	Price charged in a comparable transaction between unrelated parties under similar conditions.
Associated Enterprises (AEs)	Entities having control, common ownership, or influence over each other, either directly or indirectly.

Suppose a company A purchases goods for ₹ 100 and sells it to its associated company B in another country for ₹ 200, who in turn sells in the open market for ₹ 400. Had A sold it direct, it would have made a profit of ₹ 300. But by routing it through B, it restricted it to ₹ 100, permitting B to appropriate the balance. The transaction between A and B is arranged and not governed by market forces. The profit of ₹ 200 is, thereby, shifted to the country of B. The goods is transferred at a price (transfer price) which is arbitrary or dictated (₹ 200), but not on the market price (₹ 400). Thus, the effect of transfer pricing is that the parent company or a specific subsidiary tends to produce insufficient taxable income or excessive loss on a transaction. For instance, profits accruing to the parent can be increased by setting high transfer prices to siphon profits from subsidiaries domiciled in high tax countries, and low transfer prices to move profits to subsidiaries located in low tax jurisdiction. As an example of this, a group which manufacture products in a high tax countries may decide to sell them at a low profit to its affiliate sales company based in a tax haven country. That company would in turn sell the product at an arm's length price and the resulting (inflated) profit would be subject to little or no tax in that country. The result is revenue loss and also a drain on foreign exchange reserves.

Importance of Transfer Pricing

- Ensures fair taxation in each country involved in cross-border transactions.
- Prevents manipulation of profits to low-tax jurisdictions.
- Essential for maintaining tax neutrality and international tax compliance.

Computation of income from international transaction or specified domestic transactions having regard to arm's length price [Sec. 92]

The provisions are as under:

Provisions	Example	Treatment	Impact on income
Any income arising from an *international transaction* shall be computed having regard to the *arm's length price*.	X Ltd., resident, sold goods or services to its associated enterprises, XY Plc. (a foreign company), for ₹ 5 lacs whereas the arm's length price of such goods or services is ₹ 9 lacs	While computing income of X Ltd., ₹ 9 lacs shall be considered as sale value	Income of X Ltd. will be increased by ₹ 4 lacs.
The allowance for any expense or interest arising from an international transaction or specified domestic transaction[1] shall also be determined having regard to the arm's length price.	R Ltd. takes a loan of ₹ 20 lacs from an associated enterprise in Ireland @ 20% p.a. whereas the arm's length rate of interest is 12% p.a.	Interest @ 12% p.a. shall be allowed as deduction to R Ltd.	Income of R Ltd. will be increased by ₹ 1,60,000/-
Where in an international transaction or specified domestic transaction, • two or more *associated enterprises* • enter into a mutual agreement or arrangement for the apportionment of, or any contribution to, any cost incurred • in connection with a benefit, service or facility provided to any such enterprises, the cost apportioned to (contributed by), any such enterprise shall be determined having regard to the arm's length price of such benefit, service or facility.	An enterprise in Germany makes research on a new product and incurred ₹50 lacs. Out of this, ₹40 lacs has been allocated to its Indian associated enterprises dealing in the same product.	While computing income of Indian enterprise, it will be required to be examined whether the Indian enterprise is deriving proportionate benefit to the research expenditure allocated	If no such benefit is available to the Indian enterprise, total income of such enterprises is suitably increased by disallowing proportionate allocated cost.
The provisions (in any of aforesaid situation) shall not apply in a case where the computation of income or the determination of the allowance for any expense or interest or the determination of any cost or expense allocated or contributed has the *effect of reducing the income* chargeable to tax or increasing the loss, as the case may be, computed on the basis of entries made in the books of account in respect of the previous year in which the international transaction or specified domestic transaction was entered into.	X Ltd., resident, sold goods or services to its associated enterprises, XY Plc. (a foreign company), for ₹ 5 lacs whereas the arm's length price of such goods or services is ₹ 3 lacs	The provision of transfer pricing is not applicable	No Impact

Arm's length price [Sec. 92F(ii)]

The arm's length principle is the cornerstone of transfer pricing regulations. According to this principle, transactions between associated enterprises should be conducted as if they were between unrelated parties, each acting in its own best interest. The objective is to ensure that the transfer prices reflect market conditions and are not manipulated to minimize tax liabilities.

1 Any allowance for an expenditure or interest or allocation of any cost or expense or any income in relation to the specified domestic transaction shall be computed having regard to the arm's length price.

As per sec. 92F(ii), arm's length price means

(i) a price which is applied or proposed to be applied in a transaction

(ii) between persons other than associated enterprises (i.e., unrelated person, resident or non-resident),

(iii) in uncontrolled conditions.

Taxpoint: *There may be more than one arm's length price.*

Meaning of associated enterprise [Sec. 92A]

Associated enterprise, in relation to another enterprise, means an enterprise:

(a) which participates, directly or indirectly, or through one or more intermediaries, in the management or control or capital of the other enterprise; or

(b) in respect of which one or more persons who participate, directly or indirectly, or through one or more intermediaries, in its management or control or capital, are the same persons who participate, directly or indirectly, or through one or more intermediaries, in the management or control or capital of the other enterprise.

Deemed associated enterprise [Sec. 92A(2)]

For the above purpose, two enterprises shall be deemed to be associated enterprises if, at any time during the previous year fulfil any of the following conditions (if one of the following conditions is not satisfied, then mere participation in management or control or capital of the other enterprise, etc. shall not make them associate):

Category	Particulars	Statutory Threshold / Condition	Key Anchor
Capital and Finance	Equity Holding	Direct or indirect holding of **26% or more** of voting power by an enterprise (or same person) in another (both) enterprise	**26% Equity**
	Loan Dependency	Loan advanced by one enterprise to another constitutes **51% or more of total assets**	**51% Assets**
	Guarantees	Guarantee provided by one enterprise for **10% or more of the total borrowings** of the other enterprise	**10% Debt**
Management	Board Control	Appointment by one enterprise of **more than 50% of the directors** or **one or more executive directors** of the other enterprise (or same person appoints in both enterprise)	**>50% Board**
	Interest in Non-Corporate Entity	Enterprise holds **more than 10% interest** in a firm, AOP or BOI	**>10% Interest**
Operations	Intangible Dependency	One enterprise is **wholly dependent (100%)** on the know-how, patents, copyrights, trademarks, licences, franchises or similar business rights of the other enterprise	**100% Know-how**
	Raw Material Dependence	Supply of **≥ 90% of raw materials/consumables** by the other enterprise or by a person specified by him where prices and conditions are influenced by that other enterprises	**90% Materials**
	Sales Dependence	Goods or articles manufactured/processed by one enterprise are sold to other enterprise or to specified person where prices and conditions influenced by that other enterprise	**Influenced Sales**
Control	Common Individual Control	Both enterprises are controlled by the same individual, his relative, or jointly by such persons	**Common Individual**
	Common HUF Control	One enterprise is controlled by a HUF and the other by a member of that HUF or his relative, or jointly by them	**Common HUF**

Computation of arm's length price [Sec. 92C]

The arm's length price in relation to an international transaction or specified domestic transaction shall be determined by any of the following methods, being the most appropriate method, having regard to the nature of transaction or class of transaction or class of associated persons or functions performed by such persons or such other relevant factors as the Board may prescribe, namely:

Method Category	Prescribed Method [Section 92C(1)]	Primary Transaction / Use Case	Core Accounting Metric Tracked
Traditional Transaction Methods	Comparable Uncontrolled Price (CUP) Method	Highly standardized commodities, cross-border loans, or transactions where reliable market comparables are available	Direct Transaction Price
	Resale Price Method (RPM)	Distribution and resale arrangements where the reseller does not add significant value to the goods	Gross Profit Margin (Resale Margin)
	Cost Plus Method (CPM)	Contract manufacturing, routine assembly operations, or intra-group service arrangements	Gross Mark-up on Direct Costs
Transactional Profit Methods	Transactional Net Margin Method (TNMM)	Complex business arrangements where direct transaction comparables are unavailable; commonly used for manufacturing, service centres and software development units	Net Profit Margin (based on Costs, Sales or Assets)
	Profit Split Method (PSM)	Highly integrated operations, joint ventures, or transactions involving unique intangibles and shared value creation	Combined Net Profits apportioned based on economic contribution
Residual Method	Any Other Method	Exceptional transactions such as share transfers, business restructuring, slump sales, or cases where conventional comparables are not available	Third-party Valuations, Quotations, Bids or Other Reliable Market Evidence

Transfer pricing has emerged as one of the most significant areas of international taxation in an increasingly interconnected global economy. By enforcing the arm's length principle, transfer pricing provisions seek to ensure that profits are taxed where economic value is created and business activities are performed. Effective compliance requires careful documentation, selection of appropriate pricing methods, and a thorough understanding of the commercial realities of each transaction. As global tax regulations continue to evolve, a sound understanding of transfer pricing principles remains indispensable for both tax administrators and businesses operating across borders.

Topic

Module 10:
Simulation

FINAL

Group III - Paper-16

Strategic Cost Management (SCM)

FINAL

Simulation

1. Introduction to Simulation

Business decisions are often made under conditions of uncertainty, where factors such as demand, costs, prices, and lead times cannot be predicted with complete accuracy. Traditional mathematical models generally assume certainty and may not adequately capture these uncertainties.

Simulation is a quantitative technique that overcomes this limitation by creating a model of a real system and repeatedly imitating its behaviour under different conditions. It enables managers to evaluate alternative courses of action, analyse possible outcomes, and make informed decisions without affecting the actual system.

2. Definition and Concept

Simulation is a quantitative decision-making technique that uses a model of a real or proposed system to study its behaviour under different conditions. Rather than finding the optimal solution, it evaluates different alternatives through repeated experiments, and the results are analysed statistically to support decision-making.

Key elements of simulation include:

- **Model:** A simplified representation of a real-world system that reflects its key characteristics.
- **Dynamic behaviour:** Simulation examines how the system changes and performs over time through repeated trials or time periods.
- **Strategy evaluation:** It enables managers to analyse different "what-if" scenarios and compare alternatives without affecting the actual system.

3. Monte Carlo Simulation

Monte Carlo Simulation is the most widely used simulation technique in management accounting. Named after the famous casino city of Monte Carlo, it relies on random numbers to model uncertainty in decision-making. When the probability distribution of an uncertain variable is known or estimated, random numbers are used to generate possible values, allowing managers to simulate real-life situations and evaluate likely outcomes.

The procedure involves the following steps:

1. Identify the uncertain variables affecting the decision (e.g., demand, selling price, lead time).
2. Determine the probability distribution for each variable using historical data or estimates.
3. Convert the probabilities into cumulative probabilities.
4. Assign ranges of random numbers to each outcome according to their probabilities.
5. Generate random numbers using a random number table or computer software.
6. Match each random number with its corresponding outcome.
7. Calculate the result (such as profit, cost, or inventory level) for each trial.
8. Repeat the process many times and analyse the average outcome and the variability of results.

Random Number Assignment

In Monte Carlo simulation, random numbers are allocated to each possible outcome in proportion to its probability. For a two-digit random number table (00–99), each outcome receives a range of numbers equal to its probability × 100.

Outcome	Probability	Cumulative Probability	Random Number Range
Value 1	0.10	0.10	00–09
Value 2	0.25	0.35	10–34
Value 3	0.40	0.75	35–74
Value 4	0.20	0.95	75–94
Value 5	0.05	1.00	95–99

For example, an outcome with a probability of 25% is assigned 25 random numbers, i.e., 10–34. During the simulation, any random number falling within this range represents that particular outcome.

Problem 1:

ABC Electronics sells a product at Rs. 60 per unit. The variable cost is Rs. 35 per unit, and fixed costs amount to Rs. 6,000 per week.

Based on past sales records, the weekly demand has the following probability distribution:

Weekly Demand (Units)	Probability
120	0.10
180	0.20
240	0.40
300	0.20
360	0.10

Using the following random numbers, simulate 10 weeks of operation and estimate the average weekly profit:

18, 44, 81, 65, 95, 28, 73, 78, 56, 39

Solution

Step 1: Assign Random Numbers

Weekly Demand	Probability	Cumulative Probability	Random Number Range
120 units	0.10	0.10	00–09
180 units	0.20	0.30	10–29
240 units	0.40	0.70	30–69
300 units	0.20	0.90	70–89
360 units	0.10	1.00	90–99

Step 2: Simulate 10 Weeks

Selling Price = ₹ 60 per unit

Variable Cost = ₹ 35 per unit

Contribution = ₹ 25 per unit

Fixed Cost = ₹ 6,000 per week

Week	Random No.	Simulated Demand	Revenue (₹)	Variable Cost (₹)	Contribution (₹)	Fixed Cost (₹)	Profit (₹)
1	18	180	10,800	6,300	4,500	6,000	(1,500)
2	44	240	14,400	8,400	6,000	6,000	0
3	81	300	18,000	10,500	7,500	6,000	1,500
4	65	240	14,400	8,400	6,000	6,000	0
5	95	360	21,600	12,600	9,000	6,000	3,000
6	28	180	10,800	6,300	4,500	6,000	(1,500)
7	73	300	18,000	10,500	7,500	6,000	1,500
8	78	300	18,000	10,500	7,500	6,000	1,500
9	56	240	14,400	8,400	6,000	6,000	0
10	39	240	14,400	8,400	6,000	6,000	0
Total	—	**2,580**	**1,54,800**	**90,300**	**64,500**	**60,000**	4500

Step 3: Average Weekly Profit

Total Profit over 10 weeks = ₹4,500

Average Weekly Profit

= ₹4,500 ÷ 10

= ₹450 per week

Problem 2

Orion Manufacturing Ltd. is evaluating a project requiring an initial investment of ₹1,20,000. Both the annual net cash inflow and the project life are uncertain. The cost of capital is 12%.

Probability Distributions

Annual Net Cash Inflow:

Cash Inflow (₹)	Probability
25,000	0.20
35,000	0.30
45,000	0.30
55,000	0.20

Project Life:

Project Life (Years)	Probability
3	0.30
4	0.40
5	0.30

PV Factors at 12%

Years	PV Factor
3	2.402
4	3.037
5	3.605

Random Number Pairs (6 Runs)

Run	Random numbers (CF)	Random numbers (Life)
1	12	68
2	47	21
3	83	59
4	05	76
5	66	34
6	91	88

Solution

Step 1: Random Number Assignment — Cash Inflow

Cash Inflow	Probability	Cumulative Prob.	RN Range
25,000	0.20	0.20	00–19
35,000	0.30	0.50	20–49
45,000	0.30	0.80	50–79
55,000	0.20	1.00	80–99

Step 2: Random Number Assignment — Project Life

Life (Years)	Probability	Cumulative Prob.	RN Range
3	0.30	0.30	00–29
4	0.40	0.70	30–69
5	0.30	1.00	70–99

Step 3: Simulation and NPV Calculation

Run	Random numbers (CF)	Cash Inflow	Random numbers (Life)	Life	PV Factor	PV of Inflows (₹)	Initial Outlay	NPV (₹)
1	12	25,000	68	4	3.037	75,925	1,20,000	(44,075)
2	47	35,000	21	3	2.402	84,070	1,20,000	(35,930)
3	83	55,000	59	4	3.037	1,67,035	1,20,000	47,035
4	05	25,000	76	5	3.605	90,125	1,20,000	(29,875)
5	66	45,000	34	4	3.037	1,36,665	1,20,000	16,665
6	91	55,000	88	5	3.605	1,98,275	1,20,000	78,275

Step 4: Total and Expected NPV

Total NPV:

= (−44,075−35,930 + 47,035 − 29,875 + 16,665 + 78,275)

= 32,095

Expected NPV

= 32,095 ÷ 6
= ₹5,349 (approx.)

Interpretation

The simulation results show an expected positive NPV of ₹5,349, indicating that the project is financially acceptable on average. However, several simulation runs still produce negative NPVs, suggesting that the project carries moderate risk. Therefore, management should consider additional simulations or sensitivity analysis before making a final investment decision.

Applications of Simulation in Cost Management

- **Inventory Management**

  Simulation helps set reorder levels, order quantities, and safety stock under uncertain demand and lead times, while estimating stockout, holding, and total costs.

- **Capital Budgeting**

  Monte Carlo simulation models uncertain cash flows and project variables to generate an NPV range, showing the probability of profitable investments.

- **Queuing and Waiting Lines**

  It analyzes waiting times, queue lengths, and resource utilization under variable arrivals and service times, aiding better capacity decisions.

- **Production Scheduling**

  Simulation evaluates the impact of machine breakdowns and maintenance delays to reduce downtime and improve scheduling and buffer planning.

- **Financial Planning**

  Simulation forecasts financial outcomes under uncertain inputs like costs, prices, and sales, producing risk-based profit and cash flow estimates.

Advantages of Simulation

- **Manages complexity well:** Can represent systems with many interacting and uncertain variables that are difficult to solve analytically.
- **Safe experimentation:** Allows testing of decisions on a model without affecting real-world operations.
- **Highly flexible:** Easy to adjust and compare different policies, designs, or strategies.
- **Produces probability results:** Gives full outcome distributions instead of single estimates, helping in risk analysis.
- **Speeds up time analysis:** Simulates long-term system behaviour in a very short time.
- **Better communication:** Simulation models are easier for managers to understand compared to complex mathematical formulas.
- **Broad applicability:** Can be used across many areas such as inventory, production, queuing, and finance.

Limitations of Simulation

- **Not an optimisation method:** It evaluates alternatives but does not directly find the best solution.
- **Depends on model accuracy:** Incorrect input assumptions lead to misleading results.
- **High computational demand:** Complex models may require significant time and computing power.
- **Requires statistical understanding:** Results are probabilistic and must be interpreted carefully.
- **Costly and time-consuming:** Building and validating models can require substantial effort and resources.
- **Limited insight into causes:** It shows system behaviour but does not always explain the underlying reasons.

Topic

Module 7: Cost Audit Documentation, Audit Process and Execution

FINAL

Group IV - Paper-17

Cost and Management Audit (CMAD)

Cost Audit Documentation, Audit Process and Execution / Preparation and Filing of Cost Audit Report

Cost Audit Documentation

Cost audit documentation refers to all records, working papers, schedules, analyses, correspondence, notes, explanations , representations and evidence prepared or obtained by the cost auditor during the course of a Cost Audit. Documentation serves as evidence that the audit was conducted in accordance with applicable cost auditing standards and legal requirements. Audit documentation includes records maintained in physical or electronic form that provide evidence of audit procedures performed, evidence obtained, and conclusions reached by the auditor. The objective of documentation is as follows.

- To provide evidence of audit work performed
- To support the forming audit opinions and drawing conclusions
- To facilitate planning, supervision, and review of audit work
- To ensure compliance with statutory and professional requirements
- To assist in future audits and quality reviews

Documentation normally includes two types of information:

A. Permanent nature of information i.e of continuing relevance:

- Memorandum and Articles of Association of client organisation
- Cost accounting policies followed by the entity
- Organization structure
- Production processes (product-wise) of the client and related flow charts
- Details of products and services
- Previous cost audit reports
- Significant agreements and contracts

B. Current Audit information, which related to the current audit:

- Audit engagement letter accepted by Cost Auditor
- Client specific Audit Programme
- Risk assessment documents
- Cost records reviewed / examined
- Working papers
- Reconciliation statements
- Management representations
- Audit observations and findings
- Draft and final audit report

Characteristics of Good Documentation

A good documentation to ensure -

- Completeness
- Accuracies
- Clarity
- Relevancy
- Timeliness
- Properly indexed and cross-referenced with relevant documents

Retention of Documentation

The cost auditor should retain audit documents for a reasonable period as required by law, professional standards, and regulatory requirements. The documentation should be kept confidential and protected against unauthorized access.

Audit Process and Execution

Understanding of the Entity and its activities

The auditor shall obtain knowledge regarding:

- Nature of entity's business
- Manufacturing process
- Cost accounting system in place
- Internal control system
- Cost centres and responsibility centres

Risk Assessment

The auditor should identify:

- Areas of material misstatement
- Significant cost elements
- High-risk transactions
- Regulatory compliance risks

Development of Audit Programme

The audit programme should cover:

- Verification of cost records
- Examination of material costs, Labour cost and Overhead allocation and absorption
- Capacity utilization
- Inventory valuation
- Cost statements verification and validation

Execution of Audit

Verification of Material Cost

The auditor should verify:

- Purchase records
- Material issue records
- Consumption records
- Scrap and wastage records
- Inventory valuation methods

Verification of Employee Cost

The auditor should examine:

- Payroll records
- Attendance records
- Overtime payments
- Employee benefit expenses
- Allocation of labour costs

Verification of Utilities and Overheads

The auditor should verify:

- Power and fuel consumption.
- Administrative overheads.
- Selling and distribution overheads.
- Basis of allocation and apportionment.

Examination of Capacity Utilization

The Auditor to Review:

- Installed capacity
- Practical capacity
- Actual production
- Idle capacity and reasons therefor

Analytical Procedures

The auditor should perform:

- Trend analysis
- Ratio analysis
- Cost comparison
- Variance analysis
- Comparison and Benchmarking with previous years

Audit Findings

The auditor should:

- Document observations
- Evaluate materiality
- Discuss findings with management
- Obtain explanations and supporting evidence

Preparation of Cost Audit Report

The cost audit report communicates the auditor's opinion on whether cost records are maintained properly and whether cost statements present a true and fair view of cost information maintained by the entity.

Before reporting, the auditor should:

- Review all working papers
- Ensure sufficient audit evidence exists
- Resolve outstanding issues
- Obtain management representations

Drafting the Report

The report should include:

- Auditor's opinion post completion of subject audit
- Responsibilities of management
- Responsibilities of auditor
- Observations and suggestions with supporting

Matters to be Reported

The auditor should comment upon:

- Adequacy of cost records
- Compliance with Cost Accounting Standards
- Compliance with Cost Records Rules
- Effectiveness of Costing system
- Capacity utilization
- Cost control measures
- Abnormal losses and inefficiencies

Filing of Cost Audit Report

Filing with Central Government

The company files the Cost Audit Report electronically with the Central Government in the prescribed e-form within the stipulated time limit.

Auditor's Responsibilities During Filing

- Ensure report is complete
- Verify compliance with statutory provisions
- Confirm annexures and statements are attached
- Maintain filed copies for record purposes

Consequences of Non-Compliance

Failure to file the Cost Audit Report may result in:

- Penalties on the company.
- Penalties on officers in default.
- Professional consequences for the auditor.
- Regulatory scrutiny.

Professional Standard Requirements

A cost auditor shall ensure that:

1. Adequate audit documentation is maintained
2. Audit work is properly planned and supervised
3. Sufficient and appropriate audit evidence is obtained
4. Findings are objectively evaluated
5. The report is prepared in accordance with legal and professional requirements
6. Confidentiality of information is maintained

Professional scepticism and independence are exercised throughout the audit engagement. The cost auditor shall prepare documentation sufficient to enable an experienced auditor having no previous connection with the audit to understand:

- Nature of audit procedures performed.
- Timing and extent of procedures.
- Results of audit procedures.
- Significant matters identified.
- Professional judgments made.
- Conclusions reached.

Cost Records Documentation

Examination of records maintained under Companies (Cost Records and Audit) Rules, 2014 including:

- Material records
- Labour records
- Utility records
- Production records
- Inventory records
- Cost sheets
- Reconciliation statements

Development of Audit Programme

Audit programme should cover:

Material Cost Verification

Verification of:

- Purchase records
- GRNs
- Material issued
- Wastages
- Inventory records

Employee Cost Verification

Verification of:

- Payroll
- Attendance
- Incentives
- Bonus
- Employee benefit costs.

Utilities Cost

Verification of:

- Electricity
- Steam
- Water
- Fuel
- Gas consumption

Overheads

Verification of:

- Allocation bases
- Apportionment methods
- Absorption rates

Depreciation

Verification of:

- Asset registers
- Depreciation methods
- Allocation to products

Pollution Control Cost

Verification of:

- Environmental compliance costs
- Emission control costs
- Waste disposal costs

Audit Evidence Collection

Methods include:

Inspection

Examining records and documents

Observation

Notice differences and comment.

Inquiry

Obtaining explanations from management.

Recalculation

Verifying cost computations.

Analytical Procedures

The auditor performs:

- Product-wise cost comparisons
- Cost trend analysis
- Capacity utilization analysis
- Energy efficiency review
- Benchmarking

Evaluation of Findings

The auditor evaluates:

- Non-compliance with CAS
- Cost accounting weaknesses
- Cost overruns
- Inefficient utilization of resources
- Abnormal losses

Preparation of Cost Audit Report

Legal Framework

- Section 148 of Companies Act, 2013
- Companies (Cost Records and Audit) Rules, 2014
- Cost Audit Report Rules and Forms

Review Before Reporting

The auditor should ensure:

- Completion of audit procedures.
- Adequacy of audit evidence.
- Resolution of significant issues.
- Management representations obtained.
- Reconciliation with financial accounts completed.

Important Areas to be Reported

Cost Accounting System

Whether:

- Cost records are maintained properly.
- Cost records comply with CAS.
- Records are adequate for determining cost.

Professional Judgement in Reporting

The auditor may report:

- Qualifications.
- Adverse observations.
- Suggestions for improvement.
- Areas requiring management attention.

Examples of qualifications are recognized in ICMAI guidance relating to inadequacies in cost accounting systems and allocation methodologies.

Responsibilities of Cost Auditor

The auditor should:

- Ensure report is duly signed.
- Ensure compliance with applicable SCAs and CAS.
- Verify annexures and quantitative information.
- Maintain confidentiality.
- Retain documentation as required by SCA-102.

Topic

Module 7: Recent Developments in Financial Reporting

FINAL

Group IV - Paper-18

Corporate Financial Reporting (CFR)

Topic: Recent Development in Financial Reporting

- **Multiple Choice Questions**

1. The concept of Triple Bottom Line (TBL) was first coined by:

   A. Peter Drucker

   B. Michael Porter

   C. John Elkington

   D. Robert Kaplan

   Answer: C, John Elkington

2. The concept of Triple Bottom Line was first introduced in:

   A. 1987

   B. 1990

   C. 1994

   D. 2000

   Answer: C, 1994

3. 4P Bottom Line Reporting is an extension of:

   A. Double Entry System

   B. Triple Bottom Line Reporting

   C. Integrated Reporting

   D. Human Resource Reporting

   Answer: B, Triple Bottom Line Reporting

4. In traditional accounting, the term "Bottom Line" generally refers to:

   A. Cash Flow from Operations

   B. Net Worth

   C. Operating Result/Profit

   D. Market Value

   Answer: C, Operating Result/Profit

5. Which of the following dimensions is added in Quadruple Bottom Line Reporting over Triple Bottom Line Reporting?

   A. Economic Performance

   B. Environmental Performance

   C. Social Performance

   D. Spiritual Performance

   Answer: D, Spiritual Performance

6. The four dimensions measured under 4P Bottom Line Reporting are:

   A. Product, Price, Place and Promotion

   B. Profit, Productivity, Planning and Performance

   C. Social, Environmental, Economic and Spiritual Performance

   D. People, Process, Product and Profit

   Answer: C, Social, Environmental, Economic and Spiritual Performance

7. Sustainability Reporting primarily communicates an organization's:

   A. Profitability only

   B. Tax position only

   C. Economic, environmental and social impacts

   D. Share price movements

   Answer: C, Economic, environmental and social impacts

8. The three pillars of sustainability reporting are:

   A. Profitability, Liquidity and Solvency

   B. Economic, Environmental and Social Performance

   C. Growth, Market Share and Innovation

   D. Governance, Audit and Compliance

   Answer: B, Economic, Environmental and Social Performance

9. The Global Reporting Initiative (GRI) is primarily associated with:

   A. Cost Accounting Standards

   B. Sustainability Reporting Standards

   C. Tax Reporting Standards

   D. Government Accounting Standards

   Answer: B, Sustainability Reporting Standards

10. GRI Standards are intended to help organizations:

    A. Calculate taxable income

    B. Prepare consolidated financial statements

    C. Report sustainability performance in a standardized manner

    D. Determine share valuation

    Answer: C, Report sustainability performance in a standardized manner

11. Which of the following is NOT a stakeholder generally interested in sustainability reports?

A. Investors

B. Employees

C. Communities

D. Only Tax Authorities

Answer: D, Only Tax Authorities

12. The principal objective of sustainability reporting is to:

A. Report only financial profits

B. Assess and communicate an entity's contribution to sustainable development

C. Calculate market capitalization

D. Evaluate dividend policy

Answer: B, Assess and communicate an entity's contribution to sustainable development

13. Which reporting framework emphasizes accountability towards the economy, environment, and society?

A. Segment Reporting

B. Sustainability Reporting

C. Cost Audit Reporting

D. Cash Flow Reporting

Answer: B, Sustainability Reporting

14. The shift from traditional financial reporting to sustainability reporting reflects:

A. Exclusive focus on shareholders

B. Broader focus on multiple stakeholders

C. Reduction in disclosure requirements

D. Elimination of non-financial information

Answer: B, Broader focus on multiple stakeholders

15. Which statement best describes Quadruple Bottom Line Reporting?

A. It measures only financial performance.

B. It evaluates financial and operational performance only.

C. It assesses organizational performance from economic, environmental, social and spiritual perspectives.

D. It focuses exclusively on environmental disclosures.

Answer: C, It assesses organizational performance from economic, environmental, social and spiritual perspectives.

- **Comprehensive Questions and Answers**

1. Write a short note on Global Reporting Initiatives.

Answer:

The **Global Reporting Initiative (GRI)** is an independent international organization that develops globally accepted standards for sustainability reporting. Established in 1997, GRI was created to enhance transparency and accountability by enabling organizations to report their economic, environmental, and social impacts in a consistent and comparable manner. Over the years, it has become one of the most widely recognized frameworks for sustainability reporting across the world.

The primary objective of GRI is to help organizations understand and communicate how their activities affect the economy, society, and the environment. The GRI Standards provide a structured framework for reporting sustainability-related information, enabling organizations to disclose both positive and negative impacts arising from their operations. These standards are applicable to organizations of all sizes, sectors, and geographical locations.

GRI reporting covers a wide range of topics, including economic performance, energy consumption, emissions, waste management, biodiversity, labour practices, occupational health and safety, human rights, diversity and inclusion, anti-corruption measures, and community development. The framework emphasizes the concept of **materiality**, which requires organizations to report information on issues that significantly influence stakeholder decisions and organizational performance.

One of the key features of the GRI framework is its **stakeholder-oriented approach**. It encourages organizations to identify and engage with stakeholders such as investors, employees, customers, suppliers, regulators, local communities, and non-governmental organizations. By addressing stakeholder concerns and expectations, organizations can improve their credibility and strengthen relationships with various interest groups.

The adoption of GRI Standards offers several benefits. It enhances corporate transparency, improves accountability, facilitates benchmarking with industry peers, supports risk management, and helps organizations demonstrate their commitment to sustainable development. Furthermore, GRI reporting assists investors and other stakeholders in evaluating an organization's long-term sustainability performance and value-creation potential.

GRI has also contributed significantly to the global sustainability movement by supporting initiatives such as the United Nations Sustainable Development Goals (SDGs). Many organizations use GRI Standards in conjunction with other reporting frameworks to provide comprehensive sustainability disclosures.

In conclusion, the Global Reporting Initiative serves as a leading international framework for sustainability reporting. By promoting standardized, transparent, and stakeholder-focused disclosures, GRI helps organizations communicate their economic, environmental, and social performance effectively while fostering responsible and sustainable business practices.

2. Briefly discuss the benefits of Sustainability Reporting.

Answer:

Sustainability reporting provides valuable benefits to organizations as well as their stakeholders by helping them understand and communicate the economic, environmental, and social impacts of business activities. It enables organizations to assess their contribution towards sustainable development and integrate sustainability considerations into strategic decision-making.

1. **Better Understanding of Risks and Opportunities**

   Sustainability reporting helps organizations identify sustainability-related risks and opportunities arising from environmental, social, and governance (ESG) issues. This enables management to take proactive measures and improve long-term resilience.

2. **Improved Integration of Financial and Non-Financial Performance**

   By reporting both financial and sustainability information, organizations can better understand the relationship between financial performance and non-financial factors such as environmental responsibility, employee welfare, and social impact.

3. **Stronger Strategic Focus**

   The reporting process encourages organizations to focus on long-term business strategies, policies, and sustainability goals rather than concentrating solely on short-term financial results. This supports sustainable value creation.

4. **Enhanced Operational Efficiency**

   Sustainability reporting often leads organizations to review their processes, resource utilization, and waste generation. As a result, businesses can streamline operations, reduce costs, and improve overall efficiency.

5. **Performance Benchmarking**

   It enables organizations to evaluate and benchmark their sustainability performance against laws, regulations, industry standards, codes of conduct, and voluntary initiatives. This helps in continuous improvement and compliance.

6. **Improved Reputation and Brand Value**

   Transparent disclosure of sustainability initiatives enhances corporate reputation and strengthens brand loyalty among customers, investors, employees, and other stakeholders.

7. **Positive Environmental and Social Impact**

   Sustainability reporting encourages organizations to identify, mitigate, and potentially reverse adverse environmental, social, and governance impacts arising from their operations.

8. **Enhanced Stakeholder Confidence**

   By providing transparent information on sustainability performance, organizations improve stakeholders' perception of their value, governance practices, and long-term commitment to responsible business conduct.

9. **Financial and Competitive Advantages**

   Effective sustainability reporting can contribute to improved financial performance, stronger risk management, better governance, enhanced human resource management, and increased competitiveness in the marketplace.

Topic

Module 26: Export Promotion Schemes under Foreign Trade Policy

FINAL

Group IV - Paper-19

Indirect Tax Laws and Practice (ITLP)

FINAL

Foreign Trade Policy: A Paradigm Shift in Global Trade

Introduction: The Framework of International Trade

The Foreign Trade Policy (FTP) represents a fundamental structural departure from traditional five-year policy cycles, introducing a dynamic, open-ended framework that responds agilely to global economic shifts. For final-level students and tax professionals, navigating this landscape requires shifting focus from legacy incentive-based regimes to a modern ecosystem built on facilitation, paperless compliance, and collaborative technology interfaces. While the core macroeconomic objectives remain anchored in boosting exports, regulating imports to protect domestic industries, and driving technological diversification, the execution has been entirely re-engineered. By codifying implementation mechanisms in an online environment and utilizing automated IT systems equipped with robust risk management, the FTP 2023 places unprecedented trust in exporters. Mastering these evolving guidelines is no longer just about understanding duty exemptions; it is about grasping the strategic framework that will integrate the domestic economy with global markets and drive robust economic growth.

The Strategic Shift: Process Re-engineering and Automation

The FTP marks a departure from the traditional 5-year policy cycle to a dynamic, open-ended policy. A defining characteristic of this new policy is its focus on Process Re-engineering and Automation. The policy emphasizes moving away from an incentive-based regime to a regime based on facilitation, utilizing technology interfaces and principles of collaboration.

Paperless Compliance: The FTP codifies implementation mechanisms in a paperless, online environment, building upon earlier 'ease of doing business' initiatives. Greater faith is reposed in exporters through automated IT systems equipped with risk management systems for various approvals. This shift is critical for students to note, as it impacts how compliance is managed practically.

Implementation:

- **Regional Offices:** Duty exemption schemes for export production will now be implemented through Regional Offices in a completely rule-based IT system environment, eliminating the need for manual interface.
- **Automatic Route:** All processes under the Advance and EPCG Schemes—including issuance, re-validation, and Export Obligation (EO) extension—are covered in a phased manner. While cases identified under the risk management framework will face manual scrutiny, the majority of applicants are expected to be covered under the 'automatic' route.
- **Benefit for MSMEs:** The reduction in fee structures and the introduction of IT-based schemes are specifically designed to make it easier for MSMEs and other small exporters to access export benefits.

Amnesty Scheme: To significantly reduce pending litigation and clear backlogs, a one-time Amnesty Scheme is operational for regularizing Export Obligation defaults. Exporters can close pending authorizations by paying unfulfilled customs duties proportionate to the default, with the total interest liability strictly capped at 100% of the exempted duty. Crucially, no interest is payable on the IGST and Compensation Cess components.

Towns of Export Excellence (TEE)

The policy recognizes the vital role of regional clusters in driving exports. The FTP encourages the recognition of new towns through the "Towns of Export Excellence Scheme".

In addition to the existing 39 towns, four new towns have been designated as TEEs: Faridabad, Mirzapur, Moradabad, and Varanasi. This addition is strategically expected to boost the exports of handlooms, handicrafts, and carpets.

Strategic Benefits for TEEs: These towns are not just titular; they receive tangible benefits:

1. **Priority Funding:** They get priority access to export promotion funds under the Market Access Initiative (MAI) scheme.
2. **CSP Benefits:** They can avail of Common Service Provider (CSP) benefits for export fulfillment under the Export Promotion Capital Goods (EPCG) Scheme.

Recognition of Exporters: The "Status Holder" Paradigm

The FTP reimagines the role of "Status Holders"—firms recognized for their export performance. These firms will now be partners in capacity-building initiatives on a best-endeavor basis.

"Each One Teach One" Initiative: Drawing inspiration from the 'each one teach one' concept, 2-star and above status holders are encouraged to provide trade-related training based on a model curriculum to interested individuals. This is a strategic move to build a skilled manpower pool capable of servicing a $5 Trillion economy before 2030.

Furthermore, status recognition norms have been re-calibrated to enable more exporting firms to achieve 4 and 5-star ratings, which will lead to better branding opportunities in international markets.

Grassroots Strategy: Districts as Export Hubs

A significant structural change in the FTP is the decentralization of export promotion. The policy aims to build partnerships with State governments and take forward the Districts as Export Hubs (DEH) initiative.

Institutional Mechanism:

- **State Level:** State Export Promotion Committee.

- **District Level:** District Export Promotion Committee.

These committees are tasked with identifying export-worthy products and services, resolving concerns at the district level, and preparing District Specific Export Action Plans aimed at promoting identified products. This grassroots ecosystem aims to accelerate trade development from the bottom up.

Emerging Areas: E-Commerce and SCOMET

Facilitating E-Commerce Exports: E-commerce is identified as a distinct category requiring specific policy interventions separate from traditional offline trade. With export potential estimated between **$200 to $300 billion by 2030**, the FTP outlines a roadmap for establishing e-commerce hubs.

- **Cap Revision:** As a starting point, the consignment-wise cap on E-Commerce exports through courier has been doubled from **₹ 5 Lakh to ₹ 10 Lakh**.
- **ICEGATE Integration:** The integration of Courier and Postal exports with ICEGATE will finally enable exporters to claim FTP benefits.
- **Capacity Building:** Extensive outreach will be undertaken to onboard artisans, weavers, and garment manufacturers onto e-commerce platforms.

Streamlining SCOMET: India is placing increased emphasis on the "export control" regime as its integration with global control regimes strengthens. The policy creates wider outreach for **SCOMET** (Special Chemicals, Organisms, Materials, Equipment, and Technologies) items.

- **Objective:** To implement international treaties and agreements robustly.
- **Balance:** A robust system will provide access to dual-use high-end goods for Indian exporters while facilitating the export of controlled items from India.

Sector-Specific Scheme Rationalization

A. Export Promotion Capital Goods (EPCG) Scheme

The EPCG Scheme, allowing duty-free import of capital goods for export production, has been rationalized with key additions:

- **PM MITRA:** The Prime Minister Mega Integrated Textile Region and Apparel Parks (PM MITRA) scheme is now added as an eligible scheme to claim benefits under the CSP Scheme of EPCG.
- **Dairy Sector:** This sector is now exempted from maintaining **Average Export Obligation**, supporting technology upgrades.
- **Green Technology:** To promote sustainability, new products have been added to the Green Technology list, making them eligible for reduced Export Obligation. These include:
  - Battery Electric Vehicles (BEV) of all types.
  - Vertical Farming equipment.
  - Wastewater Treatment and Recycling.
  - Rainwater harvesting systems and filters.
  - Green Hydrogen.

B. Advance Authorization Scheme

The Advance Authorization Scheme, providing duty-free import of raw materials, has seen significant facilitation updates based on industry feedback.

- **Apparel Sector:** A **Special Advance Authorization Scheme** is extended to the Apparel and Clothing sector on a self-declaration basis to facilitate the prompt execution of export orders. Norms for this will be fixed within a specific timeframe.
- **Self-Ratification:** The benefit of the Self-Ratification Scheme for fixing Input-Output Norms is now extended to 2-star and above status holders (previously limited to Authorized Economic Operators).

Merchanting Trade: A New Horizon

To develop India into a global trading hub, the FTP introduces specific provisions for Merchanting Trade.

Concept: Merchanting trade involves the shipment of goods from one foreign country to another foreign country without the goods touching Indian ports, involving an Indian intermediary.

Key Provisions:

- **Restricted Items:** Merchanting trade is now possible even for items restricted or prohibited under the export policy.
- **Exclusions:** It is subject to RBI guidelines and is **not applicable** for goods classified in the **CITES** (Convention on International Trade in Endangered Species) and **SCOMET** lists.
- **Vision:** This initiative aims to allow Indian entrepreneurs to convert locations like **GIFT City** into major merchanting hubs, emulating the success of Dubai, Singapore, and Hong Kong.

Conclusion

Ultimately, the Foreign Trade Policy transcends a standard regulatory document; it acts as a strategic blueprint designed to position the nation as a formidable, competitive player in international trade. By decentralizing export promotion to the grassroots level through the Districts as Export Hubs initiative and recalibrating the Status Holder paradigm, the policy fosters a highly inclusive trade environment. Furthermore, its proactive embrace of emerging commercial frontiers—such as dedicated e-commerce hubs, the expansion of the SCOMET control regime, and the ambitious framework for Merchanting Trade—reflects a forward-looking vision aligned with global standards. For final-level candidates, developing a comprehensive, integrated understanding of these operational shifts and sector-specific rationalizations under schemes like EPCG and Advance Authorization is indispensable for both examination mastery and high-level professional advisory practice.

Topic

Module 4: Enterprise Risk Management

Module 9: Valuation in Mergers and Acquisitions

ELECTIVES

Paper-20A

Strategic Performance Management and Business Valuation (SPMBV)

Enterprise Risk Management

Introduction

Enterprise Risk Management is a relatively new concept that is becoming viewed as the ultimate approach to strategic performance management. Business leaders are examining how to incorporate enterprise risk management approaches into company performances. It appears that a new field of risk management is opening up, requiring new and specialized expertise, that will make traditional approaches to risk management incomplete and less attractive.

This Article will explain what enterprise risk management is, why it has developed so quickly, how it differs from traditional risk management, what new skills are involved in this process and what advantages and opportunities this approach offers compared to prior approaches.

Definition of Enterprise Risk Management

Enterprise risk management is, in essence, the latest name for an overall risk management approach to business risks. Precursors to this term include corporate risk management, business risk management, holistic risk management, strategic risk management and integrated risk management. Although each of these terms has a slightly different focus, the general concepts are quite similar.

According to the Casualty Actuarial Society (CAS*), enterprise risk management is defined as:*

"The process by which organizations in all industries assess, control, exploit, finance and monitor risks from all sources for the purpose of increasing the organization's short- and long-term value to its stakeholders."

The CAS then proceeds to enumerate the types of risks subject to enterprise risk management as hazards, financial, operational and strategic. Hazard risks are those risks that have traditionally been addressed by insurers, including fire, theft, windstorm, general liabilities, business interruption, pollution, health and pensions. Financial risks cover potential losses due to changes in financial markets, including interest rates, foreign exchange rates, commodity prices, liquidity risks and credit risk. Operational risks cover a wide variety of situations, including customer satisfaction, product development, product failure, trademark protection, corporate leadership, information technology, management fraud and information risk. Strategic risks include such factors as competition, customer preferences, technological innovation and regulatory or political impediments. Although there can be disagreement over which category would apply to a specific instance, *the primary point is that enterprise risk management considers all types of risk an organization faces.*

A common thread of enterprise risk management is that the overall risks of the organization are managed in aggregate, rather than independently. Risk governance is also viewed as a potential profit opportunity, rather than as something simply to be minimized or eliminated. The level of decision making under enterprise risk management has also shifted, from the traditional way of looking and understanding business risks to a more comprehensive and focused way of looking at and monitoring risks & consequent business opportunities.

Basically, though, enterprise risk management simply represents a return to the original roots of risk management, a field that was first developed in the 1950s by a group of innovative insurance professors. The first risk management text, titled *Risk Management and the Business Enterprise, was published in 1963, after six years of development, by Robert I. Mehr and Bob Hedges.* As initially introduced in this text, the objective of risk management is, *"to maximize the productive efficiency of the enterprise." The basic premise of this text was that risks should be managed in a comprehensive manner, and not simply to be insured.*

The initial focus of risk management was on what is now termed *hazard risk.*

Financial risks began to be addressed much later, and by a separate business segment in most organizations. This field also developed its own terminology and techniques for addressing risk independently of those used in traditional risk management. Each specialty area also developed different methods for reporting the risks the organization

faced within each area. Since the hazard risk manager and the financial risk manager both generally reported to a common position, frequently the treasurer or chief financial officer of the firm but their different & separate approaches to dealing with risks created a problem. Also*, the tolerance for risk applied in each area could be vastly different between hazard risks and financial risks.* These discrepancies provided the impetus for developing a *common terminology and common techniques for dealing with enterprise risks.* In addition, this *common approach could then be applied to other* risks, such as *operational and strategic risks,* that could adversely affect the organization. This *common approach to dealing with all risks that a firm face is the heart of enterprise risk management, and represents an encompassing focus to maximize the productive efficiency of an enterprise.*

A comprehensive Enterprise Risk Management process should cover the following elements and steps

1. Identifying loss exposures from various risk domain

2. Measuring & evaluating various loss exposures
3. Evaluating different methods for -

   Risk assumption

   Risk transfer

   Risk reduction
4. Selecting the most suitable methods
5. Implementing risk reducing / risk governing steps
6. Monitoring results
7. Reviewing at stated frequencies

Initially, the risk management process focused on what has been termed "pure risks." Pure risks are those in which there is either a loss or no loss. Either something bad happens, or it doesn't. The states of possible outcomes in a pure risk situation do not allow for any outcome more favorable than the current position.

The other classification of risk is "*speculative risk."* In a *speculative risk, there is the possibility of a gain.* For example, investing in the stock market generates the possibility of a loss (the stock could go down in value), the possibility that the value would not change (the stock price remains same as you bought it), and the possibility of a gain (the stock price could increase).

Traditional risk management has focused on pure risks for several reasons.

First, the field of risk management was developed by individuals who taught or worked in the insurance field, so the focus was on risks that insurers would be willing to consider. Another reason for the focus on pure risks is that in many cases these represented the most serious short-term threats to the financial position of an organization at the time this field was explored. For instance, a fire could quickly put a firm out of business. Efforts to reduce the likelihood of a fire occurring, or to minimize the damage a fire would cause, or to establish a contingency plan to keep the business going in the event of a fire, or to purchase an insurance policy to compensate the owners for the damages caused by a fire, were easily seen to be beneficial to the firm. Finally, there were not much thoughts for dealing with financial risks such as interest rate changes, foreign exchange rate movements or equity market fluctuations.

At the time the field of risk management first emerged, interest rates were stable, foreign exchange rates were maintained within narrow bands and inflation was not yet a concern to most corporations. Thus, financial risks were not a major issue for most businesses. Although Markowitz had proposed portfolio theory in 1952, the Capital Asset Pricing Model had not been discussed much during that time. The mathematics for quantifying financial risk were not sufficient to put these risks in the same framework as pure risks. *The primary risks of the time were hazard risks: the risk of fire, flood, windstorm or* other property damage sources or general liabilities. *Environmental risks had not yet developed into much significance. Pensions were, at this point, neither guaranteed nor regulated.*

Given the primary risks facing businesses were hazard risks, the initial focus of risk management was on these types of risks. However, gradually *risks were quantified, the evaluation of different methods of dealing with risk emerged & standardized and an extensive terminology for managing risk was developed. Such terms as maximum possible loss (the largest loss that could occur) and maximum probable loss (the largest loss that is likely to occur) were introduced to help define risk exposure. Probability and related statistical analysis were used to estimate the range of likely losses and the effect of adopting* steps to mitigate risks.

Beginning in the 1970s, *financial risk became an important source of uncertainty for firms and, shortly thereafter, tools for handling financial risk were developed.* These new tools allowed financial risks to be managed in a similar fashion to the ways that pure risks had been managed for decades. In 1972 the major developed countries ended the Bretton Woods Agreement which had kept exchange rates stable for three decades. The outcome of ending the Bretton Woods Agreement resulted in emergence of instability in exchange rates. As foreign exchange rates varied, the balance sheets and operating results of corporations engaged in international trade began to fluctuate. *This instability affected the performance of many firms. Thus, volatility in foreign exchange rates, prices and interest rates caused financial risk to become an important concern for institutions and corporates.*

Although financial risk had become a major concern for institutions by the early 1980s, organizations did not begin to apply the standard risk management tools and techniques in this area. The reasons for this failure were based on the artificial categorization of risk into *pure risk and speculative risk.* Since fixed income assets, investments denominated in foreign currency and operating results that were affected by inflation or foreign exchange rates had the possibility of a gain, *they represented speculative risk. With the emergence of enterprise risk management, traditional risk managers are pushed into a wider arena of risk analysis, one that incorporates financial risk management and newer forms of risk analysis.*

A Primer in Financial Risk Management-

The basic tools of financial risk management are *forwards, futures, swaps and options.* These contracts are all termed as *derivatives, since their values are derived from some*

other instrument's value. Forwards are contracts entered into today in which the exchange will take place at some future date. The terms of the contract, the price, the date and the specific characteristics of the underlying assets, are all determined when the contract is established, but no money changes hands when the contract is initiated. At the specified date, each party is obligated to consummate the transaction. Since each forward contract is individually negotiated between the two parties, there is considerable flexibility regarding the terms of the contract. However, since forwards are contracts between the two parties, *the risk of failure to perform exists, in the same manner that credit risk is a factor in any loan.* In financial markets, this risk is termed *counterparty risk.* Also, since the contracts are specialized agreements between two parties, the contract is not liquid and can be very hard to terminate prior to the specified date if conditions were to change for one or both the parties.

Futures contracts were developed to address the credit risk and liquidity concerns of forward contracts. Similar to forwards, futures are entered into today for an exchange that will take place at some future date. The terms of the contract are determined when the contract is entered into and no money changes hands when the contract is initiated. However, there are several significant differences between forward and futures. First, a clearinghouse (a firm that guarantees the performance of the parties in an exchange-traded derivatives transaction) serves as an intermediary to the contract. Each party is contracting with the clearinghouse, not with the other party. *Thus, the risk of nonperformance is significantly reduced.* Next, in order to reduce the risk of default, several financial requirements are introduced. Each party must post collateral, termed as margin, with its broker. The amount of the margin that must be posted initially is determined for each futures contract (initial margin). Also, each day *futures contracts are "marked-to-market" with cash payments flowing from* one party to the other *based on changes in the value* of the futures contract.

Swaps are agreements between two parties to exchange a series of cash flows based on a predetermined arrangement. Early swaps are based on exchanging a series of payments based on different currencies. Often the value of the exchanges would be netted (the respective values of each payment would be determined, and one party would pay the counterparty the difference in values). The most common swap today is an *interest rate swap in which one party pays a fixed interest rate and the other pays a floating interest rate based on a set index such as the London Interbank Offer Rate (LIBOR).* However, swaps can also be based on *commodity prices or equity values. Similar to forwards and futures, swaps do not involve a payment by either party when the transaction is initiated.*

The final basic tool of financial risk management is an *option.* An *option provides the right, but not the obligation, to engage in a financial transaction at a predetermined price in the future.* The owner of the option has the choice about consummating the transaction. The seller of the option is required to fulfill the contract if the buyer chooses. Since an option represents one-sided risk, there is an initial cost to purchasing an option, which is termed the *option premium. Options can be based on equities, bonds, interest rates, commodities, foreign exchange rates, or any other financial variable.* A *call option provides the right to buy the underlying asset at the predetermined price; a put option provides the right to sell the underlying asset.*

Although all options have these general characteristics, many specialized forms of options have been generated to produce a wide variety of different payoffs.

Forwards, futures and options had all been traded based on non-financial assets long before they were adapted to deal with financial risks. Swaps were not introduced until 1981, when the first currency swap was announced. However, it did not take long after financial risk began to affect institutions for a wide array of financial risk management products to be generated to help corporations deal with financial risk. *These tools allowed financial institutions and other corporations to manage financial risks in much the same fashion that they used to manage pure risks.*

Traditional risk management has developed a series of checks and balances to prevent any obvious abuses. Financial risk management did not initially have this level of expertise. Due to this and consequent lack of focus and understanding of the dynamics of the factors governing various dimensions of speculative risks, many organizations were exposed to disastrous losses in the early stages when financial risk management process just started evolving.

Further, the losses of the mid-1990s led organizations to realize the importance of financial risk management. The financial instruments that were developed to deal with financial risk were complex, and often only understood by those in the financial domain of the firm. Thus, the use of these tools to manage financial risk was generally not coordinated with the approach used to manage other risks. This lack of coordination resulted in a number of problems, including the development of a different terminology from that used in traditional risk management, different measures of risk and different goals. For example, traditional risk managers frequently focus on the *probable maximum loss, the largest loss that could reasonably be expected to occur.* If that loss exceeds the ability of the firm to cope with, then steps are taken to manage that risk, by transferring some of the risk to other parties, thereby reducing loss severity

through loss control steps or other standard practices. Instead of adopting this approach, financial risk managers developed a measure termed as the *Value-at-Risk (VaR).* This value indicates the loss that the firm would *expect to have occurred over a selected time interval.* Thus, the daily VaR at the 1% level is the loss that can be expected to occur once every 100 days. This is not the largest loss that is likely to occur, so it does not provide the same level of information as *probable maximum loss.* The daily VaR at the 5% level, which is expected to occur once every 20 days, is smaller than the 1% value. *VaR indicates what losses to expect, not what losses could occur.* Even the time frame is different, *as the traditional risk manager is dealing with loss probabilities over an annual basis, or over the term of an insurance contract, while VaR is often based on daily or weekly price movements.*

Another difference between hazard risk and financial risk is the degree of independence among separate elements. In *hazard risk management, risks are frequently independent of each other. Financial risks, on the other hand, are not considered to be independent. In many cases, the correlation between different financial transactions forms the basis of the risk management strategy.*

Financial risk management considers the relationships among different financial variables to construct hedges. For example, a firm exposed to long term interest rate risk might use futures on short term instruments, due to the high correlation between short- and long-term interest rates, to hedge their interest rate exposure. Financial risk management approaches can lead to difficulties when the historical relationships between financial variables shifts.

Thus, the Board of Directors and other managers that are determining the overall risk management strategy of the firm are likely to receive different types of information on financial risk and on hazard risk. *The risks are different, the terminology is different*

and the measures of risk are different. This makes the task of coordinating the firm's overall exposure to risk more difficult. *In addition to designing a common approach to*

hazard and financial risks, these decision makers have also envisioned incorporating other forms of risk, including strategic and operational, into the same approach. It is this vision that has led to the creation of enterprise risk management.

However, the basic approach of identifying, measuring, evaluating, selecting and monitoring risk remains the same. The primary challenge to traditional risk managers is to examine all risks that an organization faces, and not just focus on those that are insurable.

Since *enterprise risk management involves so many different aspects of an organization's operations, and integrates a wide variety of different types of risks, no* one person is likely to have the expertise necessary to handle this entire role. In most cases, a team approach is used, with the team drawing on the skills and expertise of a number of different areas, including traditional risk management, financial risk management, management information systems, auditing, planning and line operations. In order for the team to be effective, each area will have to understand the risks, the objectives and the approach of the other areas. Also, the team leader will need to have a basic understanding of all the steps involved in the entire process and the methodology used by each risk domain.

Although risks are both present and significant, the ability to quantify such exposures is far less sophisticated than the approach that can be used for most hazards and financial risks. The lack of data and the difficulty in predicting the likelihood of a loss or the financial impact, if a loss were to occur make it difficult to quantify many risks a firm face.

The steps of enterprise risk management are quite familiar to traditional risk management.

Following eight steps are relevant in the process-

- *Identify all risks*
- *Measure or evaluate risks*
- *Formulate strategies to limit risk*
- *Implement strategies*
- *Monitor results (to be as objective as possible)*
- *Keep necessary documents / records*
- *Look for possible improvements*
- *Review & Review*

Conclusion

The impetus for enterprise risk management arose when the traditional risk manager and the financial risk manager began reporting to the same individual in a corporation, commonly the treasurer or chief financial officer. Each risk management potential areas has its own methodology and its own focus. It became apparent that a common & integrated approach to risk management would be preferable rather than an individual approach. The success of hazard risk management and later financial risk management has encouraged managers to try to include these and other forms of risks in an overall risk management strategy. Whether this approach succeeds will depend on the ability of those involved in the separate risk categories to develop an integrated approach and extend it to other areas of risk. This is not truly a new form of risk management, it is simply a recognition that *enterprise risk management implies total risk management, not some subset of risks.*

This is an excellent opportunity to advance the art & science of risk management *in the context of an enterprise as a whole in the years to come.*

Merger & Acquisitions – A review of Valuation Methods

1. Introduction

In today's business environment, constantly increasing competition, shifting profit margins, and rapidly changing technology have directed businesses to M&A as a faster way of growing. M&A means the combination of two or more companies, including their assets and debts to become a single company. As a result of mergers, current companies may lose their legal entities and create a new company, or combine with each other under the legal entity of one of the current companies. Sometimes, companies obtain a majority share of another company. This type of a merger is called "acquisition." Firstly, we should recognize that there are two parties (sometimes more) in the transaction: an acquirer (buyer or bidder) and a target firm (seller or acquired). Researchers have had a great interest for many years in why companies prefer to grow by mergers, what kind of mergers they perform, which factors of mergers affect the financial performance, and what relationship exists between types of mergers and resultant performance. An examination of the historical development of mergers shows that there have been a variety of reasons that trigger mergers and consequently the methods of valuation appropriate to a given situation, context and purpose.

No matter their motivation and type, the primary concern of the M&A is to help businesses create a larger value than the value they create on their own. The value of the combined firms must always be the sum of the values of the independent firms. A majority of the empirical studies on this subject have found that M&As have not been as successful as they were expected to be, and the main factor that had a negative effect on financial achievement was the inaccurate determination of company value.

Valuation is one of the most complicated topics of financial theory. Determining the accurate and realistic value of companies in M&As has a major effect on the success in both negotiations and in the aftermath of the M&A. Many studies have shown that M&A offers result in failure, or the target firm is paid an amount that is higher than their realistic value due to errors in determining the accurate and fair values in a given instance. Naturally, this prevents the expected synergy after the M&A. Synergy is the additional value that is generated by combining two firms, creating opportunities that would not have been available to these firms operating independently.

Deciding on an amount for target companies that is higher or lower than it should be will result in the determination of an inaccurate price. This study will discuss different methods that can be used to determine the values of companies, and analyze how the Discounted Cash Flow Method, a common method in company valuation, can be used in M&As.

2. Valuation Methods in Mergers and Acquisitions

Initially, it is necessary to distinguish the terms "value" and "price." Price is the amount of money paid to obtain a good or service, and it may not necessarily reflect the value of that goods or service all the time. Price varies based on supply and demand, and economic and political conditions. In other words, a price may be higher or lower than the value of the goods or service it is paid for. In M&As, similarly, there may be a significant difference between the value of a company and the price to be paid for it. The important point here is the realistic determination of the company's value. The more accurate and realistic the valuation is, the more accurate will be the price to be paid. There are a number of methods used in business valuation, with different methods more suitable in different conditions. For instance, if a company has low profitability, yet high-value assets, these assets will become more important than its profitability in the valuation process. One method will not be suitable for all M&As. This study will focus on three important methods that can be used in M&As.

2.1. Balance-Sheet-Based Methods

Balance-sheet-based methods attempt to identify the value of a business by examining the balance-sheet values of their assets. This is a traditional approach dictating that the value of a business is determined considering the assets owned by that business, regardless of the future. These methods ignore intangible assets like brand names, patents, technical know-how and management competence.

Balance- sheet-based methods comprise: book value, adjusted book value, liquidation value, and replacement-cost value methods.

Book Value

The book value of a business is calculated by subtracting the debts from the total value of the assets on the balance sheet. This method is not suitable in M&As as it shows the past balance sheet values of the assets. These values may be very different from the current values, and intangible assets are not included in the balance sheet. However, it is right to use this method in establishments where the difference between the balance-sheet value and the current value is small (e.g. banks), and low-profit or no-profit establishments if the market value of the establishment is smaller than its book value.

Adjusted Book Value

The adjusted book value of a business can be calculated by identifying the market values of the assets in the balance sheet, and adding the values of the intangible assets which are not included in the balance sheet.

This eliminates the deficiencies of book value to some extent.

Replacement-cost Value

This value is calculated by considering the costs of obtaining assets that are similar in all ways to the assets in the balance sheet of the company. This method does not consider intangible assets either, which means that it is not a suitable method for M&As.

Liquidation Value

The liquidation value is calculated by subtracting the debts from the value, which is created by selling all assets of the company. It is the lowest value that an establishment has. The liquidation value does not have any meaning in M&As except for extraordinary situations when the main goal of M&As is to combine the powers of businesses and become stronger. This value would have a meaning in case of buying a business that has a financial loss and on the verge of liquidation.

Another way of classification is :

- Intrinsic value
- Market value
- Purchase value
- Synergy value

2.2. Income Statement and Market-Based Methods:

In the income statement and market-based method, the value of the company is determined considering the income statement and market data, rather than the data on the balance sheet.

Different methods of valuation under Market - based approach are:

Market price method, Comparable Companies Multiple method and Comparable Transactions method.

Market based methods are used when:

- *The subject entity to be valued or substantially similar entities are actively and / or publicly traded.*
- *There are frequent and / or recent observable transactions in similar assets or entities.*

Different methods of valuation under **Income Statement approach are:**

DCF method and Capitalization of Earnings method

In valuation exercises under DCF method, consideration of cash flows, free cash flows, discount rate and terminal value is important, especially, in M & A context.

Income Statement based methods are used when:

- *The entity does not have any market comparable or comparable transactions*
- *The entity has fewer relevant market comparables*
- *The asset / entity is an income producing unit for which future cash flows are available and can be reasonably projected.*

Market Price Methods-

The market price of a company is usually calculated considering the market prices of their shares. The market price of shares is a value that varies by supply and demand conditions on the market. The market price may change in relation to economic conditions, performance of the company, and other conditions outside the company, although there is no change in the activities of the company itself. Thus, the price of the shares in the market may be higher or lower than the real value of the company. Here are the main disadvantages of using the market price of shares in M&As:

- When a majority of the company's shares are not traded in the market, the market price does not reflect the **realistic** value of the company.
- Economic and political conditions may give a high or low price for the company's shares.
- The prices created on the market will not be consistent as various market factors vary randomly and are never linear with regard to their movements.
- When news about M&As are heard in the market, there can be abnormal changes in the market price.

Earnings/Price Ratio

In M&As, the earnings/price ratio (E/P) is commonly used, particularly in the valuation of non-public companies, as it is easy to apply. The E/P for unlisted companies is unknown because there is no market price for their shares. In these situations, the reference is the E/P of another company which is active in the same sector as the company to be valued, has similar characteristics, and is traded in the same stock exchange. In this method, the current or future values of the establishment are multiplied by the E/P rate of the reference company, which creates the value of the establishment. If there are no companies similar to the establishment to be valued using E/P, the E/P rate of the sector can also be used, which is a more practical way. Whether the E/P of a similar company or the E/P of the sector is used, this approach is not suitable for M&As as it is based on the current or past values of the entity. However, it is accepted as an applicable and practical method where there is insufficient information about the entity, or the uncertainty about the future is hi

Price/Sales Ratio

The price/sales ratio (P/S) method is similar to the E/P method. The P/S of a company similar to the establishment to be valued or the P/S of the sector is multiplied by the

value of sales of the entity in question. This method has disadvantages similar to the E/P method.

In the context of **Acquisition Pricing, the concept of value creation in M& A is significant-**

Value creation for Acquirer = Value received -Price paid for Acquisition

= Standalone Value of Target + Value of Performance Improvement

Minus

Market Value of Target + Acquisition Premium

2.3. Discounted Cash Flow Method

The fundamental valuation in M&As is the Discounted Cash Flow Method (DCF), which is based on capital budgeting theory. The discounted-cash-flow approach in an M&A setting attempts to determine the value of the company by computing the present value of cash flows over the life of the company. Whereas the methods previously mentioned in this study consider current or past values, DCF determines the entity value according to the future performance and risks of the company. Although M&A is actually an investment decision, it is more complicated than other investments due to the fact that the risks of a typical investment are similar to the current investments of the establishment, while M&A requires considering other factors besides the assets that are being merged, including the establishments' debts, skill set of managers and other employees, customers, and corporate culture. For this reason, the decisions to perform M&A should be made after highly meticulous analyses.

In both M&As and decisions to go public, it is necessary to determine the free cash flow expected in the future, the suitable discount rate, and the period over which to make the predictions in order to use the DCF method in company valuation.

Determining the Free Cash Flows (FCF)

Valuation studies in M&As should be initiated with the individual valuation of the companies to be merged, not only that of the target company. Each company should be valued separately to see whether it is possible to create a synergy. The future free cash flows can be determined with the assistance of pro- forma income statements to be prepared for each company. The company value is estimated by discounting the FCF with the weighted average cost of capital (WACC) of the Company.

Consideration of Terminal Value:

Terminal value is the value of an asset, business or entity beyond the explicit forecast period when future cash flows can still be estimated. Terminal value may assume that a business will grow at a set growth rate even after the forecast period. Terminal value often comprises large percentage of the total asset value. Terminal value calculation uses the concept of perpetuity with or without constant growth rate.

In the context of M&A, if the assets of the target company or the entity itself has high terminal value, the future cash flows or the free cash flows under the DCF method to be considered giving due weightage to such future free cash flows beyond the forecast period.

Such extended period should be short, especially when uncertainty is high. For instance, if the cash flows after the merger can be estimated reasonably for the following five or six years, it is acceptable in a given situation. At this point, it is critical to make an accurate identification of the synergy to be created by the M&A. Mostly, the company value is not calculated accurately due to the fact that the synergy expected from the M&A is unrealistic. A survey of KPMG (1999) shows that ex-ante / pre-M&A synergy evaluation is the most important factor behind a successful M&A; it increases the probability of success by 28% according to respondents. It is possible to create synergy in a variety of ways. The synergy resulting from the increase in the effectiveness of activities after the M&A is called the "operating synergy." When establishments merge their activities, they can obtain operating synergy by increasing their sales and reducing their fixed costs, such as marketing expenses, research and development expenses, and management expenses. The operating synergy is a result of economies of scale. It is even more important for capital-intensive sectors, which include high levels of fixed costs. "Financial synergy" consists of the financial advantages provided by the M&A. This synergy is created by the increase in the debt capacity of the establishment, tax savings, and most importantly, the reduction in costs of credit, which is quite relevant for a large-scale company. This synergy is likely to show up most often when large firms acquire smaller firms, or when publicly traded firms acquire private businesses.

Let us assume that Company A and Company B wish to perform a merger, and together become Company AB. This merger needs to create an additional value in order to be rational. This point can be expressed as follows: Synergy = The Value of Company AB – (The Pre-merger Value of Company A + The Pre-merger Value of Company B) When the earnings provided by the synergy are greater than the spendings made for the merger and the amount paid to the target company, this situation creates an additional value. The value of the combined firms will always be the sum of the values of the independent firms. The period of time to be estimated is as important as the accurate determination of synergy. The estimation period simplifying assumptions for the years after that period. After the period that is estimated reasonably, it is possible

to make further assumptions including the cash flows staying the same, or growing pari pasu with the growth rate of the sector. It is necessary to apply some effort to estimate the cash flows in different scenarios to increase the consistency of estimation.

Following is the calculation of the FCFs to be obtained after the M&A:

FCF = NOPAT + Depreciation and Noncash Charges– CAPEX – NWC where;

NOPAT is equal to EBIT (1-t)

CAPEX is capital expenditures for fixed assets.

NWC is the increase in net working capital defined as current assets less the non-interest-bearing current liabilities.

"t" is the appropriate marginal tax rate

Deciding on the Discount Rate

After the identification of the FCFs following the M&A, with the assistance of the pro-forma statements expressing the expected operating and financial synergies, it is necessary to determine the discount rate to be used for discounting these cash flows. Weighted average cost of capital (WACC) is the discount rate that is commonly used in M&As. In M&As, however, the WACC should be calculated for the company that is created by the merger, instead of the WACC of the buyer or the target company. This is due to the fact that there will be a different capital cost after the merger related to the operating and financial synergy. The determination of the WACC has a variety of challenges, including whether the company is public or non-public, the majority of the shares being traded in the market, and the development rate of the capital markets. The more developed the capital markets, and more shares being traded in the market, the easier it will be to calculate the WACC.

$$WACC = Wd\ kd(1-t) + We\ ke$$

Where:

- kd is the cost of debt
- ke is the cost of equity capital.
- Wd and We are target percentages of debt and equity respectively
- t is the marginal tax rate

The costs of debt and equity capital in the equation should be based on the desired capital structure after the merger. The costs of debt and equity capital after the merger may be different from the costs before, and it should also be noted that the tax rate may change as well. After the determination of the FCFs and the WACC after the merger, the discounted value of these cash flows is calculated. As stated above, this value is supposed to be greater than the total of the discounted values of the individual companies. If this value is not greater than the total values of individual companies, the merger will not make any sense in economic terms. The merger being economically unreasonable does not mean that it will not be realized. Thus, M&As may be performed as a result of such psychological reasons as well.

Conclusion

Valuation is one of the most important factors in the success of M&As. This study has examined a variety of valuation methods and focused on their disadvantages and advantages. The main focus of the study is the DCF method that determines the value of an establishment considering its future performance, rather than the current and past performances, and which helps find a more accurate and realistic value than the other methods. The accurate calculation of the synergy to be obtained from the M&A plays a key role in the determination of the appropriate value. There have been many cases where mergers result in failure as the highly optimistic expectations are not realized at the end of the merger.

However, pessimism about the synergy to be created by the merger is a barrier to a potentially successful merger. If the synergy of the merger is determined using different scenarios (e.g. optimistic, pessimistic and most likely), this will reduce estimation errors. The researcher suggests that individuals should use multiple methods to decide on company value, and give a weight to each method considering the economic conditions of the company, country and market.

Topic

Module 3:
Credit Risk and Liquidity Risk

Module 8:
Managing Risk in Insurance Business

ELECTIVES

Paper-20B

Risk Management In Banking and Insurance (RMBI)

FINAL

Risk Management in Banking
Credit Risk and Liquidity Risk

Risk management is one of the most critical functions in the banking sector. Banks operate by accepting deposits from the public and deploying these funds in the form of loans, advances, investments, and other financial assets. Since banking activities inherently involve uncertainty, various forms of risks arise during the course of business. Effective risk management enables banks to identify, assess, monitor, and mitigate these risks, thereby safeguarding depositor interests, maintaining financial stability, and ensuring sustainable profitability.

Credit Risk in Banking: Credit risk refers to the possibility that a borrower or counterparty may fail to meet its contractual obligations in accordance with agreed terms. In simple terms, it is the risk of financial loss arising from a customer's inability or unwillingness to repay principal, interest, or other dues to the bank.

Since lending constitutes the primary business activity of commercial banks, credit risk represents the most significant risk faced by banking institutions. Every loan sanctioned by a bank carries the possibility of default, making credit risk management a fundamental aspect of banking operations.

Factors Influencing Credit Risk: Several factors influence the level of credit risk faced by a bank. The financial condition of the borrower is one of the most important determinants. Borrowers experiencing declining profitability, high leverage, weak cash flows, or poor management practices are more likely to default.

Economic conditions also significantly impact credit risk. During periods of economic slowdown, businesses may experience reduced revenues, unemployment levels may rise, and repayment capacity may weaken. Consequently, default rates tend to increase.

Changes in interest rates, inflation, exchange rates, and government policies can also affect the repayment capacity of borrowers and influence the level of credit risk.

Credit Risk Management Process: Effective credit risk management begins with comprehensive credit appraisal. Before granting credit, banks conduct detailed assessments of the borrower's financial position, business prospects, repayment capacity, management quality, and collateral security.

Credit rating systems are widely used to classify borrowers according to their risk profiles. These ratings facilitate informed lending decisions and help determine appropriate pricing and monitoring mechanisms.

After loan disbursement, continuous monitoring becomes essential. Banks regularly review financial statements, cash flow patterns, repayment behaviour, market developments, and industry conditions to identify early warning signals of stress.

Non-Performing Assets and Credit Risk: One of the most visible manifestations of credit risk is the emergence of Non-Performing Assets (NPAs). A loan becomes non-performing when the borrower fails to make scheduled payments for a specified period.

High levels of NPAs adversely affect profitability, reduce capital adequacy, constrain lending capacity, and weaken investor confidence. Consequently, banks devote substantial resources to credit monitoring, recovery mechanisms, restructuring initiatives, and resolution processes to contain credit losses.

The quality of a bank's credit risk management framework is often reflected in the level and trend of its non-performing assets.

Meaning and Concept of Liquidity Risk: Liquidity risk refers to the possibility that a bank may be unable to meet its financial obligations as they become due without incurring unacceptable losses. A bank is considered liquid when it can readily obtain funds to honour withdrawal requests, loan commitments, and other liabilities.

Liquidity is often described as the lifeblood of banking. Even a solvent bank may fail if it lacks sufficient liquidity to meet immediate obligations. Consequently, liquidity management occupies a central role in ensuring financial stability and maintaining public confidence in the banking system.

Importance of Liquidity Management: Banks perform the crucial function of maturity transformation by accepting short-term deposits and extending long-term loans. This inherent mismatch between assets and liabilities creates liquidity challenges.

Depositors may withdraw funds at any time, while loans and investments often remain locked in for extended periods. Therefore, banks must maintain adequate liquidity buffers to meet unforeseen funding requirements.

Types of Liquidity Risk: Liquidity risk generally manifests in two forms.

Funding Liquidity Risk: Funding liquidity risk arises when a bank is unable to obtain sufficient funds to meet its obligations. This may occur due to deposit withdrawals, reduced market access, or declining investor confidence.

Market Liquidity Risk: Market liquidity risk occurs when assets cannot be sold quickly without significant loss of value. During periods of market stress, even high-quality assets may become difficult to liquidate, thereby

aggravating liquidity challenges.

Liquidity Risk Management Framework: Effective liquidity risk management requires a comprehensive framework encompassing measurement, monitoring, and control mechanisms.

Banks regularly assess cash inflows and outflows across different time horizons. Asset-liability management (ALM) committees play a crucial role in managing maturity mismatches and funding strategies.

Stress testing forms another critical component of liquidity management. Banks simulate adverse scenarios such as sudden deposit withdrawals, market disruptions, economic recessions, and credit rating downgrades to assess their liquidity resilience.

Regulatory Standards for Liquidity Risk: Following the global financial crisis, regulatory authorities strengthened liquidity standards under the Basel III framework.

Liquidity Coverage Ratio (LCR): The Liquidity Coverage Ratio requires banks to maintain sufficient high-quality liquid assets to withstand severe liquidity stress for a specified period.

Net Stable Funding Ratio (NSFR): The Net Stable Funding Ratio promotes long-term funding stability by encouraging banks to finance long-term assets with stable funding sources.

To Conclude, Credit risk and liquidity risk are among the most significant challenges faced by modern banking institutions. Credit risk arises from the possibility of borrower default, while liquidity risk stems from the inability to meet financial obligations when due. Both risks have the potential to affect profitability, capital adequacy, market confidence, and long-term sustainability. Effective management requires robust governance structures, sophisticated risk measurement techniques, continuous monitoring, regulatory compliance, and proactive mitigation strategies. Banks that successfully manage these risks are better positioned to maintain financial stability, support economic growth, and withstand adverse market conditions.

FINAL

Risk Management in Insurance
Managing Risk in Insurance Business

Risk management is the foundation upon which the insurance industry operates. Insurance companies are unique financial institutions because their primary business involves accepting and managing risks transferred by policyholders. The ability to identify, assess, price, monitor, and control these risks determines the long-term success and sustainability of an insurer.

Insurance companies operate in an environment characterized by uncertainty, where future claims, investment returns, economic conditions, and catastrophic events cannot be predicted with complete certainty. Effective risk management therefore becomes essential for protecting policyholders, maintaining solvency, ensuring profitability, and complying with regulatory requirements.

Modern insurers adopt comprehensive risk management frameworks that integrate underwriting, investment, operational, financial, and strategic risks into a unified management approach.

Understanding Risk in Insurance Business: The insurance business is fundamentally based on the principle of risk pooling. Premiums collected from a large number of policyholders are accumulated into a common fund from which losses suffered by a relatively small number of policyholders are compensated.

The effectiveness of this model depends upon accurate estimation of future claims and prudent financial management. Any significant deviation between expected and actual losses can adversely affect profitability and solvency. Consequently, insurers continuously evaluate risk exposures and implement measures to maintain financial stability.

Underwriting Risk: Underwriting risk arises when actual claims exceed the assumptions used while pricing insurance products. This risk may emerge due to inaccurate assessment of policyholder characteristics, inadequate premium rates, changes in claim patterns, medical inflation, legal developments, or unforeseen events.

The underwriting process involves evaluating risk factors associated with prospective policyholders and determining appropriate premiums. Sound underwriting practices enable insurers to select risks prudently and maintain a balanced portfolio.

Market and Investment Risk: Insurance companies invest premium funds in various financial assets to generate income and meet future obligations. Fluctuations in interest rates, stock markets, foreign exchange rates, and economic conditions expose insurers to market risk.

Effective investment management requires diversification, asset-liability matching, and continuous monitoring of market conditions. These measures help insurers maintain stable returns while minimizing exposure to adverse market movements.

Reinsurance and Risk Transfer: Reinsurance serves as a critical mechanism for transferring risk. By sharing risks with other insurers, companies can stabilize earnings, increase underwriting capacity, and protect themselves against catastrophic losses.

Reinsurance contributes significantly to solvency management and enhances the resilience of insurance companies during periods of large claim occurrences.

Emerging Risks and Future Challenges: The insurance industry faces evolving challenges arising from cyber threats, climate change, pandemics, technological disruptions, geopolitical uncertainties, and changing customer expectations. These emerging risks require insurers to continuously update their models, strengthen analytical capabilities, and enhance resilience.

Advanced technologies such as artificial intelligence, predictive analytics, and big data are increasingly being utilized to improve risk assessment and management practices.

To Conclude, Risk management is the cornerstone of the insurance business and is essential for achieving financial stability, policyholder protection, and sustainable growth. Through effective underwriting, investment management, reinsurance strategies, liquidity planning, operational controls, and enterprise risk management frameworks, insurers can successfully navigate an increasingly complex and uncertain environment. As risks continue to evolve, the ability to anticipate, adapt, and respond effectively will remain a key determinant of success in the insurance industry.

Topic

Module 6:
Risk Management Strategies

ELECTIVES

Paper-20C

Entrepreneurship and Start Up (ENTS)

FINAL

Startup Audit in India

India has the 3rd largest startup ecosystem in the world which is witnessing continuous YoY growth. These Start-up usually have unique different business models which are very dynamic. The Promoters of these Start-Ups who are usually from younger generation understands the importance of processes and systems for growth of their companies. They require support in ensuring that their companies are compliant to the applicable regulations. Therefore, Startup Audit is important to examine the pros and cons of the Startups.

A Startup Audit is a systematic examination and evaluation of a startup's operations, finances, legal compliance, business model, and growth performance. Unlike traditional corporate audits that focus primarily on historical financial compliance, a startup audit is highly forward-looking and geared toward growth, risk mitigation, and investment readiness.

Source: https://www.patronaccounting.com/blog/startup-registration-audit-identify-fix-compliance-gaps

Objectives of Startup Audit

Following are the objectives of Startup Audit:

1. **Assess Financial Health & Sustainability:**
   (i) **Verify Accounting Accuracy:** Ensure revenues, expenses, assets, liabilities, and cash flows are recorded accurately according to standard accounting principles.
   (ii) **Evaluate Cash Burn Rate:** Analyze the startup's current cash burn rate and calculate its **runway** (how many months the company can survive before needing more capital).
   (iii) **Test Financial Controls:** Review internal financial processes to prevent fraud, mismanagement, or critical leakage of early-stage funds.
2. **Support Fundraising & Valuation (Due Diligence Readiness)**
   (i) **Build Investor Confidence:** Provide clean, validated records that give venture capitalists (VCs) and angel investors transparency during due diligence.
   (ii) **Validate Unit Economics:** Verify key startup metrics such as **Customer Acquisition Cost (CAC)**, **Lifetime Value (LTV)**, and **Monthly Recurring Revenue (MRR)** to back up the startup's valuation.
3. **Ensure Legal & Statutory Compliance**
   (i) **Corporate Structure Verification:** Check company incorporation documents, share capitalization tables (Cap Tables), and shareholder agreements.
   (ii) **Regulatory Compliance:** Ensure the startup complies with local tax laws (GST, Income Tax, etc.), labor laws (payroll, employee benefits), and industry-specific regulations.
   (iii) **Intellectual Property (IP) Protection:** Verify that all critical IP, patents, software code, and trademarks are legally owned by or assigned to the company rather than individual founders.
4. **Identify and Mitigate Critical Risks**
   (i) **Operational Risks:** Detect inefficiencies in the current supply chain, workflow bottlenecking, or over-reliance on a single vendor or key employee.
   (ii) **Technological Risks:** Assess the startup's IT infrastructure, software scalability, data privacy policies, and cybersecurity vulnerabilities.
5. **Evaluate Business Performance & Strategy**
   (i) **Review Business Model:** Analyze whether the current business model is scalable and capable of generating sustainable profits in the long run.
   (ii) **Benchmark Growth:** Compare actual operational performance against the targets laid out in the original business plan.

Types of Startup Audit

1. **Financial Audit:** This is the most common type. An independent Auditor (CA/CMA) reviews financial statements (income statement, balance sheet, cash flow statement) to ensure the compliance of accounting standards like **Ind AS and AS**. They verify revenue recognition, burn rate, assets, and liabilities.
2. **Legal & Compliance Audit:** Reviews the company's legal structure, capitalization table (cap table),

incorporation documents, employment contracts, and intellectual property (IP) assignments to ensure everything is legally watertight.

3. **Tax Audit:** Ensures the startup has correctly filed its taxes, managed payroll liabilities, and accounted for any specific local or international tax obligations (like R&D tax credits).
4. **Operational & IT Audit:** Evaluates the startup's technology infrastructure, data security protocols and core operational workflows to ensure the business can scale safely.
5. **Internal Audit: A**n internal audit for a startup is a voluntary, independent review of the company's internal systems, operational processes, and risk management frameworks. Unlike external or statutory audits that verify financial statement accuracy for outsiders, an internal audit helps founders identify control weaknesses, prevent fraud, optimize operations, and build investor confidence before scaling or going public.

   Under Section 138 of the Companies Act, 2013, an internal audit is legally mandatory for an unlisted Private Limited Company (the structure used by almost all Indian startups) only if it crosses either of these limits in the preceding financial year:

Trigger Parameter	Legal Threshold Limit
Annual Turnover	₹200 Crore or more
Outstanding Loans / Borrowings	₹100 Crore or more from banks or public financial institutions at any point of time

Comparison of Different Types of Startup Audit

Audit Type	Governing Authority/ Law	Primary User	Why They Need It
Statutory Audit	Companies Act, 2013	MCA / Shareholders	Mandatory legal compliance; proves "true and fair" view of the business.
Tax & GST Audit	Income Tax Act / GST Act	Tax Authorities	Verifies correct tax payments, TDS deductions, and claims for startup tax holidays.
Due Diligence Audit	Strictly Commercial	Venture Capitalists (VCs)	Validates unit economics and cap tables before funding rounds.
Internal / Operational Audit	Management Best Practice		

Users/Requirements of Audit for Startups

In the Indian ecosystem, the users of a startup audit are uniquely influenced by India's strict regulatory framework, its specialized funding climate, and initiatives like the **Startup India** program by the DPIIT (Department for Promotion of Industry and Internal Trade).

Because most Indian startups incorporate as a Private Limited Company (Pvt Ltd) or a Limited Liability Partnership (LLP), they face immediate compliance laws regardless of whether they have made a profit or even a single rupee in revenue.

The primary users of a startup audit in India can be divided into four distinct ecosystem pillars:

I. Internal Users (Inside the Startup)

(i) **Founders and Promoters:**

- **Strategic Decision Making:** Founders use the audit to get an unbiased, ground-reality check on their business. It helps them understand if their business model is truly scalable. Indian startups face high mortality rates in their early years due to cash mismanagement. Founders use internal and operational audits to gauge their true **cash burn rate** and calculate how many months of **runway** they have left in the bank.
- **Leakage Detection:** It helps them identify operational inefficiencies, cash burn bottlenecks, or gaps in internal controls before they become fatal.

(ii) **Management and Key Executives (CFOs, COOs, CTOs):**

- **Process Improvement:** The management team uses operational and technological audit findings to streamline workflows, patch cybersecurity vulnerabilities, and improve overall team productivity.
- **Compliance Tracking:** It ensures the team is keeping up with rapidly changing regulatory, tax, and labor laws.
- Modern Indian startups extensively use outsourced vCFOs. These financial professionals use audit

insights to fix "technical accounting debt," streamline payroll (Provident Fund/ESIC compliance), and implement automated audit trails in accounting software like Zoho Books or TallyPrime.

II. External Users (Investors & Partners)

(i) **Investors (Angel Investors, Venture Capitalists, PE Firms):**

- **Due Diligence:** This is arguably the most critical external user group. VCs and angel investors use the audit during the due diligence phase to verify the startup's financial claims, Cap Table accuracy, and valuation metrics (like CAC, LTV, and MRR) before writing a check.
- **Risk Mitigation:** It reassures them that the startup's intellectual property (IP) is legally secure and that there are no hidden legal liabilities.

(ii) **Potential Acquirers or Strategic Partners:**

- **M&A Evaluation:** If a larger company wants to buy or merge with the startup, they use a comprehensive audit to evaluate the startup's assets, tech stack viability, and legal health to determine a fair acquisition price.

III. Financial & Regulatory Users

(i) **Banks and Lenders:**

- **Creditworthiness:** Startups seeking venture debt or traditional bank loans must present audited financial statements. Lenders use them to evaluate the startup's cash runway and repayment capacity.

(ii) **Government and Tax Authorities:**

Given India's rigorous corporate governance standards, government authorities are the most immediate users of an audit report:

- **Ministry of Corporate Affairs (MCA) & Registrar of Companies (ROC):** Under **Section 139 of the Companies Act, 2013**, every Pvt Ltd company in India *must* undergo an annual statutory audit—even with zero revenue. The audited financials must be filed via Form AOC-4.
- **Income Tax Department:** Startups crossing specific turnover thresholds need a **Tax Audit under Section 44AB** of the Income Tax Act, 1961. Furthermore, DPIIT-recognized startups rely on clean audits to claim tax exemptions under **Section 80-IAC** (the 3-year tax holiday).
- **GST Authorities:** Indian startups deal with complex multi-state GST regulations. A startup audit ensures correct reconciliation of Input Tax Credit (ITC) and checks liabilities under the Reverse Charge Mechanism (RCM).

IV. Commercial Partners

(i) **Suppliers and Major Vendors:**

- **Credit Risk Assessment:** Large vendors or manufacturing partners often look at a startup's financial audit to decide whether to extend credit terms or demand advance payments.

(ii) **Key Customers (Enterprise Clients):**

- **Viability & Data Security:** When a startup sells to large enterprise clients, those clients often demand a technology/security audit (like SOC 2) to ensure the startup's software is safe and the company won't suddenly go out of business.

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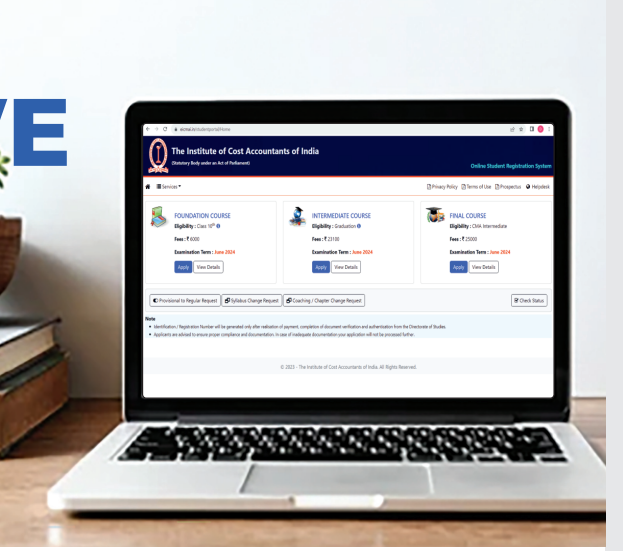

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