



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)
www.icmai.in

CMA STUDENT **E-Bulletin**

VOL 10 | NO. 12 | DECEMBER 2025

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, enrolls 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, 112 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 CMAs 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
मृत्योर्मा मृतं 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

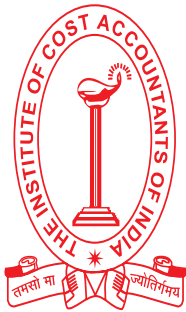
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Editorial Office

The Institute of Cost Accountants of India

CMA Bhawan

12, Sudder Street, Kolkata - 700016

✉ studies.ebulletin@icmai.in



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CHAIRMAN'S COMMUNIQUE

Dear CMA Students,

It gives me immense pleasure to connect with you through the December 2025 issue of the CMA Student E-Bulletin. As the Chairman of the Training & Educational Facilities Committee of ICAI, I am excited to share the latest developments and initiatives that aim to enhance your learning experience and professional growth.

At ICAI, 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 ICAI, 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, ICAI**

CMA FOUNDATION COURSE

Syllabus 2022

Topic

Fundamentals of
Business Laws -

Module 1:
Introduction

Business
Communication -

Module 5:
Business
Communication

FOUNDATION

Paper-1

Fundamentals of
Business Laws and
Business
Communication
(FBLC)

SECTION – A: FUNDAMENTALS OF BUSINESS LAWS**MULTIPLE CHOICE QUESTIONS (MCQ)**

1. The primary purpose of law in a business environment is to:
 - (a) Maximise profits
 - (b) Regulate social behaviour
 - (c) Provide certainty and fairness in transactions
 - (d) Promote competition only
2. Which of the following best reflects the concept of “rule of law”?
 - (a) Supremacy of executive authority
 - (b) Equality of all persons before law
 - (c) Judicial supremacy over legislature
 - (d) Absolute power of Parliament
3. A law that applies uniformly to all citizens without discrimination reflects which feature?
 - (a) Flexibility
 - (b) Universality
 - (c) Delegation
 - (d) Codification
4. The Indian legal system is primarily derived from:
 - (a) Roman law
 - (b) French civil law
 - (c) English common law
 - (d) Religious law
5. Which source of law develops through long-standing social practices?
 - (a) Legislation
 - (b) Precedent
 - (c) Custom
 - (d) Ordinance
6. The authority to interpret the Constitution finally rests with the:
 - (a) President
 - (b) Parliament
 - (c) Supreme Court
 - (d) Law Commission
7. A law passed by Parliament becomes effective only after:
 - (a) Judicial approval
 - (b) Presidential assent
 - (c) Notification by courts
 - (d) Publication in textbooks
8. Which body has the power to amend the Constitution of India?
 - (a) Supreme Court
 - (b) Parliament
 - (c) President
 - (d) State Legislatures independently
9. Laws framed by local authorities derive their validity from:
 - (a) Constitution directly
 - (b) Parliament only
 - (c) Delegated authority
 - (d) Judicial discretion
10. Which of the following ensures stability and predictability in law?
 - (a) Codification
 - (b) Judicial activism
 - (c) Legal precedent
 - (d) Ordinance power
11. An Act that applies only during emergency conditions is an example of:
 - (a) Permanent legislation
 - (b) Subordinate legislation
 - (c) Temporary legislation
 - (d) Customary law
12. The Indian Constitution is described as “lengthy” mainly because it:
 - (a) Contains political philosophies
 - (b) Details administrative provisions
 - (c) Includes judicial interpretations
 - (d) Lists historical events

13. A legal wrong against society at large is known as:
- (a) Tort
 - (b) Crime
 - (c) Breach of contract
 - (d) Negligence
14. Which characteristic distinguishes civil law from criminal law?
- (a) Punishment severity
 - (b) Nature of remedy
 - (c) Court structure
 - (d) Codification
15. The principle that no one can be punished without a law is called:
- (a) Natural justice
 - (b) Equity
 - (c) Legal certainty
 - (d) Nullum crimen sine lege
16. Which organ of government enforces laws?
- (a) Legislature
 - (b) Judiciary
 - (c) Executive
 - (d) Tribunal
17. Laws governing trade and commerce mainly aim to:
- (a) Restrict businesses
 - (b) Protect consumer interests
 - (c) Ensure orderly conduct of business
 - (d) Increase taxation
18. The authority of courts to invalidate unconstitutional laws is known as:
- (a) Judicial legislation
 - (b) Judicial review
 - (c) Judicial precedent
 - (d) Judicial discipline
19. Which of the following is NOT a feature of law?
- (a) Universality
 - (b) Enforceability
 - (c) Moral obligation
 - (d) Certainty
20. A business law enacted to regulate corporate behaviour primarily ensures:
- (a) Ethical conduct
 - (b) Social welfare
 - (c) Legal compliance
 - (d) Personal morality
21. The concept of “justice” in law primarily relates to:
- (a) Economic equality
 - (b) Fair application of rules
 - (c) Speedy decisions
 - (d) Majority opinion
22. Which factor most influences the evolution of business laws?
- (a) Political ideology
 - (b) Social and economic needs
 - (c) Judicial preferences
 - (d) International treaties only
23. The supremacy of the Constitution means that:
- (a) Parliament is the highest authority
 - (b) Judiciary is independent
 - (c) All laws must conform to it
 - (d) President has veto power
24. Which statement best explains the relationship between law and business?
- (a) Law restricts business growth
 - (b) Business operates independently of law
 - (c) Law provides a regulatory framework for business
 - (d) Law applies only in disputes
25. When a manager carefully selects words to avoid ambiguity in instructions, which principle is applied?
- (a) Courtesy
 - (b) Clarity
 - (c) Completeness
 - (d) Concreteness

26. Communication that occurs between employees of the same hierarchical level but different departments is:
- Vertical communication
 - Diagonal communication
 - Horizontal communication
 - External communication
27. The receiver's response confirming message understanding is known as:
- Encoding
 - Channel
 - Feedback
 - Decoding
28. Overuse of technical jargon in official emails mainly affects:
- Courtesy
 - Clarity
 - Formality
 - Feedback
29. Facial expressions, posture, and eye contact together form part of:
- Written communication
 - Verbal communication
 - Non-verbal communication
 - Formal communication
30. A written record used for internal official communication within an organization is called a:
- Circular
 - Memo
 - Notice
 - Advertisement

Answer:

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

Serial No.	Question	Choices				Correct Choice
		A	B	C	D	
1	Obsolescence means decline in value due to	physical wear and tear.	fall in Market value	efflux of time	Change in taste, fashion	D
2	After preparation of Profit and Loss Accounts, it was observed that Printing Account was Debited by ₹ 1,00,000; instead of Stationery Account	Profit will increase by ₹1,00,000	No impact in Profit/Loss	Profit will be reduced by ₹1,00,000	Will be considered in next accounting year	B
3	Which item is shown on the debit side of Profit & Loss Account?	Commission Received	Rent Received	Discount Received	Salaries	D
4	Outstanding expenses are shown:	Only in Profit & Loss Account	Only in Balance Sheet	In both Profit & Loss Account and Balance Sheet	In Trading Account	C
5	The main purpose of preparing a Trading Account is to ascertain:	Operating Profit	Gross Profit	Cash Profit	Net Profit	B
6	If closing stock is valued above cost, the effect will be:	Over statement of assets and under statement of profit	Overstatement of profit and assets	Understatement of assets and profit	No effect on profit	B
7	If commission is based on net profit (NP) after charging commission, the formula is:	$NP \times \text{Rate}$	$NP \times \text{Rate} / 100$	$NP \div \text{Rate}$	$NP \times \text{Rate} / (100 + \text{Rate})$	D
8	Goods withdrawn by proprietor for personal use should be debited to:	Drawings Account	Purchases Account	Capital Account	Sales Account	A
9	When goods are sent on approval and included in sales, they should be	Added to closing stock	Deducted from purchases	Deducted from sales and debtors	Added to debtors only	C
10	If gross loss occurs, it is transferred to:	Balance Sheet	Capital Account	Trading Account	Profit & Loss Account	D
11	Loss of stock by fire (insured) will result in:	Decrease in profit only	Increase in assets only	Decrease in profit and increase in assets	No effect	C
12	Bad debts recovered should be credited to	Debtors Account	Profit & Loss Account	Capital Account	Bad Debts Account	B
13	Which adjustment will increase both profit and assets?	Outstanding expense omitted	Prepaid expense omitted	Income received in advance omitted	Depreciation omitted	B
14	Drawings reduce:	Asset	Liabilities	Capital	Expenses	C

Serial No.	Question	Choices				Correct Choice
		A	B	C	D	
15	If purchases include assets wrongly, the effect is	Overstatement of profit	No effect on profit	Overstatement of assets	Understatement of profit	D
16	Which of the following is a fictitious asset?	Goodwill	Machinery	Preliminary Expenses	Defective Stock	C
17	Which one is a contingent liability?	Outstanding salary	Bank overdraft	Bills discounted	Provision for tax	C
18	Which of the following is NOT an adjustment?	Closing stock	Outstanding expenses	Capital introduced	Prepaid expenses	C
19	The accounting principle that requires recognition of expected losses but not unrealised gains is	Matching concept	Realisation concept	Conservatism principle	Going concern concept	C
20	Which of the following errors will be disclosed by Trial Balance	Error of principle	Complete omission of a transaction	Posting wrong amount on same side	Compensating error	C
21	Which item appears on the credit side of Profit & Loss Account?	Outstanding expenses	Bad Debts	Discount allowed	Interest on capital	D
22	Notional cost is also known as	Variable Cost	Imputed Cost	Opportunity Cost	Out of Pocket Cost	B
23	Statement showing break up of costs is known as	Cost Sheet	Marginal Cost	Production Account	Statement of Profit	A
24	Which one is included in financial accounts but not in cost accounts?	Royalty	Dividend paid	Depreciation	Freight	B
25	Which of the following term is excluded from the cost accounts?	Income Tax	Interest on Debentures	Cash Discount	All of these	D
26	Variable costs are fixed	Depend on the entity	For a period	Per unit of product	For a particular Process	C
27	Which one is not a method of costing?	Process Costing	Batch Costing	Direct Costing	Operating Costing	C
28	The written down value of the abandoned plant less its salvage value is	Imputed Cost	Sunk Cost	Avoidable Cost	Opportunity Cost	B
29	Prime Cost plus factory overheads is known as	Marginal Cost	Conversion Cost	Product Cost	Factory Cost	D
30	In the situation of increasing prices, the valuation of closing stock is more under:	Simple Average	Weighted Average	FIFO	LIFO	C

Topic

Fundamentals
of Business
Mathematics -

Module 3:
Calculus -
Application in
Business

Fundamentals of
Business Statistics -

Module 7:
Probability

FOUNDATION

Paper-3

Fundamentals
of Business
Mathematics and
Statistics (FBMS)

In this issue we will carry out MCQs on Calculus & probability – refer Module 3 and Module 7 of Study guide.

The fixed cost of a company is ₹5,000 and the variable cost is ₹25/unit. He sells the product at ₹50/unit. Answer Q (1) to Q (6).

1. Find the total cost function

- (a) $50x+5000$
- (b) $25x+5000$
- (c) $5x+5000$
- (d) $10x+5000$

2. Find the total revenue function

- (a) $25x$
- (b) $50x$
- (c) $500x$
- (d) $5000x$

3. Find the profit function

- (a) $25x+5000$
- (b) $25x-5000$
- (c) $50x-5000$
- (d) $50x+5000$

4. Determine the profit when 500 units are sold.

- (a) 15000
- (b) 12500
- (c) 17500
- (d) 20000

5. What is the break-even quantity

- (a) 100
- (b) 200
- (c) 400
- (d) 600

6. How many units to be produced and sold to yield a profit of ₹25,000

- (a) 400
- (b) 200
- (c) 600
- (d) 800

If marginal revenue = ₹50, marginal cost = ₹10 and fixed cost = ₹200, then answer Q (7) to Q (11)

7. Find the cost function

- (a) $x+20$
- (b) $x+4$
- (c) $x+5$
- (d) None of the above

8. Find the revenue function

- (a) $10x$
- (b) $50x$
- (c) $40x$
- (d) $20x$

9. Find the profit function

- (a) $x-5$
- (b) $x+5$
- (c) $x+20$
- (d) $x+4$

10. Find the profit maximizing quantity

- (a) 4
- (b) 3
- (c) 5
- (d) 7

11. Find the amount of profit if the value of x reduces to 3 units.

- (a) -60
- (b) 60
- (c) -80
- (d) 80

12. Given fixed cost = ₹ 75; variable cost = ₹ 150 and the revenue function is given by: $R(x) = 250x - 225$. Find the cost function.

- (a) $150x+75$
- (b) $15x+73$
- (c) $130x+89$
- (d) None of the above

13. Probability of occurrence of A as well as B is denoted by

- (a) $P(AB)$
- (b) $P(A+B)$
- (c) $P(A/B)$
- (d) None of these

14. When the no. of cases favourable to the event $A=0$ then $P(A)$ is equal to
- 1
 - 0
 - $\frac{1}{2}$
 - None
15. If $P(A) = \frac{5}{11}$ then probability of complement of A is equal to –
- $\frac{6}{11}$
 - $\frac{5}{11}$
 - 1
 - $\frac{5}{6}$
16. If $P(A) = \frac{7}{8}$ then $P(A^c)$ is equal to
- 1
 - 0
 - $\frac{7}{8}$
 - $\frac{1}{8}$
17. All possible outcomes of a random experiment forms the
- Events
 - Sample
 - Both
 - None
18. $S = \{1, 2, 3, 4, 5, 6\}$ is the _____ when a die is tossed.
- event
 - Sample
 - Set
 - Sample space
19. The value of $P(S)$ where S is the sample space is
- 1
 - 0
 - 1
 - None
20. The probability space in tossing two coins is
- $\{(H, H), (H, T), (T, H)\}$
 - $\{(H, T), (T, H), (T, T)\}$
 - $\{(H, H), (H, T), (T, H), (T, T)\}$
 - None
21. Which set of function define a probability space on S $\{A, B, C\}$?
- $P(A) = P(B) = 0, P(C) = 1$
 - $P(A) = \frac{1}{3}, P(B) = 0, P(C) = \frac{2}{3}$
 - Both (a) & (b)
 - Neither (a) nor (b)
22. Which of the following set of function define a probability space on $S = \{A, B, C\}$
- $P(A) = \frac{1}{3}, P(B) = \frac{1}{2}, P(C) = \frac{1}{4}$
 - $P(A) = \frac{1}{3}, P(B) = 0, P(C) = \frac{2}{3}$
 - Both a and b
 - Neither a nor b
23. Let P be a probability function on $S = \{x_1, x_2, x_3\}$ if $P(X_1) = \frac{1}{4}$ and $P(X_3) = \frac{1}{3}$ then $P(X_2)$ is equal to
- $\frac{5}{12}$
 - $\frac{7}{12}$
 - $\frac{3}{4}$
 - None of these
24. The probability of occurrence of at least one of the 2 events A and B (which may not be mutually exclusive) is given by
- $P(A+B) = P(A) - P(B)$
 - $P(A+B) = P(A) + P(B) - P(AB)$
 - $P(A+B) = P(A) - P(B) + P(AB)$
 - $P(A+B) = P(A) + P(B) + P(AB)$
25. If $P(A) = \frac{1}{2}, P(B) = \frac{3}{5}$ and the events A&B are independent then $P(A \cap B)$ is-
- $\frac{7}{10}$
 - $\frac{3}{10}$
 - $\frac{5}{10}$
 - $\frac{9}{10}$
26. If $P(A \cap B) = 0.60$ and $P(A \cup B) = 0.70$ for two events A and B, then $P(A) + P(B)$ is
- 1.30
 - 0.90
 - 1.00
 - 0.75

27. If for two independent events A and B, $P(A \cup B) = 2/3$ and $P(A) = 2/5$, what is $P(B)$?
- (a) $4/15$
 (b) $4/9$
 (c) $5/9$
 (d) $7/15$
28. A and B are two events such that $P(A) = 1/2$, $P(B) = 1/4$ and $P(A \cap B) = 1/5$. Find $P(A \cup B)$.
- (a) $4/5$
 (b) $11/20$
 (c) $3/5$
 (d) None of these
29. A, B and C are three mutually exclusive and exhaustive events such that $P(A) = 2 P(B) = 3 P(C)$. What is $P(B)$?
- (a) $6/11$
 (b) $6/22$
 (c) $1/6$
 (d) $1/3$
30. If A, B and C are three mutually exclusive and exhaustive events, then $P(A) + P(B) + P(C)$ equals to
- (a) $1/3$
 (b) 1
 (c) -1
 (d) Any value between 0 and 1

Answer:

1	b	Total Cost = Fixed Cost + Variable Cost (Production cost)
2	b	Revenue Function = Price X Quantity. So, $R(x) = P \times x$
3	b	Profit Function = Revenue Function – Cost Function
4	c	Put $x=500$ in the profit function
5	b	Put Revenue Function = Cost Function
6	c	Put Profit Function = 20,000

7	a	Total Cost = Fixed Cost + Variable Cost (Production cost)
8	b	Profit Function = Revenue Function – Cost Function
9	a	Put Profit Function = 60
10	c	Put $MR = MC$
11	c	Put $x=3$ in the profit function
12	a	Total Cost = Fixed Cost + Variable Cost (Production cost)

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
a	b	a	d	b	d	c	c	c	b	a	b	b	a	b	b	b	b

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 gathered from studying guide book to understand the correct answer of each question. Formula used here are all covered in study guide. Hints given for calculus portion.

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)

Let us start our Mock Test.**I. Choose the correct answer:**

1. Who was the proponent of the development definition of economics?
 - A. Adam Smith
 - B. Alfred Marshall
 - C. Lionel Robbins
 - D. Abba P. Samuelson
2. What is the basic problem in economics?
 - A. What to produce
 - B. How to produce
 - C. For whom to produce
 - D. All of the above
3. For the decrease in demand
 - A. Demand curve will shift rightward
 - B. Demand curve will shift leftward
 - C. Along the same demand curve, the consumer will move from bottom to top
 - D. None of the above
4. Under perfect competition, the firm's demand curve is represented by
 - A. AR curve
 - B. MR curve
 - C. Both A and B
 - D. None of the above
5. When both AR and MR curves 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
6. In the long run
 - A. All factors are variable
 - B. All factors are fixed
 - C. Some factors are variable
 - D. None of the above
7. When TP is falling, then
 - A. $MP=0$
 - B. $MP<0$
 - C. $MP>0$
 - D. None of the above
8. When TP curve becomes an upward sloping straight line through the origin, then the $MP=AP$ becomes
 - A. Horizontal
 - B. Vertical
 - C. Upward sloping
 - D. Downward sloping
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 AP is falling, then
 - A. $AP=MP$
 - B. $AP<MP$
 - C. $AP>MP$
 - D. None of the above
11. When there is decreasing returns to a variable factor, then
 - A. $AP=MP$
 - B. $AP<MP$
 - C. $AP>MP$
 - D. None of the above
12. The law of variable proportion operates during
 - A. Medium term
 - B. Short run
 - C. Long run
 - D. None of the above
13. In the long run
 - A. All costs are variable
 - B. All costs are fixed
 - C. Some costs are variable
 - D. None of the above
14. When LAC is minimum, then
 - A. $LMC>LAC$
 - B. $LMC<LAC$

- C. $LMC=LAC$
D. None of the above
15. For an optimum plant size, the LAC curve touches the SAC curve at its
A. Minimum point
B. Maximum point
C. Downward sloping portion
D. Upward sloping portion
16. SMC curve cuts the minimum point of the SAC curve
A. From above
B. From below
C. Both A and B
D. None of the above
17. When AVC is rising, then
A. $SMC > AVC$
B. $SMC < AVC$
C. $SMC = AVC$
D. None of the above
18. As output rises, AFC
A. Also rises
B. First falls and then rises
C. Falls but it cannot be zero
D. None of the above
19. Which market structure is called “product differentiation”?
A. Monopoly
B. Monopolistic competition
C. Oligopoly
D. None of the above
20. Monopolist will never sell his product when the demand elasticity of his product is
A. Highly inelastic
B. Elastic
C. Perfectly elastic
D. None of the above
21. According to Quantity theory of demand, price will rise when money supply
A. Falls
B. Rises
C. Remains constant
D. None of the above
22. Maslow’s model is formulated in terms of
A. Human needs
B. Wants
C. Rewards
D. Goals
23. Herzberg’s model is formulated in terms of
A. Human needs
B. Wants
C. Rewards or goals
D. None of the above
24. Reward systems can be designed on
A. Individual basis
B. Group basis
C. Either A or B
D. None of the above
25. Physiological needs are also known as
A. Biological needs
B. Survival needs
C. Either A or B
D. None of the above
26. Which needs are required to preserve human life?
A. Safety needs
B. Social needs
C. Physiological needs
D. Esteem needs
27. The theory that implies use of carrot and stick approach is
A. Theory Y
B. Theory X
C. Maslow’s need hierarchy theory
D. Herzberg’s model
28. Is there any universal theory or approach to motivation?
A. Yes
B. False
C. Partly true
D. None of the above

29. Which of the following are non-financial incentives?
- Participation in decision making
 - Challenging job
 - Recognition
 - All of the above
30. High motivation provides
- Optimum utilization of resources
 - Better industrial relations
 - Reduction in labour turnover
 - All of the above

Answer:

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

So friends,

Hope you have enjoyed solving the problems in this mock test. Please try to follow the logic behind each and every theory. Because, Business economics and management both are based on logic. If you can follow the logic, it will be a cake-walk for you.

To make these mock tests useful, try to solve the problems on your own without consulting the KEY. Keep a record of your performance in each mock test. Hope your preparation is going on in full swing.

Best of luck in the exam!!!

CMA INTERMEDIATE COURSE

Syllabus 2022

Topic

Module 13:
Business Ethics
and Emotional
Intelligence

INTERMEDIATE

Group I - Paper-5

Business Laws and
Ethics (BLE)

Business Ethics in the Era of Corporate Scandals and Sustainable Development

Business ethics encompasses the systematic application of moral principles, values, and standards that inform behavior within the business sector. It serves as a framework governing organizational conduct, stakeholder interactions, and the fulfillment of corporate responsibilities toward societal well-being. In recent decades, the significance of business ethics has escalated, driven by a growing prevalence of corporate scandals, environmental crises, financial fraud, and governance failures on a global scale. Various unethical business practices, including accounting manipulations, insider trading, environmental degradation, and labor exploitation, have elicited profound economic and social repercussions.

Simultaneously, the principle of sustainable development has gained considerable traction, underscoring the necessity for businesses to reconcile economic growth with social equity and environmental stewardship. Consequently, business ethics has transitioned from a voluntary consideration to a central tenet critical for the long-term viability and legitimacy of organizations. This analysis aims to explore the pivotal role of business ethics within the contemporary corporate landscape, investigate the factors contributing to unethical behavior, assess the consequences of such practices, and evaluate the role of ethical conduct in promoting sustainable development.

Concept and Scope of Business Ethics

Business ethics is a fundamental aspect of organizational conduct that encompasses a set of principles including honesty, transparency, fairness, accountability, and respect for stakeholders. These ethical principles are applicable across various dimensions of business operations, encompassing:

- 1. Corporate Governance and Financial Reporting:** The adherence to ethical standards in the management of corporate affairs and the accuracy of financial disclosures is paramount.
- 2. Employee Relations and Labor Practices:** The ethical treatment of employees, including fair labor practices and the promotion of a positive workplace environment, is essential for fostering trust and engagement.
- 3. Marketing and Consumer Protection:** Ethical considerations in marketing practices ensure that consumer rights are upheld, and that advertising is truthful and not misleading.
- 4. Environmental Responsibility:** Organizations are increasingly held accountable for their environmental impact, necessitating ethical stewardship of natural resources and sustainable business practices.

- 5. Interactions with Suppliers, Competitors, and Governments:** Ethical behavior in these dealings is crucial for maintaining integrity and fostering a fair competitive landscape.

While business ethics is often associated with legal compliance, it is important to recognize that ethical conduct transcends mere adherence to laws. Legislation delineates what is legally permissible; conversely, ethics delineate what is considered morally right. For instance, certain actions, such as aggressive tax avoidance or misleading advertising, may comply with legal standards yet still be deemed unethical. Thus, the integration of ethical considerations into business decision-making processes is indispensable for fostering a responsible and sustainable business environment.

Corporate Scandals and Ethical Failures

The contemporary corporate landscape has been marred by a series of high-profile scandals that underscore significant ethical lapses in business decision-making processes. Incidents of financial fraud, manipulation of financial statements, bribery, and the misuse of power have collectively eroded public trust in corporate entities.

The primary factors contributing to ethical failures in corporate environments include:

- 1. Excessive Profit Orientation:** The relentless pressure to maximize short-term profits often compels managers to compromise established ethical standards, leading to detrimental decision-making.
- 2. Weak Corporate Governance:** Inadequate oversight by corporate boards, insufficient independence of auditors, and the centralization of power can facilitate an environment conducive to unethical conduct.
- 3. Poor Ethical Leadership:** Leaders who exhibit tolerance towards or actively promote unethical practices are instrumental in cultivating a culture characterized by moral indifference, which can permeate throughout the organization.
- 4. Inadequate Regulatory Oversight:** Legal loopholes and ineffective enforcement mechanisms undermine the regulatory framework, allowing unethical practices to proliferate unchecked.

Business Ethics and Stakeholder Responsibility

Contemporary businesses navigate a complex stakeholder environment that necessitates a broader focus beyond mere shareholder interests. Stakeholders encompass a diverse array of groups, including employees, customers, suppliers, creditors, governmental entities, local communities, and society as a whole.

The ethical responsibilities that organizations owe to these stakeholders can be articulated as follows:

- 1. Employee Welfare:** Organizations must provide equitable remuneration and maintain safe working conditions for their employees, thereby fostering a supportive work environment that prioritizes employee well-being.
- 2. Customer Protection:** It is imperative for businesses to ensure product safety and engage in truthful communication with their customers, thereby upholding consumer rights and trust.
- 3. Supplier Relations:** Engaging in fair competitive practices and honoring contractual obligations with suppliers is essential to sustaining healthy business relationships and fostering mutual respect in the supply chain.
- 4. Regulatory Compliance:** Businesses have a duty to fulfill their tax obligations honestly and adhere to applicable regulations, thereby contributing to the lawful and orderly functioning of society.
- 5. Environmental Stewardship:** Organizations must strive to minimize their negative environmental impact, recognizing their role in promoting sustainability and protecting ecological integrity.

Neglecting the interests of stakeholders may yield short-term financial advantages; however, such a disregard can lead to long-term instability and societal resistance. Hence, a robust commitment to stakeholder responsibility is not only ethically sound but also essential for the enduring success and legitimacy of businesses in a dynamic societal context.
- 6. Organizational Culture:** A corporate culture that prioritizes results without consideration for the ethical implications of the means by which those results are achieved can significantly promote unethical behavior.

The repercussions of ethical violations are serious and varied, including loss of investor confidence, legal penalties, potential bankruptcy, increased unemployment, reputation damage, and diminished societal trust in businesses. These consequences underscore the necessity for strong ethical frameworks in the corporate sector.

The Interconnection between Business Ethics and Sustainable Development

Sustainable development is defined as progress that satisfies the needs of the present without compromising the ability of future generations to fulfill their own needs. This concept underscores the importance of ethical

business practices, which are essential in advancing sustainability through the framework of the triple bottom line approach.

- 1. Economic Sustainability:** Ethical practices are instrumental in fostering long-term profitability by cultivating trust, enhancing brand reputation, and fostering customer loyalty. Businesses that prioritize ethical behavior are more likely to achieve sustained economic growth, as they align their operations with the values and expectations of stakeholders.
- 2. Social Sustainability:** Corporations play a pivotal role in promoting social welfare by engaging in practices that encourage inclusive growth, diversity, and community development. Ethical business conduct not only benefits organizations but also contributes positively to the societies within which they operate, thus reinforcing social cohesion and stability.
- 3. Environmental Sustainability:** The concept of ethical responsibility encompasses the imperative to reduce environmental pollution, conserve natural resources, and implement eco-friendly technologies. Businesses committed to ethical principles are more likely to engage in practices that mitigate their ecological footprint and promote environmental stewardship.

In contrast, unethical practices such as environmental degradation, corruption, and labor exploitation stand in stark opposition to the principles of sustainable development. Such actions undermine the social contract between businesses and their stakeholders, jeopardizing both present and future well-being.

The Role of Corporate Governance in Promoting Ethical Conduct

Corporate governance serves as the institutional framework that underpins ethical conduct within organizations. This framework encompasses several key mechanisms that facilitate ethical behavior and accountability, including:

- 1. Independent and Competent Boards of Directors:** The composition and functioning of boards are crucial, as they provide oversight and guidance, ensuring that decisions reflect ethical considerations.
- 2. Transparent Financial Reporting and Auditing:** Robust financial reporting and auditing practices serve to promote organizational transparency and enhance stakeholder trust, thereby fostering an environment conducive to ethical behavior.
- 3. Codes of Conduct and Ethics Committees:** The establishment of codes of conduct, accompanied by dedicated ethics committees, reinforces the organization's commitment to ethical standards and provides a formal structure for addressing ethical dilemmas.

4. **Whistleblower Protection Mechanisms:** Ensuring that employees who report unethical behavior are protected from retaliation is vital for cultivating a culture of integrity and accountability within the organization.
5. **Accountability and Performance Evaluation Systems:** The integration of ethical considerations into performance metrics enhances accountability among employees and leadership, prompting the incorporation of ethical deliberation into strategic decision-making processes.

Ethical Leadership and Organizational Culture

Ethical leadership constitutes a fundamental pillar in the integration of ethical principles within organizations. Leaders play a critical role in establishing the organizational culture by exemplifying integrity, fairness, and accountability in their decision-making processes. The characteristics of ethical leaders include:

- Serving as role models for ethical behavior
- Fostering an environment that promotes open communication
- Recognizing and rewarding ethical conduct among employees
- Implementing disciplinary measures in response to unethical behavior

The cultivation of an ethical organizational culture significantly mitigates the likelihood of misconduct,

thereby enhancing employee morale, commitment, and trust within the organization.

Business Ethics in the Indian Context

In the Indian context, the importance of business ethics has been increasingly acknowledged due to a convergence of regulatory reforms, globalization, and heightened public scrutiny. Notable initiatives include the mandatory Corporate Social Responsibility (CSR) provisions under the Companies Act of 2013, the Securities and Exchange Board of India (SEBI) regulations concerning corporate governance, and an augmented focus on Environmental, Social, and Governance (ESG) reporting. These developments indicate a shifting paradigm where businesses are expected to align profitability with ethical responsibilities, transparency, and inclusive growth.

Conclusion

Business ethics is crucial for responsible and sustainable practices in today's corporate landscape. History shows that unethical behavior may bring short-term gains but leads to long-term harm for businesses and society. Upholding ethical principles builds stakeholder trust, improves corporate reputation, and supports sustainable development.

In a world of global competition and increased transparency, ethical considerations are not just moral imperatives but strategic necessities. Organizations that embed ethical values into their operations are better positioned for sustainable growth and long-term success.

Emotional Intelligence: A Key Driver of Leadership and Organizational Effectiveness

Introduction

In the contemporary organizational milieu, the possession of technical competence and intellectual acumen alone is insufficient for achieving sustained success. The increasing complexity of workplace dynamics, characterized by heightened teamwork, diversity, and relentless change, necessitates the emergence of leaders and employees capable of understanding, managing, and adeptly employing emotions within themselves and others. This capability is encapsulated in the construct known as Emotional Intelligence (EI).

Emotional Intelligence has increasingly been recognized as a critical determinant influencing leadership efficacy, interpersonal relationships, employee motivation, and overarching organizational performance. In contrast to cognitive intelligence (IQ), which tends to remain relatively static throughout an individual's lifespan, emotional intelligence possesses the potential for ongoing development and enhancement. This discourse seeks to elucidate the construct of emotional intelligence, delineate its principal components, and examine its consequential role in both leadership and organizational effectiveness.

Concept of Emotional Intelligence

Emotional Intelligence (EI) encompasses the capacity to perceive, comprehend, manage, and regulate one's own emotions, as well as the emotions of others. The notion gained prominence through the work of Daniel Goleman, who posited that emotional competencies may be more instrumental than technical skills in influencing success in professional environments.

The development of EI facilitates individuals in responding judiciously to emotionally charged situations rather than engaging in impulsive reactions. Furthermore, it plays a pivotal role in critical areas such as decision-making, conflict resolution, effective communication, and the management of stress. The mastery of emotional intelligence is therefore essential not only for personal development but also for fostering productive interpersonal relationships in various contexts.

Components of Emotional Intelligence

Emotional intelligence, as articulated by Goleman, encompasses five principal components that are crucial for effective leadership and interpersonal relations:

1. **Self-Awareness:** Self-awareness refers to the capacity to recognize and comprehend one's own emotions, strengths, limitations, values, and motivations. Leaders endowed with high levels of self-awareness exhibit greater confidence, a realistic

outlook, and a propensity for open feedback, which enhances their decision-making capabilities.

2. **Self-Regulation:** Self-regulation entails the ability to manage or redirect disruptive emotions and adapt to evolving circumstances. This skill is fundamental in enabling individuals to maintain composure under pressure and make sound, rational judgments, thereby fostering a stable and productive environment.
3. **Motivation:** Individuals possessing emotional intelligence are predominantly driven by intrinsic factors rather than extrinsic rewards. They exhibit substantial commitment, optimism, and resilience, particularly when confronted with adversity, which underscores their enduring persistence in the pursuit of goals.
4. **Empathy:** Empathy is defined as the ability to comprehend and resonate with the emotions of others. This component is vital for the effective management of diversity, the cultivation of relationships, and the responsive fulfillment of employees' needs, ultimately contributing to a supportive organizational climate.
5. **Social Skills:** Social skills encompass the aptitude for managing interpersonal relationships, influencing others, conflict resolution, and inspiring collaborative teamwork. Leaders who demonstrate robust social skills foster environments that encourage cooperation and enhance overall organizational productivity.

This comprehensive framework of emotional intelligence underscores its significance in leadership effectiveness and the cultivation of a harmonious workplace.

Emotional Intelligence and Leadership Effectiveness

Leadership is inherently an emotional process, where the ability to influence the emotions of followers is critical to enhancing motivation, engagement, and overall performance. Leaders who exhibit high levels of emotional intelligence demonstrate several key attributes:

1. **Effective Communication and Active Listening:** Emotionally intelligent leaders engage in clear and empathetic communication, fostering an environment in which team members feel heard and valued.
2. **Inspiration of Trust and Loyalty:** Such leaders cultivate trust and loyalty among their followers, which is essential for building cohesive and resilient teams.
3. **Constructive Conflict Management:** They possess the skills necessary to navigate conflicts in a manner that is constructive, thereby mitigating potential

disruptions and facilitating collaborative problem-solving.

4. **Adaptability in Leadership Styles:** Emotionally intelligent leaders can modify their leadership approaches to suit varying circumstances and the unique needs of their team members.
5. **Promotion of a Positive Organizational Climate:** They are instrumental in establishing and maintaining a positive organizational culture that enhances employee satisfaction and productivity.

Empirical research indicates that leaders with elevated emotional intelligence are significantly more effective in managing teams, leading organizational change, and attaining strategic objectives. This underscores the critical role emotional intelligence plays in effective leadership within contemporary organizational contexts.

Emotional Intelligence and Workplace Relationships

The cultivation of healthy workplace relationships is paramount for the overall effectiveness of an organization. Emotional intelligence (EI) plays a crucial role in enhancing interpersonal relations by facilitating improved communication, fostering trust, and promoting cooperation among employees.

Individuals with elevated levels of emotional intelligence exhibit the capacity to constructively handle criticism, effectively manage stress and work-related pressures, and resolve conflicts in a manner that is amicable and productive. Furthermore, these individuals tend to collaborate more effectively within teams, contributing significantly to the establishment of a positive organizational culture.

The presence of emotionally intelligent employees not only enhances workplace dynamics but also correlates with reduced employee turnover rates, highlighting the critical importance of EI in organizational settings.

The Impact of Emotional Intelligence on Organizational Performance

Organizations that prioritize and cultivate emotional intelligence (EI) experience a myriad of advantages that contribute to their overall effectiveness and sustainability. Research indicates that enhanced emotional intelligence within the workplace is associated with higher levels of employee engagement and job satisfaction. Furthermore, leaders who exhibit strong emotional intelligence tend to demonstrate improved effectiveness in their roles, fostering a positive organizational climate.

Additionally, the cultivation of emotional intelligence facilitates better customer relations, as employees with high EI are often more adept at understanding and responding to customer needs. Organizations characterized by a strong emotional intelligence

framework are also better equipped to navigate and adapt to change, thereby enhancing their resilience in dynamic environments.

Moreover, the development of emotional intelligence among employees significantly contributes to a reduction in workplace conflicts, promoting a more collaborative and harmonious working environment. It is evident that emotional intelligence not only underpins individual success but also plays a crucial role in advancing collective organizational performance.

Developing Emotional Intelligence

Emotional intelligence (EI) distinctly differs from intelligence quotient (IQ) in that it is a malleable attribute that can be cultivated through various methodologies. Key avenues for the enhancement of EI include:

1. **Self-Reflection and Feedback:** Engaging in introspective practices and soliciting constructive feedback facilitates a deeper understanding of one's emotional responses and promotes personal growth.
2. **Training and Coaching Programs:** Structured educational interventions aimed at skill development can significantly enhance participants' emotional competencies.
3. **Mindfulness and Stress Management Practices:** Techniques such as mindfulness meditation and stress reduction strategies contribute to improved emotional regulation and awareness.
4. **Empathy-Building Exercises:** Activities designed to foster empathy enable individuals to recognize and understand the emotions of others, thereby enhancing interpersonal relationships.
5. **Leadership Development Initiatives:** Programs focused on cultivating leadership skills often encompass emotional intelligence training, thereby equipping leaders with the tools to foster an emotionally intelligent organizational culture.

Organizations that prioritize the development of emotional intelligence within their workforce are likely to experience enhanced emotional well-being and resilience among employees, fostering a psychologically healthy work environment.

Importance of Emotional Intelligence in Contemporary Work Environments

In the context of globalization, the rise of remote work, and increasing cultural diversity, the significance of emotional intelligence (EI) has escalated in contemporary workplaces. Leaders are now tasked with the challenge of effectively managing virtual teams, navigating ambiguity, and responding to the nuanced well-being concerns of employees.

The COVID-19 pandemic has further underscored the vital role of emotional intelligence by highlighting the necessity for empathy, emotional resilience, and compassionate leadership. Empirical evidence suggests that leaders who exhibit high levels of emotional intelligence are better equipped to foster a supportive organizational culture and effectively engage their workforce in times of crisis. Thus, cultivating emotional intelligence within leadership frameworks is imperative for the enhancement of both individual and organizational outcomes in the modern workplace.

Conclusion

Emotional intelligence serves as a crucial determinant of leadership effectiveness and organizational success.

It operates in conjunction with technical skills and cognitive intelligence, facilitating the constructive management of emotions and the development of robust inter-personal relationships. Leaders who exhibit high levels of emotional intelligence are adept at fostering trust, motivation, and collaboration, thereby contributing to a positive organizational climate.

In an increasingly dynamic and emotionally taxing work environment, emotional intelligence transcends being a mere asset and emerges as an essential competency. Organizations that actively acknowledge and cultivate emotional intelligence are positioned to achieve a sustainable competitive advantage, characterized by enhanced human capital and improved overall performance.

Topic

Module 4:
Partnership
Accounting

INTERMEDIATE

Group I - Paper-6

Financial Accounting (FA)

Partnership

A partnership is a formal relationship between two or more individuals who agree to contribute their resources, skills, or labor to operate a business and share the profits, losses, and responsibilities associated with it. Partnerships are a common business structure because they combine the resources and expertise of multiple people, allowing for shared decision-making and mutual growth.

According to the Indian Partnership Act, 1932, *“Partnership is the relation between persons who have agreed to share the profits of a business carried on by all or any of them acting for all.”*

Types of Partnerships

1. General Partnership:

- All partners have unlimited liability.
- All partners are actively involved in the firm’s management.
- Profits and losses are shared as per the agreement.

2. Limited Partnership:

- Combines general and limited partners.
- Limited partners contribute capital but do not participate in management.
- Liability of limited partners is restricted to their investment.

3. Partnership at Will:

- Formed for an indefinite period.
- Dissolved at the will of partners.

4. Particular Partnership:

- Formed for a specific project or activity.
- Dissolves upon the completion of the project.

Features of a Partnership

1. **Agreement-Based Relationship:** Partnerships are formed through an agreement, which may be oral or written.
2. **Mutual Agency:** Each partner is both an agent and a principal. They can bind the firm by their actions, provided those actions are within the scope of business.
3. **Unlimited Liability:** Partners are personally liable for the firm’s debts. Their personal assets can be used to settle liabilities if required.
4. **Profit Sharing:** Partners share profits and losses as per the terms of the agreement or equally in the absence of any agreement.

5. **Non-Transferability:** A partner cannot transfer their share of the business to an outsider without the consent of other partners.

6. **Flexible Management:** The management and operation of the firm can be adapted to suit the needs of the partners.

Admission, Retirement and Death of Partners

These are significant events in the life of a partnership that can affect its continuity, capital structure, and profit-sharing arrangements.

1. Admission of a Partner

When a new partner is admitted to an existing partnership, the following adjustments need to be made:

- **Change in Profit-Sharing Ratio:** The profit-sharing ratio is altered to accommodate the new partner.
- **Goodwill Adjustment:** The incoming partner compensates the existing partners for their share of goodwill.
- **Capital Contribution:** The new partner contributes capital to the firm. This could be in cash or kind.
- **Revaluation of Assets and Liabilities:** Revaluation ensures that assets and liabilities reflect their current value.
- **Adjustment of Reserves and Accumulated Profits/Losses:** These are shared among the existing partners in the old profit-sharing ratio before admitting the new partner.

2. Retirement of a Partner

When a partner retires, their share of the firm’s assets and liabilities is settled. The following adjustments are made:

- **Calculation of Retiring Partner’s Share:** Includes share in goodwill, revaluation of assets and liabilities, accumulated reserves, and profits.
- **Payment to the Retiring Partner:** The amount due can be paid immediately or in installments.
- **Reconstitution of the Firm:** Remaining partners agree on a new profit-sharing ratio.
- **Adjustment of Continuing Partners’ Capitals:** Capitals are adjusted as per the new profit-sharing ratio.

3. Death of a Partner

In case of the death of a partner, the adjustments are similar to retirement but with additional considerations:

- **Share of Profits:** The deceased partner's share of profits until the date of death is calculated.
- **Settlement with Legal Heirs:** The amount due is settled with the legal heirs.
- **Insurance Proceeds:** If the firm had taken a partnership insurance policy, proceeds are used for settlement.

In conclusion, the processes of admission, retirement, and death of partners are critical events in a partnership firm that necessitate significant adjustments to ensure fairness and continuity. The admission of a new partner can infuse fresh capital, skills, and ideas into the firm but requires adjustments in profit-sharing ratios, capital contributions, and goodwill distribution to balance the interests of

both incoming and existing partners. Similarly, the retirement of a partner involves careful settlement of their dues, including their share of capital, goodwill, and accumulated profits or reserves. Proper revaluation of assets and liabilities and recalibration of the profit-sharing arrangement among the remaining partners help in maintaining the financial stability of the firm.

The death of a partner, being an unavoidable occurrence, requires meticulous calculation and settlement of their share of the partnership's assets and profits, often involving their legal heirs. Provisions such as life insurance or specific clauses in the partnership deed can ease the financial burden on the firm and its remaining partners during such times. These events highlight the importance of having a comprehensive partnership deed that anticipates and addresses the potential complexities of these transitions. With mutual understanding and fair treatment, these changes can be managed effectively, ensuring the partnership's longevity and success.

Dissolution and Amalgamation of Partnership

Partnership dissolution and amalgamation are critical events in the life of a partnership firm, involving significant changes to its structure and operations. These events are governed by legal principles, accounting standards, and mutual agreements among the partners.

Dissolution of a Partnership

Dissolution refers to the termination of a partnership, where the firm ceases to exist as a business entity.

Types of Dissolution

1. Dissolution of Partnership:

- The partnership is reconstituted, but the business continues. This occurs due to admission, retirement, or death of a partner.
- Only the existing agreement is terminated, and a new agreement is formed.

2. Dissolution of the Firm:

- The partnership firm itself is terminated, and the business stops operating.
- Assets are sold, liabilities are settled, and the remaining balance is distributed among partners.

Modes of Dissolution

1. By Agreement:

- Partners mutually agree to dissolve the firm.
- Governed by the partnership deed or a unanimous decision.

2. Compulsory Dissolution:

- By operation of law, such as insolvency of all partners, or the business becoming illegal.

3. On Notice:

- In the case of a partnership at will, one partner can dissolve the firm by serving notice to the others.

4. Court Intervention:

- A court may order dissolution due to misconduct, breach of the agreement, incapacity of a partner, or continuous losses.

Settlement During Dissolution

1. Payment of Debts and Liabilities:

- Creditors and outside liabilities are settled first.

2. Repayment of Loans by Partners:

- Loans from partners are repaid after settling external debts.

3. Return of Capital:

- Capital contributions are repaid to partners.

4. Distribution of Residual Balance:

- Any remaining amount is shared among partners based on the profit-sharing ratio.

Amalgamation of Partnership

Amalgamation occurs when two or more partnership

firms merge to form a new partnership firm, combining their resources, assets, and liabilities.

Reasons for Amalgamation

1. Expansion of Business:

- Combining firms to achieve economies of scale or market expansion.

2. Pooling Resources:

- Sharing capital, expertise, and labor for better efficiency.

3. Synergies:

- Leveraging the strengths of each firm to improve overall profitability.

4. Financial Stability:

- Merging to address financial challenges or avoid competition.

Steps in Amalgamation

1. Valuation of Assets and Liabilities:

- Assets and liabilities of each firm are revalued to determine their fair market value.

2. Settlement of Old Accounts:

- Outstanding debts, liabilities, and partner’s dues in the old firms are settled.

3. Creation of a New Partnership Agreement:

- A new deed is drawn up, specifying terms like profit-sharing ratios, capital contributions, and operational guidelines.

4. Combining Capital Accounts:

- Partners’ capital accounts from the old firms are merged into the new firm based on their agreed contributions.

5. Recording of Assets and Liabilities:

- The new firm takes over the assets and liabilities of the old firms.

Differences between Dissolution and Amalgamation

Aspect	Dissolution	Amalgamation
Definition	Termination of a partnership firm.	Merger of two or more firms into one.
Business Continuity	The business ceases to operate.	The business continues in a new firm.
Reason	Closure due to legal, financial, or mutual issues.	Expansion, synergies, or financial stability.
Outcome	Assets are liquidated, and liabilities settled.	A new partnership firm is formed.

In conclusion, dissolution and amalgamation of a partnership firm represent two pivotal transitions in its lifecycle. Dissolution involves the termination of the partnership, leading to the cessation of business operations and settlement of all assets and liabilities. This process ensures that all stakeholders, including creditors, partners, and other parties, receive their rightful dues. Dissolution can be initiated by mutual agreement, legal mandate, or court intervention, and its execution requires careful accounting and compliance with legal formalities to avoid disputes and ensure fairness among all partners.

On the other hand, amalgamation focuses on growth and synergy by merging two or more partnership firms into a single entity. It enables the new firm to leverage pooled resources, shared expertise, and economies of scale to enhance efficiency and market competitiveness. Amalgamation also involves complex financial and legal adjustments, such as revaluation of assets and liabilities, goodwill accounting, and the creation of a new partnership agreement. While dissolution signifies the end of a business journey, amalgamation marks a new beginning, highlighting the dynamic nature of partnerships and their ability to adapt to changing business environments.

Questions:

1. What is the primary document that governs the terms and conditions of a partnership?
 - A. Memorandum of Association
 - B. Articles of Association
 - C. Partnership Deed
 - D. Agreement of Incorporation
2. Which of the following types of liability applies to partners in a partnership firm?
 - A. Limited liability
 - B. Unlimited liability
 - C. Joint liability only
 - D. No liability
3. Which Act governs partnerships in India?
 - A. Companies Act, 2013
 - B. Contract Act, 1872
 - C. Indian Partnership Act, 1932
 - D. Indian Trusts Act, 1882

4. What happens to the profit-sharing ratio when a new partner is admitted?
 - A. It remains unchanged
 - B. It changes as per the agreement
 - C. It is decided by the retiring partner
 - D. None of the above
5. What is the primary objective of revaluing assets and liabilities during admission or retirement?
 - A. To ensure fair value adjustments
 - B. To calculate interest on capital
 - C. To distribute reserves equally
 - D. None of the above
6. If a partner retires and their share is not paid immediately, what is created?
 - A. A goodwill account
 - B. A loan account
 - C. A reserve account
 - D. A suspense account
7. What does the dissolution of a partnership firm imply?
 - A. Change in the profit-sharing ratio of partners
 - B. Termination of the partnership firm and its business operations
 - C. Admission of a new partner into the firm
 - D. Amalgamation of two partnership firms
8. Which of the following is settled first during the dissolution of a partnership firm?
 - A. Loans from partners
 - B. Partner's capital accounts
 - C. External liabilities
 - D. Remaining balance among partners
9. Amalgamation of partnership firms results in:
 - A. Closure of business operations
 - B. Creation of a new partnership firm
 - C. Distribution of assets among existing partners
 - D. Settlement of accounts and dissolution of the firm
10. Which legal provision governs the dissolution of a partnership in India?
 - A. Indian Partnership Act, 1932
 - B. Indian Companies Act, 2013
 - C. Contract Act, 1872
 - D. Arbitration and Conciliation Act, 1996

Answer:

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

Topic

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

INTERMEDIATE

Group I - Paper-7A

Direct Taxation (DT)

Understanding the Assessment of Hindu Undivided Family (HUF)

Introduction

In the realm of Indian taxation, the Hindu Undivided Family (HUF) occupies a unique position. It is treated as a separate distinct assessable entity under the Income-tax Act, 1961. For students of taxation, understanding the nuances of HUF—its formation, the distinction between members and coparceners, and the complexities of partition—is essential for professional competence.

Definition and Constitution

The term “Hindu Undivided Family” is not explicitly defined within the Income-tax Act itself. Consequently, for tax purposes, the term carries the same meaning as it does under Hindu Law. An HUF is not created by a contract; rather, its membership arises purely from status.

A basic HUF consists of all persons lineally descended from a common ancestor, including their wives and daughters. It is important to note that this status applies to Jain families as well, who are treated as HUF for the purpose of the Income-tax Act. However, this provision does not extend to Muslim undivided families. Once a family is assessed as an HUF, it continues to be assessed as such until a partition is effected.

Essential Requirements for Assessment

For an assessee to be assessed as an HUF, specific conditions regarding property must be met. There must be “Joint Family Property,” which consists of either ancestral property or property acquired with the aid of ancestral property.

Ancestral property is defined specifically as property a man inherits from any of his three immediate male ancestors: his father, his grandfather, or his great-grandfather. It is crucial for students to remember that property inherited from other relations, such as a father-in-law or an uncle, does not qualify as ancestral property.

Coparceners vs. Members:

A pivotal concept in HUF assessment is the difference between a “Member” and a “Coparcener.” While all coparceners are members of the family, not all members are coparceners.

A coparcener is defined by two specific tests:

1. They acquire an interest in the joint family property by birth.
2. They possess the right to enforce partition.

Conversely, a member who is not a coparcener has no right to claim partition. It is legally established that a person may acquire membership in an HUF otherwise than by birth (e.g., through marriage), but coparcenary rights are birth-rights. Notably, a child in the womb of his

mother is entitled to a share of the HUF property upon partition.

Schools of Hindu Law

The rights of coparceners and the moment they acquire interest in property depend significantly on the School of Hindu Law applicable to the family. There are two primary schools: the Dayabhaga School and the Mitakshara School.

- **Dayabhaga School:** Prevails primarily in West Bengal and Assam. Under this school, a child acquires interest in ancestral property only after the death of the father. Consequently, the child cannot claim partition while the father is alive. The coparcenary interest fluctuates only on the death of the father, not on every birth.
- **Mitakshara School:** Prevails over the rest of India. Here, a child acquires interest in ancestral property immediately upon birth. Therefore, the child can claim partition at any time. Under this system, coparcenary interest fluctuates with every birth or death in the family.

Following the Hindu Succession (Amendment) Act 2005, a daughter of a coparcener becomes a coparcener in her own right by birth, in the same manner as a son, and can demand partition of coparcenary property.

Computation of Total Income

The Income-tax Act does not provide a separate specific method for computing the income of an HUF; it is computed in the same manner as that of an individual. The tax rates, health and education cess, and applicability of the Alternative Tax Regime (Section 115BAC) apply as they do to individuals.

However, there are specific nuances:

- **Salaries:** An HUF cannot earn income under the head “Salaries”.
- **Clubbing of Income:** Section 64(1) and (1A) are not applicable to HUF as they are specific to individuals; however, Section 64(2) is relevant.
- **Remuneration to Members:** If HUF funds are invested in a company/firm and a member receives fees/remuneration due to that investment, it is treated as HUF income. However, if the remuneration is for services rendered by the member in their personal capacity, it is taxed in the hands of the member.
- **Remuneration to Karta:** Genuine remuneration paid to the Karta for conducting family business is an allowed expenditure for the HUF, provided it is not excessive and is paid under a bonafide agreement.

- **Stridhan:** This is absolute property of a woman, and income generated from it is not taxable in the hands of the HUF.

Partition of HUF (Section 171)

Partition is a critical event in the lifecycle of an HUF for tax purposes. It involves the division of property. Where property admits of physical division, a physical division is required; mere division of income without dividing the underlying property is not deemed a partition. Where physical division is not possible, the division must be to the extent the property admits. Crucially, a mere severance of status is not deemed a partition for tax purposes.

Assessment After Partition

An HUF is deemed to continue as an HUF until a finding of partition is recorded by the Assessing Officer (AO) under Section 171.

1. **Inquiry:** Upon a claim of partition by a member, the AO must make an inquiry after giving notice to all members.
2. **Finding:** The AO must record a finding regarding whether a total or partial partition has occurred and the date of such partition.
3. **Liability:**
 - **Up to the date of partition:** The total income is assessed as if no partition occurred. Each member is jointly and severally liable for the tax on this income. This liability is computed according to the portion of property allotted to them.

- **Partition after the previous year:** If partition occurs after the expiry of the previous year, the income of that previous year is assessed as if no partition took place.

Partial Partition (Section 171(9))

For administrative simplicity and to curb tax avoidance, stringent rules apply to partial partitions (partition regarding some members or some properties) that took place after December 31, 1978.

If a partial partition occurred after this date:

- No inquiry will be made under Section 171(2).
- No finding of partition will be recorded.
- The family will continue to be assessed as if no partial partition took place.
- Members remain jointly and severally liable for tax, penalty, or interest payable by the family.

Conclusion

The assessment of an HUF requires a clear understanding of both Hindu Law and Income-tax statutes. From the definition of ancestral property to the strict provisions regarding post-1978 partial partitions, the law ensures that while the distinct status of the family is recognized, it is not used as a tool for impermissible tax avoidance. For students, mastering these distinctions—particularly between schools of law and the liability mechanisms under Section 171—is vital for tackling problems in the Intermediate examination.

Topic

Module 6:
Customs Act &
Rules

INTERMEDIATE

Group I - Paper-7B

Indirect Taxation
(IDT)

Customs Valuation: Concept & Methods (Import)

Introduction

The term “Customs” derives its essence from “custom,” meaning a habitual practice or course of action characteristically repeated in like circumstances. The collection of revenue through Customs has existed in India since time immemorial, with references to revenue laws found as early as in Kautilya’s “Arthashastra”.

Constitutionally, Entry No. 83 of List I (Union List) to Schedule VII empowers the Union Government to legislate and collect duties on imports and exports. Accordingly, Section 12 of the Customs Act, 1962, is the charging section that provides for the levy of duties on goods imported into or exported from India.

Basis of Levy (Tariff Act)

The rates of duties are specified in the Customs Tariff Act, 1975:

- **First Schedule:** Specifies import items and rates based on the Harmonized System of Commodity Classification.
- **Second Schedule:** Incorporates items subject to export duties.

Duties are usually levied on a specific basis, ad-valorem basis (percentage of value), or specific-cum-ad valorem basis.

Valuation of Imported Goods [Sec. 14(1)]

For ad-valorem duty, the primary basis of valuation is the Transaction Value.

The Golden Rule: The value of imported goods shall be the transaction value, which is the price actually paid or payable for the goods when sold for export to India for delivery at the time and place of importation.

Conditions for Accepting Transaction Value:

1. **Unrelated Parties:** The buyer and seller are not related.
2. **Sole Consideration:** Price is the sole consideration for the sale.

Taxpoint: The transaction value shall include amounts paid for:

- ✦ Commissions and brokerage (Excluding Buying Commission).
- ✦ Engineering, design work, royalties, and license fees.
- ✦ Costs of transportation, insurance, loading, unloading, and handling charges.

Determination of Value: The Hierarchy of Rules

If the Transaction Value (Rule 3) cannot be accepted, the

value must be determined by proceeding sequentially through Rules 4 to 9 of the Customs Valuation (Determination of Value of Imported Goods) Rules, 2007.

Order of Application

1. Rule 3: Transaction Value (Primary Method)
2. Rule 4: Transaction Value of Identical Goods
3. Rule 5: Transaction Value of Similar Goods
4. Rule 7: Deductive Value
5. Rule 8: Computed Value
6. Rule 9: Residual Method

Note: On request by the importer, the order of Rule 7 and Rule 8 can be reversed.

Detailed Analysis of Valuation Rules

Rule 3: Transaction Value Acceptance Conditions

Transaction value is accepted if the sale is in the ordinary course of trade under fully competitive conditions. It is rejected if:

- There are restrictions on the disposition/use of goods (except those imposed by law/authorities or geographical limits).
- The sale is subject to conditions for which a value cannot be determined.
- Any part of resale proceeds accrues to the seller without adjustment.
- The buyer and seller are related.

Rule 4 vs. Rule 5: Identical vs. Similar Goods

If Rule 3 fails, we look for a transaction value of “Identical” or “Similar” goods sold for export to India at or about the same time.

Feature	Identical Goods (Rule 4)	Similar Goods (Rule 5)
Definition	Same in all respects (physical characteristics, quality, reputation). Minor appearance differences are ignored.	Like characteristics and component materials enabling them to perform the same function.
Inter-changeability		Commercially interchangeable having regard to quality, reputation, and trademark.

Feature	Identical Goods (Rule 4)	Similar Goods (Rule 5)
Origin	Produced in the same country.	Produced in the same country.
Manufacturer	Preferably same person (or different if same not available).	Preferably same person (or different if same not available).

Key Notes for Rule 4 & 5:

- **Lowest Value:** If more than one transaction value is found, use the lowest value.
- **Exclusion:** Goods where engineering/design was done in India by the buyer free/reduced cost are NOT Identical/Similar goods.

Rule 7: Deductive Value (Backward Calculation)

If Rules 4 & 5 fail, value is based on the unit price at which imported/identical/similar goods are sold in India to unrelated persons.

Calculation:

- **Start:** Unit price in greatest aggregate quantity.
- **Less:** Commission/profit & general expenses usually paid in India.

- **Less:** Transport, insurance, and other costs incurred within India.
- **Less:** Customs duties and taxes payable in India.

Time Limit: If not sold at importation, price at the earliest date after importation (within 90 days) can be used.

Rule 8: Computed Value (Cost Based)

The value consists of:

1. Cost of materials and fabrication/processing.
2. Amount for profit and general expenses usually made by producers in the exporting country.
3. Cost of transport and insurance to India.

Rule 9: Residual Method

If no other method works, value is determined using reasonable means consistent with the principles and general provisions of these rules, based on data available in India.

Conclusion

These methods ensure customs valuation reflects real economic transactions. Importers must provide detailed documentation (invoices, contracts) to support declared values. Failure to comply can result in penalties and additional duties.

Topic

Module 6:
Cost Accounting
Techniques

INTERMEDIATE

Group I - Paper-8

Cost Accounting
(CA)

Marginal Costing

This is an important Chapter in Cost Accounting and at least one question is set from this chapter in the Examination. The students should learn the actual implication of different marginal cost equations and the effect on those equations due to change in cost. Here Break-even Analysis is the most important area I order to go through the Chapter. Hence a clear knowledge of Fixed and variable cost and its implication in product cost is necessary. So you should have clear understanding and use of contribution which is the key to different problems. The effect on Profit –Volume ratio is an important part of this Chapter. You should go through this problems very carefully as P/V ratio helps to eliminate the unprofitable lines which are having either a lower P/V ratio or low volume . you should also have a sound knowledge about the Margin of safety and Angle of incidence .

Marginal Costing 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. This an accounting system in which variable costs are charged to the cost units and fixed cost of the period are written off in full against the aggregate contribution. Its special value is in decision making. Again, it is the cost of one unit of product or services which would be avoided if that unit was not produced or provided.

The term “Contribution” is the difference between sales and variable cost or marginal costs is known as contribution. it is also called as contribution margin, marginal income , marginal balance etc. it is the key area in Marginal costing.

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

Break-even Chart is a graphical representation of Marginal Costing. This also 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.

Profit Volume Ratio (P/V Ratio) is the ratio of contribution to the sales. Gene rally it is expressed in percentage form. It can be symbolically expressed as

$$P/V \text{ Ratio} = C/S \times 100$$

$$\text{or } (S - V)/S \times 100,$$

C = Contribution, S = Sales, V = Variable Cost.

Margin of Safety is the excess of sales over the BE 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. Thus theoretically, Margin of Safety = Sale – Break-even sales.

Angle of incidence 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 larger, it indicates a high margin of profit. On the other hand low angle of incidence means a low rate of profit.

The following Problem can be able to clear the concept of Marginal Costing :--

Problem:

Bombay Port Trust Ltd. Produce three products X, Y and Z from the same manufacturing facilities. The cost and other details of the three products are as follows:

	X	Y	Z
Selling Price Per Unit (₹)	200	160	100
Variable Cost Per unit (₹)	120	120	40
Fixed Expenses Per month (₹)			276000
Maximum Production Per month (units)	5000	8000	6000
Total hours available in the month			200
Maximum demand Per month (units)	2000	4000	2400

The processing hours cannot be increased beyond 200 hours per month.

You are required:

- Compute the most profitable product mix .
- Compute the overall break-even sales of the Company for the month based on the mix calculated in (a) above.

Solution :

(a) Statement of Contribution and Priority

S.N.	Particulars	X	Y	Z
a	Maximum Production per month (units)	5000	8000	6000
b	Maximum Production per hour (units) (a/200 hour.)	25	40	30

S.N.	Particulars	X	Y	Z
c	Hours required for maximum demand	2000/25 = 80 hr	4000/40 = 100 hr	2400/30 = 80 hr
d	Selling Price per unit (₹)	200	160	100
e	Variable cost per unit (₹)	120	120	40
f	Contribution per unit (₹) (d – e)	80	40	60
g	Contribution per hour (₹) (f × b)	2000	1600	1800
h	Ranking	1	3	2

Statement of Profitable Product Mix

X = 2000 units,

Hours required = 2000 units/25 units p hour = 80 hours

Z = 2400 units, Hours required = 2400/30 = 80 hours.

Y = 1600 units, ,, ,, = 1600/40 = 40 hours.

Total = 200 hours

Hours Available for Y was 200 – 80 – 80 = 40 hrs..

By utilising 40 hours Y can produce 1600 units.

(40 hours × 40 units p hour per Y above)

Particulars	X	Y	Z
Units	2000	1600	2400
Sales price per unit (₹)	200	160	100
Sales Value (₹)	400000	256000	240000
Less: Variable Cost (₹)	240000	192000	96000
Contribution	160000	64000	144000

Total Contribution (A + B + C) (₹)	368000
Less: Fixed Expenses (₹)	276000
Profit per month (₹)	92000

$$\begin{aligned} \text{Profit Volume Ratio} &= (\text{Contribution} / \text{Sales}) \times 100 \\ &= (368000 / 896000) \times 100 \\ &= 41.07\% \end{aligned}$$

$$\begin{aligned} \text{Overall breakeven sales} &= \text{fixed Cost} / \text{P/V Ratio} \\ &= 276000 / 41.07 \times 100 \\ &= ₹ 6,72,000 \end{aligned}$$

The concept 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 action.

The use of Cost –volume-profit analysis are as follows:

- 1) It helps the management to estimate or predict over

a wide range of volumes .

- 2) It helps management in taking many crucial decisions viz. whether capacity or volume of sales should be increased or not , how can the profit be increased by utilizing the existing capacity etc.
- 3) With the help of this relationship the profit performance of a concern can be easily evaluated.
- 4) It helps in profit planning .
- 5) It helps management in product pricing.

Following are the assumption in CVP Analysis:

- 1) Selling price are constant.
- 2) All costs can be divided into Fixed and Variable components.
- 3) Total variable costs are directly proportional to volume of production.
- 4) Price of factors of production are constant.
- 5) Efficiency and productivity are constant
- 6) Total Fixed cost remains constant .
- 7) Revenue and cost are being compared on per unit basis and
- 8) Production volume and sales will be equal at all points of time.

There are various uses of Marginal Costing Technique, which are as follows:

- 1) **FIXING OF SELLING PRICE**
Price fixation is one of the principle functions of the management. product pricing is necessary under different circumstances such as – competitions or tread depressions, utilization of idle capacity etc.
- 2) **SELLING AT OR BELOW MARGINAL COST**
 - a) At the time of introduction of new product in the market
 - b) Driving out the weaker competitors.
 - c) To retain existing market.
 - d) To disposed of the perishable goods.
 - e) To prevent loss of trade.
- 3) **LEVEL OF ACTIVITY PLANNING.**
This technique helps the management to decide the optimum level of activity.
- 4) **EVALATION OF PROFITABILITY**

The decision whether a department should continue or not depends to a large extent on their comparative profitability.

5) SELECTION OF PROFITABLE SALES-MIX.

The technique can be applied in determination of most profitable product or sales mix. Especially when a concern produces more than one product.

6) KEY / LIMITING FACTOR

The key factor is that which puts a limit on production or sales. There are various things which can be considered as the key factors such as, shortage of

material, labour, plant capacity, capital, demand of the product etc.

7) MAKE OR BUY

A concern may have some idle capacity, which can be utilized for making components or parts instead of buying them from outside. In arriving at such a make or buy decision the market price should be compared with the marginal cost of producing component parts.

Standard Costing

The term Standard is a predetermined measurable quantity set in defined conditions against which actual performance can be compared. In a word we can say the standard refers to predetermined rate against which the performance is judged. Standard Cost is a predetermined calculation of how much cost should be used under specified working conditions. It is built up from assessment of the value of cost elements and correlates technical specification and qualification of material, labour and other costs to the price and/or usage rates expected to apply during the period in which the standard cost is intended to be used. The main purpose is to provide basis for control through variance accounting for the valuation of stock and work in progress and in some cases for setting prices. The technique by which standard costs are used is known as Standard Costing.

The main object of Standard Costing are –

- a) To provide an accepted basis for assessing performance and efficiency.
- b) To control cost by introducing standards and analysis of variances.
- c) To assist in setting budgets.
- d) To motivate staff and management.
- e) To help in assessing responsibility for nonstandard performance.
- f) To provide basis for estimation.
- g) To provide guidance on possible ways for improving performance.

The various types of standards are – Current Standard, Basic Standard, Ideal Standard, and Attainable Standard.

The Standard costing has some following advantages –

- a) Standard costing provides the guidance which helps the management in performing their managerial functions.
- b) Standard costing highlights areas of strengths and weaknesses.
- c) It acts as yardsticks against which actual costs are compared.
- d) It acts as a form of feed forward control that allows an organization to plan the manufacturing inputs required for different levels of output.
- e) It will help prompt preparation of profit and loss account for short period.

But Standard costing is generally used in such organization whose processes or jobs are repetitive. Again a lot of input data is required which is expensive. This technique may not be suitable to the non-standard jobs. Some variances may not be explained properly.

Computation of standard cost and actual cost and analysis of variances may be broadly classified into four parts— such as –

- a) Material Cost Variances,
- b) Labour Cost Variances,
- c) Overhead Cost Variances, and
- d) Sales Variances.

Topic

Module 7:
Economics of
Maintenance
and Spares
Management

INTERMEDIATE

Group II - Paper-9

Operations
Management
and Strategic
Management
(OMSM)

Operations Management

In this issue we will discuss preliminaries on Economics of Maintenance.

The “Economics of Maintenance” refers to the study and management of the financial trade-offs between the costs of maintaining an asset and the costs associated with asset failure.

The primary goal is not simply to spend the least amount of money on maintenance, but to find the “sweet spot” where the total cost (maintenance + downtime/failure consequences) is minimized.

The following analysis breaks down the core components and the financial implications of different maintenance strategies.

1. The Core Cost Components

To understand maintenance economics, we must distinguish between the money we spend to fix things and the money we lose when things break.

A. Direct Maintenance Costs (The Investment)

These are the visible costs found in the maintenance budget.

- **Labor:** Wages for technicians, overtime pay, and training
- **Materials & Spares:** Replacement parts, lubricants, filters, and inventory storage costs.
- **Tools & Equipment:** Diagnostic software, wrenches, heavy lifting gear.
- **Contract Services:** Specialized external technicians for complex repairs.

B. Indirect Maintenance Costs (The Consequence)

These are often “hidden” costs, typically much higher than direct costs.

- **Production Losses (Downtime):** The revenue lost when a machine stops working.
- **Quality Defects:** Poorly maintained machines often produce off-spec or scrap products before they fail completely.
- **Safety & Liability:** Accidents caused by faulty equipment can lead to massive legal fees, compensation, and insurance hikes.
- **Energy Inefficiency:** A misaligned motor or dirty filter uses more electricity than a well-maintained one.
- **Asset Depreciation:** Neglected assets wear out faster, forcing expensive Capital Expenditure (CAPEX) replacements sooner than necessary

2. The Maintenance Optimization Curve

The central concept of maintenance economics is the Total Cost Curve. This models the trade-off between doing too little maintenance and doing too much.

- **The Cost of Maintenance (Linear/Rising):** As you increase preventive maintenance frequency, your direct costs (parts and labor) go up.

- **The Cost of Failure (Exponential Drop):** As you increase maintenance, the number of breakdowns drops drastically, reducing downtime costs.
- **The Total Cost Curve (U-Shape):** When we stack these two lines, we get a U-shaped curve.
 - **Zone 1 (Under-maintenance):** Low direct costs, but massive failure costs. Total cost is high.
 - **Zone 2 (Over-maintenance):** Zero failures, but you are spending excessive money fixing machines that aren’t broken. Total cost is high.
 - **The Optimum Point:** The bottom of the “U” is the economic ideal—the minimum total cost where the marginal cost of maintenance equals the marginal saving in failure costs.

3. Economic Analysis of Maintenance Strategies

Different strategies yield different economic profiles.

Strategy	Economic Profile	Best Used For
Run-to-Failure (Corrective)	Low Investment / High Risk. Zero upfront cost, but catastrophic failure costs (breakdowns always happen at the worst times).	Non-critical items (e.g., light bulbs, office chairs) where failure does not stop production.
Preventive Maintenance (PM)	Moderate Investment/ Moderate Risk. Costs are predictable. However, we often replace parts that still have useful life left (waste), which is an economic inefficiency.	Equipment with predictable wear patterns (e.g., changing oil every 5,000 miles).
Predictive Maintenance (PdM)	High Initial Investment / Lowest Total Life Cost. Requires expensive sensors (IoT) and software. However, it virtually eliminates unplanned downtime and ensures we use 100% of a part’s life.	Critical, high-value assets (e.g., turbines, main production line motors).

4. Life Cycle Costing (LCC)

Economics of maintenance is inseparable from the concept of Life Cycle Costing.

When purchasing an asset, the “Iceberg Principle” applies:

- **Acquisition Cost (The Tip):** The purchase price is often only 10-20% of the total cost of ownership.
- **Sustainment Cost (Below Water):** Maintenance, energy, and operation costs over 20 years make up 80-90% of the total expense.

Economic Insight: It is often economically superior to buy a more expensive machine that is “maintenance-friendly” (easy access to parts, high reliability) than a cheap machine that requires constant, expensive repairs.

5. Key Economic Metrics

To measure maintenance economics, organizations use:

- **RAV (Replacement Asset Value):** Maintenance cost is typically expressed as a percentage of RAV. World-class maintenance organizations spend about 2-3% of RAV annually.
- **OEE (Overall Equipment Effectiveness):** A composite score of Availability, Performance, and Quality. Improving OEE directly increases the return on capital assets.
- **Mean Time between Failures (MTBF):** Increasing this reduces the frequency of interference, lowering direct labor costs.

The economics of maintenance is the discipline of treating maintenance not as a “cost center” to be slashed, but as an investment in availability. The goal is to spend R1 on maintenance to save R5 in lost production and premature replacement.

To calculate the Optimum Maintenance Interval, we must determine the exact time when the risk of failure (and its high cost) begins to outweigh the cost of doing routine maintenance.

1. The Variables we need

Before calculating, you must gather four specific data points:

1. **Cost of Preventive Maintenance (C_p):** The total cost to service the machine before it breaks (Labor + Parts + Scheduled Downtime).
2. **Cost of Failure (C_f):** The total cost if the machine breaks unexpectedly (Emergency Labor + Parts + Lost Production).
 - Usually C_f is 3 times to 10 times higher than C_p .
3. **Shape Parameter (β or Beta):** This indicates how the machine fails.
 - $\beta < 1$: Infant Mortality (fails early). PM should not be done; it’s an installation issue.

- $\beta = 1$: Random Failure. PM does not help (e.g., electronic components).
- $\beta > 1$: Wear-out. The machine gets more likely to fail as it ages. PM is effective here.

4. **Characteristic Life (n or Eta):** The time at which 63.2% of the units will have failed (the average life span).

2. The Formula

The formula to find the optimum time (T_{opt}) to perform maintenance is:

$$T_{opt} = n \cdot \left(\frac{C_p}{C_f \cdot (\beta - 1)} \right)^{\frac{1}{\beta}}$$

What this tells us:

- If the Cost of Failure (C_f) is very high, the interval (T_{opt}) gets shorter (maintain more often to avoid the risk).
- If the Wear-out rate (β) is high (rapid degradation), the interval gets shorter.

3. A Practical Example

Let’s apply this to a conveyor belt motor in a packaging plant.

Step A:

- **C_p (Planned Service):** R500 (1 hour labor + new bearings).
- **C_f (Breakdown):** R4000 (4 hours lost production + emergency repair).
- **β (Wear Rate):** 2.5 (The bearings wear out over time).
- **n (Characteristic Life):** 10,000 hours (Based on historical failure data).

Step B:

$$T_{opt} = n \cdot \left(\frac{C_p}{C_f \cdot (\beta - 1)} \right)^{\frac{1}{\beta}} = 10000 \cdot \left(\frac{500}{4000 \cdot (2.5 - 1)} \right)^{\frac{1}{2.5}} \cong 3700 \text{ hrs}$$

Result: The Optimum Maintenance Interval is 3,700 hours.

Interpretation:

- If we maintain it every 2,000 hours, we are over-spending on maintenance labor (C_p).
- If we wait until 5,000 hours, the risk of the R4000 failure becomes mathematically too high compared to the savings.
- At 3,700 hours, we have hit the economic “sweet spot.”

4. What if we don’t have historical data? (The P-F Interval)

Many companies do not have enough failure data to calculate β or n. In that case, they use the P-F Interval.

- **P (Potential Failure):** The point where a detectable symptom appears (e.g., vibration increases, heat rises).
- **F (Functional Failure):** The point where the asset actually breaks.
- **The Rule of Thumb:** Set your inspection interval to half the P-F Interval.

Example: If a vibrating bearing usually runs for 2 weeks (P) before seizing up (F), we should inspect it every 1 week to ensure you catch it in time.

Preventive Maintenance (PM):

A maintenance strategy in which equipment is serviced or parts are replaced at fixed, predetermined time or usage intervals, regardless of the actual condition of the machine, to reduce the probability of failure.

Predictive Maintenance (PdM):

A maintenance strategy in which the actual condition of equipment is continuously or periodically monitored (using sensors, vibration analysis, temperature, oil analysis, etc.) and maintenance is performed only when indicators show an impending failure.

Comparison between Preventive Maintenance cost and Predictive Maintenance costs

Aspect	Preventive Maintenance (PM)	Predictive Maintenance (PdM)
Nature of cost	Fixed and periodic	Variable and condition-based
Inspection cost	Low (routine checks)	High (sensors, diagnostics)
Equipment cost	Minimal tools	High (sensors, software, analytics)
Labor cost	Moderate (scheduled manpower)	High (skilled specialists)
Breakdown cost	Medium (some failures still occur)	Very low (failures predicted in advance)
Spare parts cost	Higher (parts replaced early)	Lower (parts used till actual wear)
Downtime cost	Planned and moderate	Minimal and mostly unplanned avoided
Initial investment	Low	High
Long-term cost	Moderate	Low (after payback period)

Numerical Cost Illustration

Consider a machine operating for 1 year (12 months) in a manufacturing plant.

Case 1: Preventive Maintenance

Scheduled maintenance: once every month

Cost per preventive maintenance activity = R4000

Number of PM activities per year = 12

Annual Preventive Maintenance Cost:

$$\text{PM Cost} = 12 \times 4000 = ₹48000$$

Despite PM, unexpected breakdowns occur twice a year

Cost per breakdown (repair + downtime) = R15000

Annual Breakdown Cost:

$$2 \times 15000 = 30000$$

Total Annual Cost (Preventive Maintenance):

$$48000 + 30000 = 78000$$

Case 2: Predictive Maintenance

Condition-monitoring system (annualized cost of sensors + software) = R25000

Skilled diagnostic analysis (4 times a year) = R3000 per check

Monitoring & Analysis Cost:

$$4 \times 3000 = 12000$$

Maintenance carried out only once when deterioration is detected

Cost of corrective action = R10000

No major breakdowns occur

Total Annual Cost (Predictive Maintenance):

$$25000 + 12000 + 10000 = 47000$$

Preventive maintenance results in higher cost due to frequent servicing and residual breakdowns.

Predictive maintenance, though capital-intensive initially, minimizes breakdown and downtime costs, leading to lower total life-cycle cost.

Suggestions:

The study notes need to be read thoroughly. Supplementary readings could be made from other resources. The illustrations are just indicative type. Maximum benefits could be reaped once Guide book on the paper 9- Operations Management & Strategic Management written and issued by Institute on New Syllabus along with reference books are thoroughly consulted.

Best Wishes.

Topic

Module 5:
Accounting
Standards

Module 8:
Auditing of
Different Types of
Undertakings

INTERMEDIATE

Group II - Paper-10

Corporate
Accounting and
Auditing (CAA)

Section A: Corporate Accounting

Topic: Accounting Standards

• Multiple Choice Questions

1. The objective of Ind AS 33 is to prescribe principles for the determination and presentation of:
 - A. Net profit
 - B. Dividend per share
 - C. Earnings per share
 - D. Market price per share

Answer: C

2. Basic Earnings Per Share is calculated by dividing:
 - A. Net profit after tax by total number of shares issued
 - B. Profit attributable to equity shareholders by weighted average number of equity shares outstanding
 - C. Operating profit by number of equity shares
 - D. Net profit by issued share capital

Answer: B

3. While calculating Basic EPS, preference dividends are:
 - A. Ignored
 - B. Added back to profit
 - C. Deducted from profit after tax
 - D. Adjusted only if cumulative

Answer: C

4. Which of the following is included in the weighted average number of equity shares?
 - A. Shares issued for cash from the date of authorization
 - B. Shares issued as bonus from the date of issue
 - C. Shares outstanding during the period weighted by time
 - D. Shares proposed to be issued

Answer: C

5. Bonus shares are taken into account for EPS calculation:
 - A. From the date of issue
 - B. From the beginning of the current period only
 - C. Prospectively
 - D. Retrospectively for all periods presented

Answer: D

6. Diluted EPS considers the effect of:
 - A. Preference shares only
 - B. Potential equity shares that are dilutive
 - C. All potential equity shares, whether dilutive or anti-dilutive
 - D. Debentures only

Answer: B

7. Potential equity shares are considered dilutive when:
 - A. They increase EPS
 - B. They decrease EPS or increase loss per share
 - C. They have no impact on EPS
 - D. They convert into preference shares

Answer: B

8. Convertible debentures, while calculating diluted EPS, require adjustment to:
 - A. Sales revenue only
 - B. Equity share capital
 - C. Profit after tax for interest (net of tax)
 - D. Reserves and surplus

Answer: C

9. Ind AS 33 requires disclosure of EPS for:
 - A. All entities
 - B. Only listed entities
 - C. Entities whose equity shares are publicly traded or in process of issue
 - D. Only manufacturing entities

Answer: C

10. If an entity has a loss from continuing operations, diluted EPS should be:
 - A. Higher than basic EPS
 - B. Lower than basic EPS
 - C. Equal to basic EPS if potential shares are anti-dilutive
 - D. Not disclosed

Answer: C

Comprehensive Problems

1. From the following information provided by Apex Ltd. Calculate Basic EPS and Diluted EPS as per Ind AS 33:

Net profit for the year	₹12,50,00,000
No. of equity shares outstanding	2,50,00,000
No. of 12% Convertible Debentures of ₹100 each (Each debenture is convertible into 8 equity shares)	2,50,000
Interest expenses for the year	30,00,000
Tax rate	30%

Solution:

Calculation of Basic and Diluted EPS

Particulars	Basic EPS ₹	Diluted EPS ₹
Net Profit for the year	12,50,00,000	12,50,00,000
Adjustment for after tax interest expense on conversion of debenture [30,00,000 × (1 – 0.30)]	--	21,00,000
(A)	12,50,00,000	12,71,00,000
No. of Equity Shares outstanding	2,50,00,000	2,50,00,000
No. of potential equity shares (250000 × 8)		20,00,000
Weighted average no. of shares (B)	2,50,00,000	2,70,00,000
EPS (A/ B)	5.00	4.71

2. Bee Ltd. supplied the following information:

Net Profit for 2021-22 = ₹15,00,000

Net Profit for 2022-23 = ₹22,50,000

No. of shares prior to right issue = 10,00,000

Terms of right issue: 1 new share for every 4 shares held; right issue price = ₹30

Fair value of 1 ordinary share immediately prior to exercise of right = ₹36

Calculate basic EPS for 2021-22 and 2022-23 and restated EPS for 2021-22.

Solution:

Basic EPS for 2021-22 = 15,00,000/10,00,000 = ₹1.50

No. of rights shares issued = 10,00,000 × ¼ = 2,50,000

Theoretical Ex-right fair value = (Aggregate Market value of share immediately prior to the exercise of the rights + Proceeds from exercise of the rights)/ Number of shares outstanding immediately after the right issue

$$= (10,00,000 \times 36 + 2,50,000 \times 30) / (10,00,000 + 2,50,000) = ₹34.80$$

Right factor = Fair value per share immediately prior to right issue / Theoretical ex-right fair value per share = 36/34.80 = 1.03

Basic EPS for 2022-23 = 22,50,000 / (10,00,000 × 1.03 × 3/12 + 12,50,000 × 9/12) = ₹1.88

Restated EPS for 2021-22 = 15,00,000 / (10,00,000 × 1.03) = ₹1.46

Section B: Auditing

Topic: Auditing of Different Types of Undertakings

Question: Suggest the Audit Procedures for Hotel and Guest House

Answer: The Audit Procedures for Hotel and Guest House is suggested below:

1. Preliminary Review and Internal Control

At first, the auditor must obtain detail knowledge of the nature and scale of operations, number of rooms and occupancy capacity and tariff structure (room

rent, seasonal rates, packages)

He should also study the internal control system relating to room booking and check-in/check-out, billing and collection, stores and kitchen control, cash and bank handling, evaluate segregation of duties.

2. Verification of Income

(a) Room Rent / Accommodation Charges

The auditor should verify **guest register / room occupancy register** and check that room rent has been charged as per approved tariff. He shall also verify the bills raised with cash book and front-office system records. He shall check complimentary rooms and concessions with authorization and verify outstanding room rent and advance receipts.

(b) Food and Beverage (F&B) Income

The auditor must verify restaurant and bar sales through: Kitchen order tickets (KOT), Sales summaries and POS reports. Additionally, he needs to check daily sales reports with cash/credit card collections and verify credit sales and recoverability.

(c) Other Income

He needs to verify income from Laundry, Banquets and conferences, Mini-bar, Room service and ensure proper billing and recording.

3. Verification of Expenditure

(a) Provisions, Stores and Kitchen Expenses

The auditor needs to verify purchase invoices for Food items, Beverages, Consumables and check stores ledger and stock issue records. He should also compare consumption with Number of guests and F&B sales. Also, the auditor needs to check for wastage and pilferage controls.

(b) Wages and Salaries

The auditor must verify salary and wage records of Hotel staff, Kitchen staff, Housekeeping and security. Also, he needs to check attendance records and wage calculations and verify payments through bank or authorized cash payments.

(c) Repairs and Maintenance

The auditor must verify bills relating to Rooms and furniture, Electrical and plumbing work and ensure that expenses are authorized and reasonable.

(d) Utilities and Other Expenses

The auditor shall verify electricity, water, gas and telephone bills and check allocation of expenses where common facilities exist.

4. Cash, Bank and Credit Card Collections

The auditor shall verify daily cash collection reports and check timely deposit of cash into bank. He shall verify bank reconciliation statements and check settlement of credit card receipts.

5. Verification of Fixed Assets

The auditor must examine fixed asset register for Furniture and fittings, Kitchen equipment, Air-conditioning and electrical equipment. He shall physically verify major assets and also verify depreciation and capitalization policies.

6. Stock Verification

The auditor must verify stock of Provisions, Beverages, Linen and room supplies and shall also check stock records with physical stock.

7. Liabilities and Provisions

The auditor should verify outstanding expenses and creditors. He needs to check provisions for Staff benefits, Repairs and maintenance and obtain confirmations from major suppliers.

8. Statutory and Legal Compliance

the auditor needs to verify compliance with GST laws, Labour laws, Municipal and tourism department regulations and check validity of licenses and permits.

9. Analytical Review

The auditor shall compare Occupancy ratio, Average room rate, Food cost percentage and investigate abnormal variations.

10. Audit Report and Conclusion

The auditor shall ensure that income is completely recorded and shall confirm expenses are genuine and properly authorized. He should also report weaknesses in internal control and suggest improvements.

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

Irrelevance Theory of Dividend: MM Hypothesis

This theory was proposed by Franco Modigliani and Merton Miller in 1961. MM approach is in support of the irrelevance of dividends i.e. firm's dividend policy has no effect on either the price of a firm's stock or its cost of capital.

According to MM Hypothesis:

- Market value of equity shares of a firm depends solely on its earning power and is not influenced by the manner in which its earnings are split between dividends and retained earnings.
- Market value of equity shares is not affected by dividend size.
- Under MM hypothesis there is no meaningful distinction between dividend and share repurchases. They both are ways for a company to return cash to shareholders.

Assumptions of MM hypothesis of irrelevance of dividends:

- Perfect capital markets:** Perfect capital markets in which all investors are rational. Information is available to all free of cost, there are no transactions costs; securities are infinitely divisible; no investor is large enough to influence the market price of securities; there are no flotation costs.
- No Taxes:** There are no taxes or no tax discrimination between dividend income and capital appreciation (capital gain). Alternatively, there are no differences in tax rates applicable to capital gains and dividends.
- Fixed investment policy:** A firm has a given investment policy which does not change. The operational implication of this assumption is that financing of new investments out of retained earnings will not change the business risk complexion of the firm and, therefore, there would be no change in the required rate of return.
- Risk of uncertainty does not exist:** Investors are able to forecast future prices and dividend with certainty and one discount rate is appropriate for all securities and all time periods.

MM hypothesis is primarily based on the arbitrage argument.

Arbitrage implies the distribution of earnings to shareholders and raising an equal amount externally; the effect of dividend payment would be offset by the effect of raising additional funds.

Through the arbitrage process, MM hypothesis discusses how the value of the firm remains same whether the firm pays dividend or not.

According to the MM Model the market price of a share after dividend declared is calculated by applying the following formula:

$$\text{Present price of share } (P_0) = \frac{(P_1 + D_1)}{1 + K_e}$$

Where:

- P_0 = Current market price per share
- D_1 = Expected dividend per share at the end of period 1
- P_1 = Expected market price per share at the end of period 1
- k_e = Cost of equity capital (or required rate of return)

Assuming no external financing and the current market value of Firm under MM Dividend Irrelevance Model would be:

$$nP_0 = \frac{(m+n)P_1 + X_1 - I_1}{1 + K_e}$$

n = Number of shares outstanding at the beginning of the period

m = Number of shares to be issued

P_1 = Number of shares issued at the end of the year/period

P_0 = Market price per share at the beginning of the year/period

I_1 = Investment at the end of the year/period

X_1 = Net earnings after tax for the year/period

k_e = Cost of equity

Example 1

PQR Ltd. has a capital of ₹10,00,000 in equity shares of ₹100 each. The shares are currently quoted at par. The company proposes to declare a dividend of ₹10 per share at the end of the current financial year. The capitalization rate for the risk class of which the company belongs is 12%. COMPUTE market price of the share at the end of the year, if

- dividend is not declared
- dividend is declared

Assuming that the company pays the dividend and has net profits of ₹5,00,000 and makes new investments of ₹10,00,000 during the period, find out the number of new shares to be issued by using MM model.

Answer

Cost of Equity (Ke)	12%
Number of shares in the beginning (n)	10,000
Current Market Price (P0)	₹ 100
Net Profit (E)	₹ 5,00,000
Expected Dividend (D1)	₹ 10 per share
Investment (I)	₹10,00,000

(i) When no dividend is declared:

$$\text{Present price of share } (P_0) = \frac{(P_1 + D_1)}{1 + K_e}$$

Where,

P_0 is the prevailing market price

k_e is the cost of equity capital

D_1 is the dividend to be received at the end of period one

P_1 is the market price at the end of period one

Hence,

$$100 = \frac{(P_1 + 0)}{1 + 1.12}$$

$$\text{Or, } P_1 = 112 - 0 = ₹112$$

(ii) When dividend is declared:

$$100 = \frac{(P_1 + 10)}{1 + 1.12}$$

$$\text{Or } P_1 = 112 - 10 = ₹102$$

Calculation of number of shares required for investment

	₹
Earning	5,00,000
Dividend distributed	1,00,000
Fund available for investment	4,00,000
Total Investment	10,00,000
Balance Funds required	10,00,000 - 4,00,000 = 6,00,000

$$\text{No. of Shares} = \frac{\text{Funds required}}{\text{Price at end (P1)}} = \frac{₹6,00,000}{102} = 5,882.35 \text{ or } 5,883 \text{ Shares}$$

Example 2

Shares of ZOLTA Ltd. are Quoted at ₹ 500 at the beginning of the year. It has a capital expenditure of ₹ 300 crores at the year end. The cost of equity is 15% and 3 crores shares are outstanding.

Ascertain the value of the firm at the beginning of the year if the anticipated profit for the next year is ₹ 280 crores and at that time the company declares:

- (i) No dividend
- (ii) ₹12 per share as dividend
- (iii) ₹30 per share as dividend

You are requested to use MM Model.

Answer:

- Number of shares outstanding at the beginning of the period (n) = 3 crores shares
- Number of shares issued at the end of the year at (P₁) = ?
- Market price per share at the beginning of the year/period i.e. at Time (P₀) = ₹500
- Market price per share at the end of the year/period i.e. at Time (P₁) = ?
- Dividend per share at the end of the year/period (D₁) = 0/₹12/₹30
- Investment at the end of the year/period (I₁) = ₹300 crores
- Net earnings after tax for the year/period (X₁) = ₹280 crores
- Cost of equity (K_e) = 15%

Current value of the market of the firm

- = Number of shares outstanding at the beginning of the period (n) × Market price per share(P₀)
- = 3 crores shares × ₹500 per share
- = ₹1,500 crores.

Value of Firm under MM Dividend Irrelevance Model

$$nP_0 = \frac{(m+n)P_1 + X_1 - I_1}{1 + K}$$

If Dividend Paid (D ₁)	Nil	₹12	₹30
Investment (I ₁)	₹300 Cr.	₹300 Cr.	₹300 Cr.
Earnings (X ₁)	₹280 Cr.	₹280 Cr.	₹280 Cr.
Less: Dividend Outgo (nD ₁)	3 Cr. × Nil = 0	3 Cr. × ₹12 = ₹36 Cr.	3 Cr. × ₹30 = ₹90 Cr.
Retained Earnings (X ₁)-(nD ₁)=[A]	₹280 Cr.	₹244 Cr.	₹190 Cr.
Further equity to be raised (I ₁)-[A]	₹20 Cr.	₹56 Cr.	₹110 Cr.
Price at year end [P ₁] [P ₀ × (1+K _e) – D ₁]	[500 × (1+0.15) – 0 = ₹575]	[500 × (1+0.15) – 12 = ₹563]	[500 × (1+0.15) – 30 = ₹545]
Number of shares to be issued [m] = mP ₁ /P ₁	₹20 Cr./₹575 = 3,47,826	₹56 Cr. / ₹563 = 9,94,671	₹110 Cr. / ₹545 = 20,18,349
Total No. of shares (m + n)	3,03,47,826	3,09,94,671	3,20,18,349

Value of Firm under MM Model

If dividend paid	Computation of Value	Firm Value
Nil	$\frac{(3,03,47,826 \times ₹575) - 300 \text{ cr} + 280 \text{ cr}}{1 + 0.15} = ₹1725\text{Cr}/1.15$	₹1,500 Cr.
₹12	$\frac{(3,09,94,671 \times ₹563) - 300 \text{ cr} + 280 \text{ cr}}{1 + 0.15} = ₹1725\text{Cr}/1.15$	₹1,500 Cr.
₹30	$\frac{(3,20,18,349 \times ₹545) - 300 \text{ cr} + 280 \text{ cr}}{1 + 0.15} = ₹1725\text{Cr}/1.15$	₹1,500 Cr.

DATA ANALYTICS

DATA PRESENTATION: VISUALISATION AND GRAPHICAL PRESENTATION

DATA PRESENTATION ARCHITECTURE (DPA)

Meaning of Data presentation architecture DPA

Data presentation architecture (DPA) is a set of skills that aims to identify, locate, modify, format, and present data in a manner that ideally conveys meaning and provides insight. According to Kelly Lauth, “data Presentation Architecture (DPA) is a rarely applied skill set critical for the success and value of Business Intelligence. It acts as a bridge between technical data management and the final communication of insights.

Objectives Data Presentation Architecture (DPA)

- (i) **Effectiveness:** It is a most efficient method feasible to provide pertinent, timely and comprehensive data to each audience participant in a clear and reasonable manner that conveys important meaning, is actionable and can affect understanding, behaviour and decisions.
- (ii) **Efficiency:** It delivers information in a feasible manner to minimise noise, complexity, and unneeded data or detail based on the demands and tasks of each audience.

Components of Data Presentation Architecture (DPA)

DPA consists of several interdependent layers that govern how data is prepared for and presented to users:

- (i) **Data Sources:** Identifying and retrieving raw data from databases, warehouses, or APIs.
- (ii) **Data Transformation:** Processing raw data through cleaning, aggregation, filtering, or normalization to make it suitable for presentation.

- (iii) **Visualization Techniques:** Selecting appropriate methods (e.g., bar charts, heatmaps, scatter plots) to represent data in a visually understandable format.

- (iv) **User Interface (UI) & Experience (UX):** Designing the visual layer and interaction pathways to ensure the presentation is intuitive, accessible, and responsive across devices.

Scope of Data Presentation Architecture (DPA)

- (i) **Defining Meaning:** Identifying the specific information and “relevant knowledge” required by different audience members for various scenarios.

- (ii) **Data Acquisition:** Obtaining the proper data (focus area, historic reach, extensiveness, level of detail, etc.)

- (iii) **Currency and Refresh Rate:** Determining how frequently the data must be updated to remain useful (data currency).

- (iv) **Optimal Timing:** Determining the optimal presentation moment (the frequency of the user needs to view the data)

- (v) **Format Selection:** Choosing the most effective analysis, categorization, and visualization styles to convey meaning clearly.

- (vi) **Delivery Mechanisms:** Developing appropriate delivery techniques for each audience member based on their job, duties, locations, and technological access.

Topic

Module 9:
Responsibility
Accounting

Module 10:
Decision Theory

INTERMEDIATE

Group II - Paper-12

Management Accounting (MA)

Module 10: 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):

- Decision theory primarily deals with:
 - Accounting standards
 - Human behaviour only
 - Choice among alternatives under different conditions
 - Cost control techniques
- In decision theory, alternatives available to a decision maker are called:
 - Outcomes
 - Payoffs
 - Acts
 - Events
- States of nature refer to:
 - Decisions taken by management
 - Possible future events beyond control
 - Internal company policies
 - Profit outcomes only
- Decision making under certainty assumes:
 - Probabilities are unknown
 - Future outcomes are unpredictable
 - Only one state of nature exists
 - Risk is unavoidable

5. A payoff matrix presents payoffs in terms of:
 - A. Market share
 - B. Net benefit or loss
 - C. Probability only
 - D. Qualitative judgement
6. Decision making under risk differs from uncertainty because risk:
 - A. Cannot be measured
 - B. Has no alternatives
 - C. Allows probability assignment
 - D. Is uncontrollable
7. Objective probabilities are based on:
 - A. Personal judgement
 - B. Intuition
 - C. Statistical or mathematical evidence
 - D. Managerial bias
8. Subjective probabilities are mainly derived from:
 - A. Dice outcomes
 - B. Historical records
 - C. Managerial experience
 - D. Mathematical symmetry
9. Expected value can be calculated only for:
 - A. Continuous distributions
 - B. Discrete probability distributions
 - C. Qualitative data
 - D. Uncertain environments only
10. Under the expected value criterion, the best alternative is one with:
 - A. Maximum risk
 - B. Minimum probability
 - C. Highest expected payoff
 - D. Lowest standard deviation
11. Variance measures:
 - A. Central tendency
 - B. Expected return
 - C. Dispersion around the mean
 - D. Market value
12. Coefficient of variation is used to compare:
 - A. Absolute returns
 - B. Risk relative to return
 - C. Market prices
 - D. Cash flows only

13. A higher coefficient of variation indicates:
 - A. Lower risk
 - B. Greater certainty\
 - C. Higher relative risk
 - D. Lower dispersion
14. The Laplace criterion assumes:
 - A. Unequal probabilities
 - B. Worst-case scenario
 - C. Equal likelihood of states
 - D. Perfect information

Answer

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

Fill in the blanks

1. Decision theory is also known as the theory of _____.
2. Expected value is a _____ average of possible outcomes.
3. Standard deviation is expressed in the same _____ as the data.
4. Under uncertainty, probability distribution is _____.
5. The Hurwicz criterion uses an index of _____.

Answer

1. Choice
2. Weighted
3. Units
4. unknown
5. optimism

State True or False

1. Decision making under certainty involves multiple states of nature.
2. Risk and uncertainty are identical concepts in decision theory.
3. Expected value ignores probabilities.
4. Standard deviation is a measure of risk.
5. Objective probabilities are derived from historical data.

Answer

1	2	3	4	5
F	F	F	T	T

Module 9: Responsibility Accounting

Overview of Responsibility Accounting

Responsibility accounting is a managerial approach which links organizational structure with financial accountability. It is a management control system designed to assign and evaluate performance by dividing an organization into distinct segments, each with specific responsibilities. This approach delegates authority to individuals or departments, holding them accountable for their respective areas. Organization divided into *cost centres*, *revenue centres*, *profit centres*, and *investment centres*, each with assigned budgets. Managers are assessed based on their ability to achieve or surpass these budgeted targets.

This system strengthens managerial discipline by ensuring decentralization of decision-making, promoting more effective and efficient management practices. It also emphasizes the importance of regular communication and feedback to ensure alignment with organizational goals. Despite its benefits, such as fostering goal alignment and efficient resource management, responsibility accounting can lead to sub-optimization, where individual goals may conflict with overall organizational objectives. Responsibility accounting serves as a crucial tool for performance measurement and control within organizations.

Role of Responsibility Accounting

Responsibility accounting performs several essential managerial control functions that help guide organizational performance. It is a systematic management process that includes:

- 1. Formulation of Plans:** Managers set objectives through budgets and performance standards. Decision making authorities clearly convey the expectations.
- 2. Collection of Data:** The actual operating results are systematically gathered and recorded. They are organized according to the planned framework for each responsibility unit.
- 3. Analysis of Variances:** The planned outcomes are compared with actual performance. Responsibility reports draw attention to deviations, which enables timely managerial intervention.
- 4. Managerial Action:** Significant variances are identified and examined to determine underlying causes, and appropriate corrective measures are taken.

Senior management uses these reports to evaluate and monitor operational efficiency.

- 5. Continuous Evaluation and Adjustment:** The system ensures continuous performance review through repeated comparisons, regular analysis and feedback for corrections. This promotes sustained alignment with organizational goals.

Fundamental Assumptions of Responsibility Accounting

Responsibility accounting is built upon a set of underlying assumptions that ensure its effective operations. The assumptions are:

- 1. Organizational functions are clearly segmented.** Each segment is placed under the accountability of a designated manager.
- 2. Managers are evaluated only on those costs, revenues or outcomes over which they exercise meaningful influence.**
- 3. Managers actively participate in the formulation of objectives and budget targets used for performance assessment.**
- 4. Performance targets for each responsibility unit are set at achievable levels, assuming efficient and competent management.**
- 5. Performance and control report present relevant, material, and responsibility-specific information to facilitate decision-making.**
- 6. Managers are motivated to achieve or surpass the budgeted standards and goals assigned to their areas of responsibility.**

Responsibility Centres

A responsibility centre refers to a clearly identifiable segment of an organization, which is placed under the supervision of a manager who is answerable for its results. Such centres form the operational basis of responsibility accounting. These are broadly categorized into four types:

- 1. Cost centre:** These units emphasize the regulation and reduction of costs. Managers are responsible for controlling expenditures while ensuring that the required level of output or service quality is maintained.

2. **Revenue centre:** These centres focus primarily on revenue generation. Managers design and execute strategies aimed at increasing sales volume and improving revenue performance with their assigned volume.
3. **Profit centre:** Profit centre integrate responsibility for both revenues and costs. Managers are accountable for the net financial outcome. This ensures that operations result in satisfactory profitability.
4. **Investment centre:** These centres cover revenue, costs and the effective use of invested capital. Managerial performance is assessed using measures such as return on investments (ROI) and the efficiency of asset utilization.

Procedure for Preparing a Responsibility Report

A responsibility report assesses the effectiveness of a responsibility Centre by comparing actual outcomes with predetermined budgetary standards. The preparation process involves the following stages:

1. **Identification of the Responsibility Unit:** Clearly define the department or segment whose performance is to be assessed.
2. **Compilation of Actual Results:** In this step, all the actual and accurate data reflecting the operational performance are collected.
3. **Alignment with Budget Headings:** Arrange the collected data according to the relevant classifications of the budget to enable meaningful comparisons.
4. **Preparation of the Performance Statement:** The budgeted figures are presented alongside the actual results in a clear and systematic manner.
5. **Detection of Variations:** The variations between the actual and planned figures are identified and are classified as favorable or unfavorable.
6. **Analysis of Variances:** The significant variances are examined and the reasons for such variances are explained.
7. **Communication of the Report:** The report is circulated to the managers and other concerned authorities for review and action.
8. **Assessment of Managerial Effectiveness:** Managerial performance is evaluated based on the insights provided by the management experts.

9. **Discussion and Feedback:** Interaction and explanation for improvement of operational practices are encouraged.

10. **Continuous Improvement:** Use the conclusions drawn from the report to guide corrective actions and improve further results.

This systematic process reinforces accountability and enhances managerial decision-making and supports ongoing organizational improvement.

Multiple Choice Questions (MCQs):

1. The main objective of responsibility accounting is to:
 - a) Centralize decision-making authority
 - b) Link organizational structure with performance accountability
 - c) Eliminate budgeting processes
 - d) Focus solely on financial accounting
2. Organizations are divided into segments mainly to:
 - a) Reduce the number of employees
 - b) Assign uniform responsibilities to all departments
 - c) Delegate authority and fix accountability for performance
 - d) Prepare statutory financial statements
3. Identify which of the following is not a type of Responsibility Centre.
 - a) Cost centre
 - b) Revenue centre
 - c) Production centre
 - d) Investment centre
4. Which one of the following is a major limitation of responsibility accounting
 - a) Preventing managerial control
 - b) Discourage budgeting
 - c) Lead to sub-optimization of organizational goals
 - d) Eliminate performance measurement

5. The main role of responsibility accounting in management is to:
 - a) Prepare statutory financial statements
 - b) Guide and control organizational performance
 - c) Eliminate deviations in advance
 - d) Centralize operational decisions
6. Comparison between planned and actual results is undertaken to:
 - a) Fix responsibility for failures
 - b) Prepare final accounts
 - c) Identify variances
 - d) Eliminate the need for feedback
7. Continuous evaluation in responsibility accounting helps in:
 - a) Reducing the need for planning
 - b) Avoiding communication among managers
 - c) Eliminating budgeting procedures
 - d) Maintaining alignment with organizational objectives
8. Which of the following situations most clearly violates a core assumptions of responsibility accounting?
 - a) A manager participates in setting budgetary targets
 - b) A manager is held accountable for corporate advertising expenses decided at office
 - c) A manager is evaluated on costs directly controlled by the department
 - d) A responsibility report highlights only material deviations
9. A department manager is responsible for maintaining service quality, while minimizing the expenditure, but has no authority over price or sales volume. The department is classified as:
 - a) Revenue centre
 - b) Profit centre
 - c) Cost centre
 - d) Investment centre
10. Which performance measure is most appropriate for evaluating a manager who has authority over revenues, cost and capital employed:
 - a) Contribution margin
 - b) Operating cost variance
 - c) Return on investment
 - d) Sales volume variance
11. In the preparation of a responsibility report, which step ensures that comparisons between actual and planned performance are meaningful and accurate?
 - a) Alignment with budget headings
 - b) Detection of variances
 - c) Compilation of actual results
 - d) Communication of the report
12. The managers strive to meet or exceed budgeted targets. Which of the following assumption reflects the statement?
 - a) Technical nature of accounting systems
 - b) Behavioral motivation underlying responsibility accounting
 - c) Legal requirement of managerial reporting
 - d) Centralization of managerial authority

Answers

1. b)
2. c)
3. c)
4. c)
5. b)
6. c)
7. d)
8. b)
9. c)
10. c)
11. a)
12. b)

Fill in the blanks

1. Responsibility accounting links the organizational structure with financial _____.
2. Managers in responsibility accounting are evaluated only for costs and revenues that are _____ by them.
3. A responsibility centre that is accountable for both revenues and costs is known as a _____ centre.
4. The comparison of actual performance with budgeted standards in a responsibility report helps in identifying _____.
5. Continuous evaluation and feedback under responsibility accounting support ongoing organizational _____.

Answers

1. Responsibility
2. Control
3. Cost
4. Investment
5. Actual

State True or False

1. Responsibility accounting evaluates managers for results over which they have control.
2. A revenue centre is responsible for both cost minimization and profit maximization.
3. Responsibility reports compare actual performance with budgeted standards.
4. Return on Investment is commonly used to assess the performance of cost centers.
5. Continuous feedback and comparison are essential features of responsibility accounting.

Answers

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

CMA FINAL COURSE

Syllabus 2022

Topic

Module 3 :
Corporate
Governance, Social
Responsibility and
Sustainability

FINAL

Group III - Paper-13

Corporate and
Economic Laws
(CEL)

Funding and Monitoring of CSR activities

Money being a scarce resource, should always be spent ethically. Use of money is diminished if the purpose for spending is not achieved. With the New Companies Act, spending money on CSR is mandatory for some categories of companies. The portion of profit which is to be spent on CSR is a hard earned money for the company.

The CSR expenditures of companies have and are still supplementing social welfare and upliftment projects of the Govt. However, CSR spending by corporates cannot be and should not be compared to the Govt. expenditure on social welfare, which is a Govt. function. Whereas Govt's primary target is social development, the purpose of corporate is to enhance shareholders' value. However, with broader definition of stakeholder, society also is included. Primary target of the company is to make sustained profit to exist and grow. This is neither wrong or unethical.

The question often arise, are the CSR funds really used for the purpose it has been allotted. Here we talk of ethical spending. Corporates need to examine, deliberate and decide on CSR spending considering few issues, which are discussed in the article.

Due diligence, though very common nowadays, has a good amount of ethics embedded in it. Expenditure decision not based on facts and proper analysis is always unethical. Financial prudence is more relevant to operational managers than finance managers as it is the former who takes operational decisions, implements and monitors.

Decide the budget early

The minimum budget is already decided by the Companies Act itself, i.e. 2% of the average net profit of previous three years of the company, Companies can spend more or spend even when profit are less or spending is not mandatory under the law.

It is advised to fix the budget early based on provisional financial figures. Waiting for an audited accounts and getting the accounts approved in AGM would eat away half of the year. Fixing early budget will enable the company to identify project or start implementation early in the year.

Decide the thrust area and geographical area

Normal prudence suggest that company should take up projects which are geographically near and easily approachable for better monitoring. The area like healthcare, education, sanitation etc. has also to be decided.

The above are now being taken care of by regulation which mandates preparing an annual action plan at the opening of the year.

Designated officer to deal with financial aspects

In many companies, CSR job remains to be a causal job for the Finance Deptt and the finance officer who is free for the time being is associated the job. Suggestion here is to identify a person or persons to look after financial issues for a considerable time, exclusively for CST related finance and accounts job. This will enhance his skills, knowledge which would benefit the company in ethical CSR spending.

Take benefits allowed under income Tax law

Contributions to organisations having 80G, 35AC should be taken to reduce tax liability of the company.

Financing of the same project by others

It is very common for NGOs / implementing agencies to try for funds from multiple sources for the same project. This needs to be checked. To start with, an affidavit be taken that no fund for the project has been taken /shall be taken from any other source.

Joint Financing

There are projects which are big and one company alone may not be in position to finance. Here the project can be taken jointly by the sponsors and the modalities can be mutually agreed. If company pays and the other do not, then the money, even kept in the bank with honest intention, will not be of any use or the project may be half done. Suggestion here is in such case, all financing companies should sit together and decide the modalities.

Start implementation early

It has been observed that in the last quarter, companies are in a hurry to fulfil the budget target of CSR. This gives lesser time for proper due diligence, evaluation and monitoring. Focus shifts to spending money within the year end than to see the proper use of money. So start early in the year.

Follow systems and procedure

This is regardless of the size of the company. Having a standard Operational Procedure(SOP) in CSR would help to be ethical in selecting. Evaluating and implementing effective projects. This would promote good governance and transparency, which gain is basics of ethical financial management.

Primary selection and evaluation of projects

Most important of all, it would help to decide to take up or not to take up. There are various evaluation parameters which may be taken. Positive Evaluation of that the project should ensure that it is viable. i.e. possible to implement, can be monitored, accruing benefits to the society etc.

Project implementation monitoring

If the expenditure is substantial, the project should be monitored while the work is in progress. Deviation is common feature in CSR projects. money should strictly be spent for the purpose for which it is given. This has to be done both by visiting the site and examining documents.

Post implementation maintenance of the project

There are instances where huge infrastructure have been funded by some company, or any individual philanthropist but it is either not maintained or not in use. Sometimes there is nobody to take care or there is no money to maintain. These issues should be clarified with the agency/ beneficiary, otherwise, the whole expenditure shall be blocked without any use.

Project impact analysis

The ultimate of all expenses under CSR should have impact on the targeted beneficiary. In most of the cases, companies don't bother for impact analysis. The reason behind may be that by the time projects of one year reaches the beneficiaries or are complete, company is looking for new projects to fulfil target of the current year. Other valid reason is poor manpower in CSR wing or cell or department, where people are more bothered of the present issues problem than the effectiveness of past projects.

Satisfying the Auditor

Few of the above thoughts, if addressed, would go a long way for better governance, ethical spending and audit satisfaction. Documentation would be necessary at every step. However, CSR activities do not end with the satisfaction of Auditors. It is something more. It is giving to society more than what is taken from the society.

Role of CSR committee, Audit Committee and The Board of Directors.

To recapitulate, the following table highlights common lapses and suggested solutions for ethical CSR spending.

	Common oversights	Suggested solution
1	Decide late on budget	Fix tentative budget based on provisional profit figures of the immediately closed year
2	Making ad hoc donation	Make project based spending.
3	Diversify areas	Collect one / two thrust area, education, health care etc.
4	No specifically designated officer	Designate a fixed person for some time
5	No proper due diligence/ evaluation	Make proper due diligence/ evaluation of the project
6	No monitoring during implementation	Proper monitoring including visit at the site
7	Never monitoring the ultimate impact	Make impact assessment study for ultimate effect on beneficiaries
8	Satisfy the auditor and be happy	Satisfying do not the end. It should address the issue for which money has been spent.
9	No proper documentation	Keep records for all major/ minor actions.
10	To information on status to top management.	Always keep top management (Board/CEO/Director-Finance) about the progress and problems.

Conclusion

CSR expenditure is highly critical and controversial. Criticism starts at the level of the person sitting next to the dealing officer on CSR and ends with CAG. In between are operational managers, rival NGOS and implementing agencies, the beneficiaries etc. There may be truth in any or all the allegations. None the less, the dealing officer will not have any problem if above issues are addressed properly,

Topic

Module 8:
Portfolio Theory
and Practice

Module 9:
Asset Pricing
Theories

FINAL

Group III - Paper-14

Strategic Financial
Management (SFM)

Topic: Portfolio Theory and Arbitrage Pricing Theory

• Multiple Choice Questions

1. According to Modern Portfolio Theory, the risk of a portfolio depends primarily on:
 - A. Weighted average of individual asset risks
 - B. Correlation among asset returns
 - C. Number of securities in the portfolio
 - D. Market capitalization of securities

Answer: Correlation among asset returns

2. Which of the following combinations of assets will provide the maximum diversification benefit?
 - A. Assets with high positive correlation
 - B. Assets with zero correlation
 - C. Assets with perfect negative correlation
 - D. Assets with identical expected return

Answer: Assets with perfect negative correlation

3. The efficient frontier represents portfolios that:
 - A. Maximize return for a given level of total risk
 - B. Minimize systematic risk only
 - C. Provide the highest beta
 - D. Lie above the Capital Market Line

Answer: Maximize return for a given level of total risk

4. If two assets have a correlation coefficient of +1, the portfolio risk will be:
 - A. Less than the weighted average of individual risks
 - B. Equal to the weighted average of individual risks
 - C. Greater than individual asset risk
 - D. Zero

Answer: Equal to the weighted average of individual risks

5. Unsystematic risk can be eliminated by:
 - A. Increasing beta
 - B. Investing in risk-free securities
 - C. Holding a well-diversified portfolio
 - D. Choosing assets with high expected returns

Answer: Holding a well-diversified portfolio

6. The Capital Market Line (CML) differs from the Security Market Line (SML) because:
 - A. CML uses beta, while SML uses standard deviation
 - B. CML applies only to efficient portfolios
 - C. SML applies only to risk-free assets
 - D. CML ignores market portfolio

Answer: CML applies only to efficient portfolios

7. Which risk measure is relevant for an investor holding a fully diversified portfolio?
 - A. Total risk
 - B. Standard deviation
 - C. Systematic risk
 - D. Unsystematic risk

Answer: Systematic risk

8. The tangency portfolio on the efficient frontier is the one that:
 - A. Has minimum variance
 - B. Lies closest to the origin
 - C. Maximizes the Sharpe ratio
 - D. Has zero beta

Answer: Maximizes the Sharpe ratio

9. Arbitrage Pricing Theory assumes that asset returns are influenced by:
 - A. Only market risk
 - B. One systematic factor
 - C. Multiple macroeconomic factors
 - D. Firm-specific factors only

Answer: Multiple macroeconomic factors

10. Which of the following is NOT an assumption of APT?
 - A. No arbitrage opportunities exist
 - B. Investors are rational
 - C. Asset returns are linearly related to factors
 - D. Market portfolio is mean-variance efficient

Answer: Market portfolio is mean-variance efficient

11. In the APT framework, the expected return on a security is determined by:
 - A. Risk-free rate and beta only

- B. Risk-free rate plus factor risk premiums
- C. Dividend yield and growth rate
- D. Covariance with market portfolio

Answer: Risk-free rate plus factor risk premiums

12. If a security is mispriced according to APT, arbitrage will result in:

- A. Increased unsystematic risk
- B. Price adjustments eliminating mispricing
- C. Higher factor sensitivity
- D. Elimination of systematic risk

Answer: Price adjustments eliminating mispricing

13. Which of the following is a key advantage of APT over CAPM?

- A. It requires fewer assumptions
- B. It identifies the market portfolio explicitly
- C. It ignores systematic risk
- D. It works only for diversified portfolios

Answer: It requires fewer assumptions

14. Which of the following could be an APT factor?

- A. Inflation rate
- B. Firm-specific management quality
- C. Dividend payout ratio
- D. Accounting policy changes

Answer: Inflation rate

15. APT is most useful when:

- A. Only one risk factor drives returns
- B. Market portfolio is observable
- C. Multiple sources of systematic risk exist
- D. Investors are risk neutral

Answer: Multiple sources of systematic risk exist

16. If the correlation coefficient between two risky assets is -0.6 , then compared to holding either asset alone, a two-asset portfolio will:

- A. Eliminate all systematic risk
- B. Always have zero variance
- C. Have lower risk than a perfectly positively correlated portfolio
- D. Have higher risk than both individual assets

Answer: Have lower risk than a perfectly positively correlated portfolio

17. Which of the following statements about the minimum variance portfolio is correct?

- A. It provides the maximum expected return
- B. It lies at the tangency point with the Capital Market Line
- C. It has the lowest possible portfolio risk among all combinations
- D. It consists only of risk-free securities

Answer: It has the lowest possible portfolio risk among all combinations

18. In the context of Modern Portfolio Theory, the slope of the Capital Market Line (CML) represents:

- A. Market beta
- B. Risk premium per unit of total risk
- C. Expected return of the market portfolio
- D. Correlation between portfolio and market

Answer: Risk premium per unit of total risk

19. According to Arbitrage Pricing Theory, if two securities have identical factor sensitivities, they should:

- A. Have the same expected return
- B. Have the same total risk
- C. Have the same beta
- D. Be equally diversified

Answer: Have the same expected return

20. Which of the following best explains the arbitrage mechanism in APT?

- A. Investors adjust portfolios to minimize variance
- B. Mispriced assets are traded until expected returns align with risk
- C. Market portfolio enforces equilibrium
- D. Risk-free asset eliminates systematic risk

Answer: Mispriced assets are traded until expected returns align with risk

• Concept of Minimum Variance Portfolio

A minimum variance portfolio (MVP) is the portfolio of risky assets that achieves the lowest possible total risk, measured by variance or standard deviation, among all feasible asset combinations. It is derived using Modern Portfolio Theory by optimally weighting assets based on their individual risks and the correlations between their returns. The MVP does not necessarily offer the highest expected return; instead, it focuses purely on

risk minimization. Its position depends critically on covariance and correlation, so even high-risk assets can be included if they contribute to overall risk reduction through diversification. On the efficient frontier, the MVP lies at the left-most point, representing the portfolio with the minimum risk. Portfolios above the MVP on the frontier are considered mean–variance efficient, offering higher expected returns for higher risk. The minimum variance portfolio is particularly useful for highly risk-averse investors and as a reference point in portfolio construction and performance evaluation.

Consider the following illustration.

Problem 1:

Optimal Two-Asset Risky Portfolio & Efficient Frontier

An investor is considering forming a portfolio using **Asset X** and **Asset Y** with the following characteristics:

Particulars	Asset X	Asset Y
Expected return	14%	10%
Standard deviation	20%	12%
Correlation coefficient (ρ_{XY})	0.30	

Required

1. Compute the expected return and standard deviation of a portfolio with 40% in X and 60% in Y.
2. Determine the weight of Asset X in the minimum variance portfolio (MVP).
3. Compute the expected return and risk of the MVP.
4. Comment on whether the MVP lies on the efficient frontier.

Solution:

1. Portfolio Return

$$\begin{aligned} E(R_p) &= W_X R_X + W_Y R_Y \\ &= 0.40(14) + 0.60(10) \\ &= 11.6\% \end{aligned}$$

2. Portfolio Variance

$$\begin{aligned} \sigma_p^2 &= W_X^2 \sigma_X^2 + W_Y^2 \sigma_Y^2 + 2W_X \sigma_X W_Y \sigma_Y \rho_{XY} \\ &= (0.4^2)(0.20^2) + (0.6^2)(0.12^2) + 2(0.4)(0.6)(0.20)(0.12)(0.30) \\ &= 0.0064 + 0.005184 + 0.003456 \\ &= 0.01504 \end{aligned}$$

$$\text{So, } \sigma_p = 12.27\%$$

3. Weight of X in Minimum Variance Portfolio

$$\begin{aligned} W_X^{MVP} &= (\sigma_Y^2 - \sigma_X \sigma_Y \rho_{XY}) / (\sigma_X^2 + \sigma_Y^2 - 2\sigma_X \sigma_Y \rho_{XY}) \\ &= (0.12^2 - 0.20 \times 0.12 \times 0.3) / (0.20^2 + 0.12^2 - 2 \times 0.20 \times 0.12 \times 0.3) \\ &= 0.18 \end{aligned}$$

4. Return and Risk of MVP

$$E(R_{MVP}) = 0.18(14) + 0.82(10) = 10.72\%$$

Variance:

$$\begin{aligned} \sigma_{MVP}^2 &= (0.18^2)(0.20^2) + (0.82^2)(0.12^2) + 2(0.18)(0.82)(0.20)(0.12)(0.30) \\ &= 0.001296 + 0.009676 + 0.002127 \\ &= 0.013099 \end{aligned}$$

$$\sigma_{MVP} = 11.44\%$$

Topic

Module 13:
Transfer Pricing

FINAL

Group III - Paper-15

Direct Tax Laws
and International
Taxation (DIT)

Transfer Pricing: Decoding the Arm's Length Principle

Introduction: The Concept & The Need

Transfer Pricing is not an exact science but requires the exercise of judgement on the part of both the tax administration and the taxpayer. It refers to the rules and methods for pricing transactions within and between enterprises under common ownership or control. In a multinational group, commercial transactions between different parts may not be subject to the same market forces that shape relations between two independent firms.

Nature of Transfer Price vs. Market Price

It is crucial to distinguish a “transfer price” from a standard market price. A transfer price represents the value of goods or services between independently operating units of an organization, covering transfers of goods, services, and even technology. Unlike market prices determined by supply and demand, transfer prices can be arbitrary and dictated, often bearing no relation to the cost or added value. The concept is broad enough to even include the value attached to transfers between unrelated parties if they are effectively controlled by a common entity.

The Core Objective

The main objective of transfer pricing regulations is to ensure that transactions between related parties are conducted at arm's length prices. This prevents profit shifting and base erosion, ensuring that the taxable income in a jurisdiction reflects the economic value created there.

Understanding Profit Shifting: A Practical Illustration

To understand why Transfer Pricing regulations are necessary, students must grasp the mechanics of “Profit Shifting.” Suppose Company A purchases goods for ₹ 100. It sells these goods to its associated Company B (located in a low-tax country) for ₹ 200. Company B then sells the goods in the open market for ₹ 400.

- **The Reality:** Had Company A sold the goods directly to the market, it would have made a profit of ₹ 300 (₹ 400 - ₹ 100).
- **The Manipulation:** By routing the transaction through B at a manipulated price of ₹ 200, Company A restricts its profit to only ₹ 100.
- **The Result:** The balance profit of ₹ 200 is appropriated by Company B.

In this scenario, the transaction is arranged and not governed by market forces. The profit of ₹ 200 is effectively shifted to the country of Company B. If Company B is in a tax haven, that inflated profit is subject to little or no tax, resulting in revenue loss and a drain on foreign exchange reserves for the country of Company A.

The Solution: Arm's Length Principle [Sec. 92F(ii)]

The cornerstone of transfer pricing regulations is the Arm's Length Principle (ALP). It mandates that transactions between associated enterprises should be conducted as if they were between unrelated parties, each acting in its own best interest. The ALP is defined as a price applied in a transaction between persons other than associated enterprises in uncontrolled conditions.

Operational Framework: Impact on Assessment [Sec. 92]

Any income arising from an international transaction or specified domestic transaction must be computed having regard to the ALP. This applies to expenses, interest, and cost allocations as well.

Scenario Analysis

Scenario	Example	Tax Treatment
Sales	X Ltd. sells goods to its Foreign AE for ₹ 5 Lacs. The ALP is ₹ 9 Lacs.	Sale value considered as ₹ 9 Lacs. Income of X Ltd. increases by ₹ 4 Lacs.
Expenses (Interest)	R Ltd. takes a loan from an AE @ 20% interest. The market (ALP) rate is 12%.	Deduction allowed only @ 12%. Income increases by the disallowed interest amount (8%).
Cost Allocation	Global parent allocates ₹ 40 Lacs research cost to Indian subsidiary.	AO will examine if Indian entity derived proportionate benefit. If not, the cost is disallowed.

Critical Exam Note (The Exception)

Transfer Pricing provisions cannot be used to reduce taxable income. If the application of ALP results in reducing the income or increasing the loss (compared to books of accounts), the provisions shall NOT apply.

Example: If X Ltd. sold goods for ₹ 5 Lacs but ALP is ₹ 3 Lacs, the income remains ₹ 5 Lacs. No adjustment is made.

Who are “Associated Enterprises” (AE)? [Sec. 92A]

Two enterprises are associated if one participates in the management, control, or capital of the other (directly or indirectly).

Deemed Associated Enterprises

Even if direct management participation isn't obvious, Section 92A(2) “deems” two enterprises to be associated if specific thresholds are met.

Quick Reference for Deemed AE Thresholds

- **Equity:** $\geq 26\%$ direct/indirect holding by an enterprise or the same person.
- **Loan:** Loan advanced $\geq 51\%$ of Total Assets of the borrower.
- **Guarantee:** Guarantee covers $\geq 10\%$ of total debt.
- **Management:** Appointment of $> 50\%$ Directors or one or more Executive Directors.
- **Raw Material:** $\geq 90\%$ supply of raw materials under influenced prices.
- **Intangibles:** 100% dependence on use of intangibles/know-how.

Determination of Arm's Length Price [Sec. 92C]

The Act prescribes specific methods to calculate ALP. The "Most Appropriate Method" must be selected based on the nature of the transaction, functions performed, and availability of data.

A. Traditional Transaction Methods

1. Comparable Uncontrolled Price (CUP) Method:

- **Concept:** Compares the price charged in a controlled transaction to the price in a comparable uncontrolled transaction.
- **Best For:** Commodities, interest rates, royalties. It is the most direct and reliable method if data exists.

2. Resale Price Method (RPM):

- **Concept:** Starts with the resale price to an unrelated party and reduces it by an appropriate gross margin.

- **Best For:** Distributors or resellers who do not add significant value to the goods.

3. Cost Plus Method (CPM):

- **Concept:** Adds an appropriate mark-up to the costs incurred by the supplier.
- **Best For:** Contract manufacturers or service providers performing routine functions.

B. Transactional Profit Methods

1. Transactional Net Margin Method (TNMM):

- **Concept:** Examines the net profit margin (relative to sales/costs/assets) from a controlled transaction.
- **Best For:** Cases where traditional methods fail due to lack of direct product comparisons.

2. Profit Split Method (PSM):

- **Concept:** Splits the combined profit of associated enterprises based on the relative value of each enterprise's contribution.
- **Best For:** Highly integrated operations or transactions involving unique intangibles.

Conclusion

Transfer pricing is a critical aspect of international taxation. Compliance requires meticulous documentation and a thorough understanding of the economic and functional aspects of transactions. As the global business environment evolves, transfer pricing practices must adapt to address emerging challenges and ensure fair and transparent tax practices. Students must master these concepts not just for the examination, but for the practical application in a globalized economy.

Topic

Module 5:
Evaluating
Performance

FINAL

Group III - Paper-16

Strategic Cost
Management (SCM)

Variance Analysis

Variance, by definition, denotes the deviation between the standard proposition and the actual incidence. The proposition could be a preset benchmark, budget or estimate and so on. The concept of variance is intrinsically connected with planned and actual results and effects of the difference between these two on the performance of the entity. It can be expressed as

Variance = Standard Proposition – Actual incidence

Variance analysis involves breaking down and analyzing the total variance to explain:

- a. **Quantity:** How much of the variance is caused by using the resources that are different from the standards, i.e., the quantity variance; and
- b. **Rate:** How much of the variance is caused by the cost of the resources being different from the standards, i.e. the rate (price) variance.

The main objective of variance analysis is to provide insights into the off-benchmark performance. It helps management to improve the operations and correct the errors on a concurrent basis; and deploy the resources more effectively and, thus, control and reduce costs and as also enhancing the revenues. An important feature of variance analysis is that it drives the enterprise towards quantitative analysis of the inputs and outputs whereby optimum productivity is achieved. In an era of global competition, Variance Analysis, certainly, continues to be an efficient tool for cost control. It can be carried out for both revenue as well as cost.

Revenue Variance: Revenue Variance is the difference between planned, budgeted or standard revenue vis-à-vis the actual revenue generated. It is also known as Sales Variance and, in simple terms, denotes the difference between the Standard Revenue and the Actual Revenue. The derivation may be expressed as:

Revenue Variance = Standard Revenue – Actual Revenue

Revenue Variance = (SR – AR) = (SQ × SP) – (AQ × AP)

Here standard revenue means standard revenue for standard output and actual revenue means actual revenue for actual output. 2 major ingredient here are quantity and rate. So, revenue variance can be broadly divided into

- i. Revenue Quantity Variance = SP (SQ – AQ)
- ii. Revenue Price Variance = SQ (SP – AP)

Where:

SR = Standard Revenue for Standard Output;

AR = Actual Revenue for Actual Output;

SP = Standard Price per unit;

SQ = Standard Quantity of output;

AP = Actual Price per unit; and

AQ = Actual Quantity of output.

Cost Variance: Cost Variance is the difference between the standard cost and actual cost.

Cost Variance = Standard Cost – Actual Cost

Cost Variance = (SC – AC) = (SQ × SP) – (AQ × AP)

Cost Variances are generally categorized according to elements such that as Direct Material Cost Variance, Direct Labour Cost Variance, Direct Expense Variance, Production Overhead Variance, Administration Overhead Variance, Selling Overhead Variance and Distribution Overhead Variance.

Where:

SC = Standard Cost of the element for standard production;

AC = Actual Cost of the element for actual production;

SQ = Standard Quantity of the element for standard production;

SP = Standard Price per unit;

AQ = Actual Quantity of the element for actual production; and

AP = Actual Price per unit.

Cost Variance can be subdivided into

- i. Usage Variance = SP (SQ – AQ)
- ii. Price Variance = AQ (SP – AP)

Where:

SP = Standard Price per unit;

SQ = Standard Quantity of the element needed for the standard output;

AP = Actual Price per unit;

AQ = Actual Quantity of the element consumed.

Usage Variance denotes the difference between the standard quantity of the element specified for the actual production and the actual quantity used, both at standard price. It brings out the deviations in the cost of an element arising from consumption of non-standard elements. Usage Variance is, generally, impacted by the factors of input mix and yield.

Price Variance denotes the difference between the standard price and the actual price for the actual quantity of the element consumed.

Let us understand the element wise cost variances:

- 1. Material Cost Variance:** Material Cost Variance denotes the difference between the standard cost of the material needed and the actual cost of the material consumed for the production achieved. The derivation may be expressed as:

$$\begin{aligned}\text{Material Cost Variance} &= (\text{SC} - \text{AC}) \\ &= (\text{SQ} \times \text{SP}) - (\text{AQ} \times \text{AP})\end{aligned}$$

Material Cost Variance can be subdivided into Material Usage Variance and Material Price Variance.

- i. Material Usage Variance:** Material Usage Variance denotes the difference between the standard quantity of the material specified for the actual production and the actual quantity used, both at standard price. The derivation may be expressed as

$$\text{“Material Usage Variance} = \text{SP (SQ} - \text{AQ)”}$$

Material Usage Variance is, generally, impacted by the factors of input mix and yield and hence can be subdivided into

- Material Mix Variance = $\text{SP (RSQ} - \text{AQ)}$
- Material Yield Variance = $\text{SP} \times (\text{SY} - \text{AY})$

- ii. Material Price Variance:** denotes the difference between the standard price and the actual price for the actual quantity of the material consumed. The derivation may be expressed as:

$$\text{“Material Price Variance} = \text{AQ (SP} - \text{AP)”}$$

Where:

SC = Standard Cost of the material for standard production;

AC = Actual Cost of the material for actual production;

SQ = Standard Quantity of the material for standard production;

SP = Standard Price per unit;

AQ = Actual Quantity of the material for actual production;

AP = Actual Price per unit;

RSQ = Revised Standard Quantity for actual production;

SY = Standard Yield for standard mix; and

AY = Actual Yield for actual mix.

- 2. Labour Cost Variance:** Labour Cost Variance denotes the difference between the standard cost of the labour needed and the actual cost of the labour consumed for the production achieved. The derivation may be expressed as:

$$\begin{aligned}\text{Labour Cost Variance} &= (\text{SC} - \text{AC}) \\ &= (\text{ST} \times \text{SR}) - (\text{AT} \times \text{AR})\end{aligned}$$

Labour Cost Variance can be subdivided into:

- i. Labour Rate Variance:** Labour Rate Variance denotes the difference between the standard rate per unit of time and the actual rate for the actual time consumed. The derivation may be expressed as:

$$\text{Labour Rate Variance} = \text{AH (SR} - \text{AR)}$$

- ii. Labour Efficiency Variance:** Labour Efficiency Variance denotes the difference between the standard time specified for the standard production and the actual time spent, both at the standard rate. The derivation may be expressed as:

$$\text{Labour Efficiency Variance} = \text{SR (SH} - \text{AH)}$$

Labour Efficiency Variance can be subdivided into

- Mix Variance** = $\text{SR} \times (\text{RSH} - \text{AH})$
- Yield Variance** = $\text{SR} \times (\text{SH} - \text{RSH})$
- Idle Time Variance** = $\text{SR} \times \text{Idle Time}$

Where:

SC = Standard Cost of the labour needed;

AC = Actual Cost of the labour consumed;

SH = Standard Hours (Time) of the labour needed;

SR = Standard Rate per hour;

AH = Actual Hours (Time) of the labour spent;

AR = Actual Rate per hour;

RSH = Revised Standard Hours for actual production.

- 3. Overhead Cost Variance:** Overhead Cost Variance denotes the difference between the standard overhead cost specified for the production achieved and the actual overhead cost incurred. In other words, overhead cost variance is under or over absorption of overheads. The derivation may be expressed as:

$$\begin{aligned}\text{Overhead Variance} &= (\text{SC} - \text{AC}) \\ &= (\text{SB} \times \text{SR}) - (\text{AB} \times \text{AR})\end{aligned}$$

Overhead Variance can be subdivided into

- Overhead Volume Variance = $\text{SR} \times (\text{SU} - \text{AU})$
- Overhead Expenditure Variance = $\text{AU} \times (\text{SR} - \text{AR})$

Overhead Volume Variance is quantitative in nature and denotes the difference between cost for the actual quantum of the base at the standard overhead rate and the cost for the standard quantum at standard overhead rate.

Overhead Efficiency Variance denotes the difference between the cost for the production achieved at standard overhead rate and the cost for the actual quantum of the base at the standards overhead rate. The relevant formulae may be expressed as:

Where:

SC = Standard Overhead Cost specified for the standard production;

AC = Actual Overhead Cost incurred;

SB = Standard Quantum of the Overhead Base;

SR = Standard Overhead Rate per unit of the Base;

AB = Actual Quantum of the Overhead Base;

AR = Actual Overhead Rate per unit of the Base;

SU = Standard Units; and

AU = Actual Units.

Other Classification of Variances

In addition to element wise variances, these may be classified as Controllable and Uncontrollable, depending upon the controllability of the factors causing variances. Variance is said to be controllable if it is identified as the primary responsibility of a particular person or department. It refers to the deviation caused by such factors which could be influenced by the managerial/ executive action. For example, the excessive use of materials or labour hours than the standards can be attributable to a particular person and these can be controllable.

When the variations are due to the factors beyond the control of the concerned person or department, it is said to be uncontrollable. The rise in prices of materials, increase in wage rates, Govt. restrictions etc., are the examples of uncontrollable variance.

Variance under marginal costing can be classified as fixed and variable overhead variances. Additionally there may be operational and planning variances also.

Conclusion

To make the effective use of variance analysis, these need to be reported in a proper format that helps the management in decision making.

Topic

Module 7:
Cost Audit
Documentation,
Audit Process and
Execution

FINAL

Group IV - Paper-17

Cost and
Management Audit
(CMAD)

Cost Audit Documentation

Introduction

Cost audit documentation forms the backbone of the cost audit process. In an era of increasing regulatory scrutiny, cost audit documentation ensures transparency, accountability, compliance, and reliability of cost records maintained by an organization. Cost audit documentation enables the auditor to plan, perform, supervise, review, and report the cost audit effectively. It also serves as evidence that the audit was conducted in accordance with prescribed Cost Auditing Standards (CAS) and applicable laws.

Cost Auditing Standard (CAS)–102 lays down the principles and requirements relating to the preparation, maintenance, ownership, confidentiality, and retention of cost audit documentation. Proper documentation provides evidence that the cost audit was planned and performed in accordance with applicable laws, rules, and Cost Auditing Standards. CAS-102 applies to all cost audits conducted under the Companies Act and Cost Audit Rules and is mandatory for cost auditors.

Objective

The main objectives of CAS-102 are:

1. To ensure adequate documentation of cost audit work performed
2. To provide a basis for the cost auditor's opinion and report
3. To enable review, supervision, and quality control of cost audit
4. To ensure compliance with statutory and professional requirements
5. To provide evidence in case of legal or disciplinary proceedings

Meaning of Cost Audit Documentation

Cost audit documentation refers to the physical or electronic records prepared or obtained by the cost auditor that:

- Record of audit procedures performed
- Capture audit evidence obtained
- Document significant matters and professional judgments
- Support the conclusions and opinions expressed in the cost audit report
- Works as Audit Trail

Documentation may be in physical or electronic form and includes working papers, audit plans, cost statements, reconciliations, explanations, and reports.

Nature of Cost Audit Documentation

Cost audit documentation need to ensure:

- Adequacy of documentation to form opinion on conclusion of Audit
- Appropriateness – Relevant to audit objectives
- Clarity – Logical and properly arranged / indexed
- Completeness – Covering all significant audit matters to ascertain coverage
- Timeliness – Preparation of documents to avoid any lapses
- Confidentiality – Properly safeguarded against unauthorized access

Form and Content of Documentation

CAS-102 does not prescribe a rigid format but requires documentation to include:

- Audit planning documents
- Audit programme
- Working papers and schedules to support review
- Cost records examined
- Management explanations and representations
- Observations, qualifications, and notes
- Reconciliation statements
- Final cost audit report with annexures
- Points not featured in Report on materiality ground

Documentation should clearly show:

- Extent of work done
- Who (Team Members) performed the work
- When (timing) it was performed
- Conclusions reached

Types of Cost Audit Documentation

(a) Permanent Audit File

Contains information of continuing relevance, such as:

- Company profile and organizational structure
- Nature of business and production process
- Cost accounting system and policies
- Product and service details
- Previous cost audit reports

(b) Current Audit File

Contains documents relating to the current audit period, such as:

- Client's point of contact (Department-wise)
- Audit plan and audit programme
- Cost sheets and statements
- Material, labour, and overhead records
- Capacity utilization analysis
- Variance analysis
- Reconciliation of cost and financial accounts
- Minutes of the meeting between Management and Audit Team
- Audit queries and replies

Working Papers under CAS-102

Working papers are an essential part of cost audit documentation and include:

- Analyses and computations
- Checklists and questionnaires
- Cost statements and reconciliations
- Notes of discussions with management
- Audit observations and conclusions

Ownership of Cost Audit Documentation

- Cost audit documentation is the property of the cost auditor
- The auditor may provide copies to the company, if required
- Original documents should not be handed over except under legal or professional obligation

Confidentiality of Documentation

The cost auditor must:

- Maintain confidentiality of cost audit documentation
- Not disclose information to third parties without:
 - o Legal requirement, or
 - o Professional duty, or
 - o Client consent

Proper safeguards must be applied, especially for electronic records.

Retention of Cost Audit Documentation

CAS-102 requires cost audit documentation to be **retained for a reasonable period** to meet:

- Statutory requirements

- Professional requirements
- Possible future references

In practice, documentation is retained for at least 8 years or as prescribed by law.

Significance of CAS-102

CAS-102 ensures:

1. Audit Quality and Consistency
2. Legal Protection to Cost Auditor
3. Transparency and Accountability
4. Compliance with Cost Audit Rules
5. Effective Review and Peer Evaluation

Relationship with Other Standards

CAS-102 supports other Cost Auditing Standards by ensuring that:

- Audit planning (CAS-101) is properly recorded
- Audit evidence is adequately documented
- Audit conclusions are well supported

Conclusion

CAS-102 on Cost Audit Documentation is a fundamental standard that strengthens the credibility and reliability of cost audits. Proper documentation ensures that the audit is conducted systematically, conclusions are well supported, and the cost auditor fulfils statutory and professional responsibilities. In the modern regulatory environment, CAS-102 plays a vital role in ensuring transparency, efficiency, and governance in cost auditing.

Audit Process and Execution/Preparation**Introduction**

Cost audit is a systematic examination of cost records and accounts of an organization to verify their correctness, compliance with statutory requirements, and efficiency in the use of resources. The cost audit process involves a series of planned and coordinated steps beginning from appointment of the cost auditor to submission of the cost audit report. Proper preparation and execution of the cost audit ensure reliability of cost information, cost control, and improved decision-making by management and regulators.

Cost Audit Preparation

Steps to be taken by the cost auditor before accepting appointment:

- As per Section 148(3) of the Companies Act 2013, read with Rule 6 of the Companies (Cost Records & Audit) Rules 2014, cost audit shall be conducted

by a Cost Accountant who shall be appointed by the Board.

- The category of companies specified in rule 3 and the thresholds limits laid down in rule 4, shall within one hundred and eighty days of the commencement of every financial year, appoint a cost auditor.
- Provided that before such appointment is made, the written consent of the cost auditor to such appointment, and a certificate from him or it, as provided in sub-rule (1A), shall be obtained.
- The cost auditor appointed under sub-rule (1) shall submit a certificate that—
 - (a) the individual or the firm, as the case may be, is eligible for appointment and is not disqualified for appointment under the Act;
 - (b) the individual or the firm, as the case may be, satisfies the criteria provided in section 141 of the Act, so far as may be applicable;
 - (c) the proposed appointment is within the limits laid down by or under the authority of the Act; and
 - (d) the list of proceedings against the cost auditor or audit firm or any partner of the audit firm pending with respect to professional matters of conduct, as disclosed in the certificate, is true and correct.

1. Appointment and Acceptance of Cost Auditor

Before accepting the assignment, the auditor must ensure compliance with eligibility, independence, and ethical requirements.

2. Understanding the Entity and Industry

The auditor should obtain knowledge of:

- Nature of business and products
- Industry practices
- Manufacturing process and technology
- Organizational structure
- Cost accounting system followed

This understanding helps in identifying risk areas and planning the audit.

3. Review of Legal and Statutory Requirements

The auditor should familiarize himself with:

- Companies Act and Cost Audit Rules
- Cost Accounting Standards (CAS)
- Previous cost audit reports
- Industry-specific regulations

4. Audit Planning

An audit plan is prepared to determine:

- Scope and objectives of the audit
- Areas requiring detailed examination
- Time schedule and resource allocation
- Audit methodology

5. Preparation of Audit Programme

The audit programme specifies detailed audit procedures to be performed.

6. Cost Audit Execution

Execution refers to the actual performance of audit procedures as per the audit plan and programme.

- a. Examination of Cost Records
- b. Verification and validation of items of Cost e.g Material Cost, Labour Cost, Overheads,
- c. Capacity Utilization and Efficiency Analysis
- d. Scrutiny of Cost Statements and Reconciliation
- e. Documentation and collection of Evidence
- f. Reporting

Conclusion

The cost audit process and execution involve careful preparation, systematic examination of cost records, and professional judgment. Proper planning, effective execution, and accurate reporting ensure that the objectives of cost audit are achieved. A well-executed cost audit not only ensures compliance with legal requirements but also contributes significantly to cost efficiency, transparency, and sound corporate governance.

Topic

Module 7:
Recent
Developments in
Financial Reporting

FINAL

Group IV - Paper-18

Corporate Financial
Reporting (CFR)

Topic: Recent Developments in Financial Reporting

➤ Concept of Economic Value Added (EVA)

Economic Value Added represents the value created (or destroyed) by a firm over and above the required return of its investors.

In other words, EVA is the surplus remaining after deducting the cost of capital from Net Operating Profit After Tax (NOPAT).

It is calculated by the formula:

$$\text{EVA} = \text{NOPAT} - (\text{Capital Employed} \times \text{WACC})$$

Where:

- **NOPAT** = Net Operating Profit After Tax
- **Capital Employed** = Total funds invested in the business (equity + debt)
- **WACC** = Weighted Average Cost of Capital

EVA is interpreted as follows:

- **EVA > 0**: The firm is **creating value** for shareholders
- **EVA = 0**: The firm is **breaking even** in economic terms
- **EVA < 0**: The firm is **destroying value**

➤ Importance of EVA

Economic Value Added (EVA) is an advanced performance and value-based management tool. Its importance lies in the fact that it measures **true economic profit**, not just accounting profit. The importance of EVA may be explained as follows:

1. EVA Measures True Economic Profit

Traditional profit measures (like net profit or EPS) ignore the **cost of equity capital**. EVA deducts the **full cost of capital (debt and equity)** and therefore shows whether the firm has actually created wealth.

- Profit ≠ Value creation
- EVA focuses on **economic surplus**, not accounting surplus

2. EVA Focuses on Shareholder Wealth Maximisation

The primary objective of a firm is to **maximise shareholder wealth**. EVA directly links performance with this objective.

- Positive EVA → Increase in shareholder value
- Negative EVA → Erosion of shareholder wealth

Thus, EVA acts as a **bridge between corporate performance and market value**.

3. EVA is a Superior Performance Measurement Tool

EVA is superior to traditional measures such as ROI, ROCE, and EPS because:

- ROI may encourage under-investment
- EPS can be increased without creating value
- EVA encourages acceptance of projects that earn more than cost of capital

It provides a **more realistic assessment of managerial efficiency**.

4. EVA is Useful for Capital Budgeting Decisions

EVA helps in evaluating investment projects by showing whether they generate returns above the cost of capital.

- Projects with **positive EVA should be accepted**
- Projects with **negative EVA should be rejected**

Hence, EVA supports **better capital allocation** and long-term decision-making.

5. EVA Improves Managerial Accountability

EVA assigns a **capital charge** to the resources used by managers.

- Managers become accountable for both **profits and capital employed**
- Reduces wasteful use of funds
- Promotes efficient asset utilisation

This improves **operational discipline** within the organisation.

6. EVA is the Basis for Incentive and Compensation Plans

Many companies use EVA as a basis for **managerial incentives**.

- Rewards are linked to value creation
- Aligns managers' interests with shareholders' interests
- Discourages short-term profit manipulation

EVA-based bonuses encourage **long-term value creation**.

7. EVA Helps in Corporate Restructuring and Strategy

EVA identifies **value-creating and value-destroying divisions or products**.

- Assists in restructuring decisions
- Helps in discontinuing non-performing units
- Guides mergers, acquisitions, and divestments

Thus, EVA supports **strategic planning and restructuring**.

8. EVA Enhances Transparency and Investor Confidence

EVA provides a **clear and understandable measure** of performance to investors.

- Shows whether returns exceed the cost of capital
- Improves credibility of financial reporting
- Enhances confidence of shareholders and analysts

9. EVA is Useful for Inter-Firm and Inter-Period Comparison

EVA allows meaningful comparison:

- Between different firms
- Across different time periods

Since EVA is based on **value creation**, it is more reliable than profit-based comparisons.

10. EVA Encourages Long-Term Perspective

Unlike short-term accounting profits, EVA focuses on **sustainable value creation**.

- Discourages myopic decisions
- Encourages investment in profitable long-term projects
- Promotes financial sustainability

➤ Concept of MVA

Market Value Added (MVA) is a value-based performance measure that indicates the **total wealth created (or destroyed) for shareholders** since the inception of the company.

Market Value Added represents the **difference between the market value of a company and the capital invested by investors**. It shows how much value management has added to the firm over time. In other words, Market Value Added is the **excess of the market value of a firm over the total capital contributed by shareholders and lenders**.

It is calculated by the formula:

$$\text{MVA} = \text{Market Value of the Firm} - \text{Capital Invested}$$

Where:

- **Market Value of the Firm** = Market value of equity + Market value of debt
- **Capital Invested** = Total funds invested by shareholders and debt holders

MVA is interpreted as follows:

- $\text{MVA} > 0$ → Wealth has been **created** for investors
- $\text{MVA} = 0$ → Investors have earned only their required return
- $\text{MVA} < 0$ → Wealth has been **destroyed**

➤ Importance of MVA

- MVA measures **cumulative value creation** over time
- MVA reflects **market's assessment** of managerial performance
- MVA helps investors evaluate long-term performance
- MVA complements EVA (positive EVA over time leads to positive MVA)

Multiple Choice Questions

- Economic Value Added (EVA) measures:
 - Accounting profit of a firm
 - Cash profit after tax
 - Economic profit after charging cost of capital**
 - Earnings available to equity shareholders
- Which of the following costs is **specifically considered in EVA but ignored in traditional profit measures**?
 - Cost of debt
 - Operating expenses
 - Depreciation
 - Cost of equity capital**
- The basic formula for calculating EVA is:
 - EBIT – Tax
 - Net Profit – Interest
 - NOPAT – (Capital Employed × WACC)**
 - ROCE – WACC
- If EVA of a company is negative, it indicates that:
 - The firm has earned losses
 - Shareholders have earned abnormal profits
 - Returns are less than the cost of capital**
 - The firm has high accounting profit
- Which of the following objectives is most closely aligned with EVA?
 - Profit maximisation
 - Sales maximisation
 - Cost minimisation
 - Shareholder wealth maximisation**

Comprehensive Problems

Problem 1

Saurav Ltd. provides you with the following data based on which you are required to calculate the Economic Value Added (EVA):

(a) Equity share capital (42 crore equity shares of ₹ 10 each)	₹ 420 crores
(b) 15% preference share capital (1.40 crore shares of ₹ 100 each)	₹140 crores
(c) 15% debentures (11.20 crore debentures of ₹ 100 each)	₹1,120 crores
(d) Income tax rate	30%
(e) Beta	1.5
(f) Market rate of return	15.5%
(g) Equity Market risk premium	9%
(h) Financial leverage	1.5 times
(i) Land and building (held as investment)	₹140 crores

Solution:

1. Computation of Economic value Added (EVA)

Particulars	₹ in crore
(A) Net operating profit after tax (NOPAT)	352.80
(B) Cost of operating capital employed (13.25% × ₹ 1,540 crores)	204.05
(C) Economic Value Added (EVA) (i-ii)	148.75

Working Notes

(A) Computation of cost of debt

Cost of debt = Interest rate (1 - tax rate) = 15% (1 - .30) = 10.50%

(B) Cost of preference shares = 15% (given in the problem).

(C) Computation of cost of equity

Cost of equity = Risk-free rate + (Beta × equity market rate risk premium) = (15.5% - 9%) + (1.5 × 9%) = 6.5% + 13.5% = 20%.

(D) Computation of total capital employed

Total capital employed = Equity share capital + 15% preference share capital + 15% debentures = ₹420 crores + ₹140 crores + ₹1,120 crores = ₹1,680 crores.

(E) Computation of weighted average cost of capital (WACC)

Weighted average cost of capital (WACC) = [(₹ 420 crores / ₹1,680 crores) × 20%] + [(₹140 crores / ₹1,680 crores) × 15%] + [(₹1,120 crores / ₹1,680 crores) × 10.50%] = 5% + 1.25% + 7% = 13.25%.

(F) Computation of Profit before interest and tax (PBIT)

Financial leverage = Profit before interest and tax (PBIT) / Profit before interest and tax (PBIT) - Interest i.e., 1.5 = PBIT / (PBIT - ₹168 crores), or, 1.5 PBIT - ₹252 crores = PBIT, or, - 0.5 PBIT = - ₹252 crores, or PBIT = ₹252 crores / 0.5 = ₹504 crores.

(G) Computation of net operating profit after tax

Particulars	₹ in crores
(i) Profit before interest and tax (PBIT)	504.00
(ii) Income tax @ 30% (₹504 crores × 30%)	151.20
(iii) Net operating profit after tax (i-ii)	352.80

(H) Computation of operating capital employed

Particulars	₹ in crores
(i) Total capital employed	1,680
(ii) Investment property (Land and building held as investment)	140
(iii) Operating capital employed (i-ii)	1,540

Topic

Module 26:
Export Promotion
Schemes under
Foreign Trade Policy

FINAL

Group IV - Paper-19

Indirect Tax Laws
and Practice (ITLP)

Foreign Trade Policy 2023: A Paradigm Shift in Global Trade

Introduction: The Framework of International Trade

In the complex landscape of global economics, a nation's trade strategy serves as its compass. The Foreign Trade Policy (FTP) is essentially a comprehensive set of guidelines and regulations formulated by the country's government to manage, regulate, and promote international trade. It provides the necessary framework for establishing trade relations with other nations, with the ultimate goals of enhancing export performance, improving the trade balance, and facilitating robust economic growth.

For students of Indirect Taxation, understanding the core objectives of the FTP is crucial for contextualizing the various duty exemption and remission schemes. The primary objectives include:

- **Boosting Exports:** The policy aims to significantly increase the country's exports by providing targeted incentives, actively reducing trade barriers, and promoting the export of value-added products.
- **Import Regulation:** It seeks to regulate imports to protect domestic industries from unfair competition, ensure the availability of essential goods, and maintain a healthy trade balance.
- **Economic Growth & Job Creation:** The policy is a driver for economic growth by enhancing the competitiveness of domestic industries and integrating the economy with global markets. Simultaneously, it aims to create employment opportunities by promoting export-oriented industries and attracting foreign investment.
- **Technology & Diversification:** A key focus is facilitating the transfer of advanced technologies to improve domestic production capabilities and diversifying export markets to mitigate the risks associated with dependency on a few specific markets.

The Strategic Shift: Process Re-engineering and Automation

The FTP 2023 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 2023 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:** For FY23-24, 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 further reduce litigation and clear the backlog, the new FTP introduces a one-time Amnesty Scheme. This allows exporters to close old pending authorizations and start afresh, a significant relief measure for the trade community.

Towns of Export Excellence (TEE)

The policy recognizes the vital role of regional clusters in driving exports. The FTP 2023 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 2023 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 recalibrated 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 2023 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

The Foreign Trade Policy 2023 is not merely a regulatory document; it is a roadmap for sustainable economic growth and global competitiveness. By shifting the focus from incentives to facilitation, streamlining procedures through automation, and embracing emerging trends like e-commerce and green technology, the FTP aims to position India as a major player in international trade. For Final level students, mastering these nuances—from the TEEs to the specifics of the EPCG changes—is essential for both examination success and professional practice.

Topic

Module 4:
Enterprise Risk
Management

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.

Historical Development

However, it wasn’t until the 1960s that the field was formally named, principles developed and guidelines established. Robert Mehr and Bob Hedges, widely

acclaimed as the fathers of risk management, enumerated the following steps for the risk management process: -

1. Identifying loss exposures
2. Measuring loss exposures
3. Evaluating the different methods for handling
 - Risk assumption
 - Risk transfer
 - Risk reduction
4. Selecting a method
5. Monitoring results

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. Indeed, the field of finance was primarily institutional at the time. 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 the pure risks. The primary risks of the time were hazard risks: the risk of fire, windstorm or other property damage, 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 and 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 result 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 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 area.

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.

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)

Credit Risk and Liquidity Risk

Banks play a pivotal role in financial intermediation by mobilising deposits and allocating credit to productive sectors of the economy. In performing this function, banks inherently assume risks, of which credit risk and liquidity risk are among the most significant. The failure to manage these risks effectively has historically been at the core of banking crises across the globe.

In India, the banking sector dominated by public sector banks (PSBs), along with private sector banks, foreign banks, small finance banks, and cooperative banks operates within a robust regulatory framework overseen by the Reserve Bank of India (RBI). The experience of rising non-performing assets (NPAs) during the last credit cycle, followed by the COVID-19 shock and subsequent recovery, has underscored the importance of strong credit appraisal, early warning systems, and prudent liquidity management.

Analyses credit risk and liquidity risk in the Indian banking system, their regulatory treatment, recent developments, and the way forward.

The stability of the Indian banking system critically depends on effective identification, measurement, monitoring, and management of credit risk and liquidity risk. Credit risk, the risk of loss arising from a borrower's failure to meet contractual obligations and liquidity risk, the risk that a bank cannot meet its financial obligations as they fall due without incurring unacceptable losses are closely interlinked and mutually reinforcing. In recent years, Indian banks have made substantial progress in strengthening risk management frameworks through regulatory reforms, improved governance, technological adoption, and balance sheet repair. However, evolving macroeconomic conditions, increased market integration, climate and ESG considerations, digital transformation, and impending implementation of Expected Credit Loss (ECL) frameworks pose fresh challenges. The nature, sources, regulatory framework, recent trends, interlinkages, and best practices relating to credit risk and liquidity risk in the Indian banking system, with a forward-looking perspective.

a) Credit Risk: Concept and Sources:

Meaning of Credit Risk: Credit risk refers to the possibility that a borrower or counterparty will fail to meet its obligations in accordance with agreed terms. For banks, this primarily arises from loans and advances but also from off-balance sheet exposures such as guarantees, letters of credit, derivatives, and interbank transactions. Credit risk manifests in several forms:

- Default risk: Failure to repay principal or interest.
- Downgrade risk: Deterioration in the credit quality of a borrower.

- Concentration risk: Excessive exposure to a single borrower, group, sector, or geography.
- Counterparty risk: Risk arising from financial market transactions.

Sources of Credit Risk in Indian Banks: Key sources of credit risk in the Indian context include:

- **Corporate Lending:** Exposure to capital-intensive sectors such as infrastructure, power, steel, and real estate, which are sensitive to economic cycles and policy changes.
- **MSME Sector:** While crucial for employment and growth, MSMEs are vulnerable to cash flow disruptions and limited access to collateral.
- **Retail Lending:** Rapid growth in housing loans, personal loans, and unsecured credit increases sensitivity to interest rate movements and employment conditions.
- **Agricultural Lending:** Dependence on monsoons, commodity prices, and government support measures.
- **External Shocks:** Global economic slowdown, geopolitical tensions, and supply chain disruptions.

Measurement and Management of Credit Risk:

Traditional Approaches: Indian banks have traditionally relied on:

- Credit appraisal and rating systems.
- Collateral and security.
- Exposure norms and prudential limits.
- Income recognition and asset classification norms.

While these measures helped contain risks, they were largely backward-looking and reactive.

Transition towards Advanced Risk Management:

In line with global best practices, Indian banks are increasingly adopting:

- Internal credit rating models.
- Probability of Default (PD), Loss Given Default (LGD), and Exposure at Default (EAD) metrics.
- Stress testing and scenario analysis.
- Early Warning Signals (EWS) based on financial, operational, and behavioural indicators.

The proposed implementation of the Expected Credit Loss (ECL) framework from April 2027 marks a significant shift towards forward-looking credit risk assessment.

b) Liquidity Risk: Concept and Sources:

Meaning of Liquidity Risk: Liquidity risk arises when a bank is unable to meet its financial obligations as they

fall due, either because it cannot liquidate assets quickly without significant loss (market liquidity risk) or cannot obtain funding at reasonable cost (funding liquidity risk).

Liquidity risk is particularly critical because even solvent banks can fail if liquidity dries up.

Sources of Liquidity Risk in Indian Banks: Major sources include:

- **Maturity Mismatch:** Borrowing short-term (deposits) and lending long-term (loans).
- **Concentration of Deposits:** Dependence on large or volatile deposits.
- **Market Volatility:** Sudden tightening of money markets or bond markets.
- **Contingent Liabilities:** Invocation of guarantees or drawdown of credit lines.
- **Reputational Risk:** Loss of depositor confidence leading to withdrawals.

Regulatory Framework for Liquidity Risk in India:

The RBI has implemented a comprehensive liquidity risk management framework aligned with Basel III standards, including:

- **Liquidity Coverage Ratio (LCR):** Ensuring banks hold sufficient high-quality liquid assets (HQLA) to withstand a 30-day stress scenario.
- **Net Stable Funding Ratio (NSFR):** Promoting stable funding over a one-year horizon.
- **Asset-Liability Management (ALM):** Monitoring mismatches across different maturity buckets.
- **Intraday Liquidity Management:** Managing payment and settlement obligations.
- Stress Testing and Contingency Funding Plans (CFP).

These measures have significantly strengthened the resilience of Indian banks against liquidity shocks.

Interlinkage between Credit Risk and Liquidity Risk:

Credit risk and liquidity risk are deeply interconnected:

- Deterioration in asset quality leads to reduced cash inflows, increasing liquidity stress.
- Rising NPAs erode confidence among depositors and market participants.
- Liquidity stress may force banks to curtail lending, impacting credit growth and profitability.
- Fire-sale of assets to meet liquidity needs can crystallise credit losses.

The global financial crisis and domestic banking stress episodes have demonstrated that weak credit risk management often precedes liquidity crises.

Recent Trends in the Indian Banking System:

Improvement in Asset Quality: Indian banks have witnessed a notable decline in gross and net NPAs due to:

- Resolution under the Insolvency and Bankruptcy Code (IBC).
- Improved recoveries and write-offs.
- Strengthened credit underwriting standards.

Comfortable Liquidity Position: System-level liquidity has remained broadly adequate, supported by:

- Strong deposit growth.
- Central bank liquidity facilities.
- Prudent regulatory norms.

However, competition for deposits and rising interest rates have increased the cost of funds.

Emerging Challenges: Despite progress, several challenges remain:

- **Cyclical Risks:** Credit risk may rise during economic downturns.
- **Unsecured Retail Credit:** Rapid growth poses potential asset quality concerns.
- **Climate and ESG Risks:** Physical and transition risks may affect borrower viability.
- **Digital Banking Risks:** Faster withdrawals and operational disruptions can amplify liquidity stress.
- **Implementation of ECL:** Increased provisioning may impact profitability and capital.

Best Practices for Managing Credit and Liquidity Risk: Indian banks should focus on:

- Strengthening governance and risk culture.
- Integrating credit and liquidity risk management.
- Enhancing data analytics and technology adoption.
- Regular stress testing under severe but plausible scenarios.
- Diversifying funding sources.
- Maintaining adequate capital and liquidity buffers.

To Conclude, Credit risk and liquidity risk remain central to the soundness and stability of the Indian banking system. Regulatory reforms, improved supervision, and internal risk management enhancements have significantly strengthened banks' resilience. Nevertheless, the dynamic nature of financial markets, evolving borrower profiles, and emerging risks necessitate continuous vigilance and adaptation.

A holistic, forward-looking, and integrated approach to credit and liquidity risk management, supported by strong governance, technology, and regulatory oversight will be crucial for sustaining financial stability and supporting India's long-term economic growth.

Managing Risk in Insurance Business

The insurance industry plays a vital role in India's financial system by pooling and transferring risk from individuals and businesses to insurers. With rapid growth in premiums and market players, life and non-life insurers, the sector is evolving. However, it faces diverse risks that must be effectively managed to protect solvency, maintain consumer trust, and ensure long-term sustainability.

Managing risk in India's insurance business involves a systematic process of identifying, analysing, evaluating, treating, and monitoring risks (like underwriting, investment, operational, and financial risks) to ensure financial stability, regulatory compliance (IRDAI guidelines), and policyholder protection, using techniques like reinsurance, risk retention, spreading, and reduction to mitigate potential losses and maintain business continuity.

Types of Risk in the Insurance Sector: Insurance companies face multiple categories of risk. Effective risk management involves identifying, measuring, controlling, and mitigating these risks so that obligations to policyholders are met without jeopardising financial health.

a) Underwriting Risks: Underwriting risk arises when the premiums charged are inadequate relative to the claims made. Pricing products that accurately reflect risk exposure including catastrophic events like floods or earthquakes is critical. Given India's vulnerability to natural disasters, this remains a central concern.

b) Market and Financial Risks: Insurance firms invest premiums into financial markets to earn returns. Fluctuations in interest rates, equities, and credit spreads can negatively affect investment income and asset values. Inflation drives up claims' costs, requiring careful asset-liability management.

c) Operational and Cyber Risks: Operational risks stem from internal failures, flawed processes, system outages, or human error. With digital adoption increasing across distribution and claims systems, cyber threats like ransomware, data breaches, and phishing are significant. Indian insurers must secure vast customer data and maintain resilient IT infrastructure.

d) Compliance and Regulatory Risk: The insurance industry in India is heavily regulated by the **Insurance Regulatory and Development Authority of India (IRDAI)**. Firms must adhere to solvency norms, disclosures, anti-fraud measures, and customer protection standards. Regulatory changes can alter market dynamics and risk exposures.

e) Reputational Risk: Unethical practices like mis-selling and delayed claim settlements erode consumer

trust, leading to complaints and brand damage. IRDAI has highlighted mis-selling and unfair practices as persistent issues that insurers must address at the root cause.

Key Risk Categories for Insurers

- **Underwriting Risks:** Inadequate premiums, adverse selection (bad risks), and pricing errors.
- **Investment Risks:** Poor performance of invested funds, affecting solvency.
- **Operational Risks:** Failures in internal processes, people, systems, or external events.
- **Financial/Capital Risks:** Risks to capital adequacy and solvency.
- **Strategic Risks:** Threats from dynamic market conditions, competition, and changing customer needs.

Regulatory Framework & Compliance: Risk management is strictly governed by the Insurance Regulatory and Development Authority of India (IRDAI):

- **Risk-Based Supervision (RBS):** IRDAI is moving toward a Risk-Based Capital (RBC) regime, shifting from mere compliance to active risk assessment and internal modelling.
- **Mandatory Committees:** Insurers must establish a Risk Management Committee (RMC) and appoint a Chief Risk Officer (CRO) to oversee strategy across all business lines.
- **Own Risk and Solvency Assessment (ORSA):** Insurers are required to perform an annual ORSA to ensure they hold adequate capital for all foreseeable material risks.

Technology-Driven Risk Management: Technology is the primary tool for mitigating losses:

- **AI and Machine Learning:** Used for fraud detection in claims processing, predictive underwriting to eliminate human bias, and real-time risk scoring.
- **Video KYC and Biometrics:** Implemented for secure onboarding to prevent identity theft and document forgery.
- **Blockchain:** Utilized for creating immutable records of policy contracts and claims to prevent data tampering.
- **Internet of Things (IoT):** Telematics and live monitoring help insurers assess risks dynamically and offer usage-based pricing.

Challenges Specific to the Indian Market: The Indian insurance landscape has its own distinctive risk drivers:

a) Low Penetration and Awareness: Insurance penetration in India remains low compared to global peers, with many individuals viewing insurance as costly or unnecessary. Limited understanding of risk and insurance products increases the likelihood of inappropriate purchases and dissatisfaction.

b) Product Complexity and Mismatch: Policies often feature complex terms, jargon, and exclusions that are poorly understood by customers, leading to disputes and heightened claim risk.

c) Fraud and Claims Management: Fraudulent claims and inefficient claims processes not only inflate costs but also strain operational capacities. Strengthening fraud detection and streamlining settlement mechanisms are ongoing priorities.

Risk Management Process in India

- **Identification:** Pinpoint all significant activities and potential threats (e.g., through risk-based supervision by IRDAI).
- **Analysis & Assessment:** Quantify the impact and likelihood of identified risks, often using tools for evaluation.
- **Treatment (Mitigation):** Apply strategies to manage risks:
- **Avoidance:** Refusing certain high-risk policies.
- **Reduction/Prevention:** Implementing loss control measures and improving systems.
- **Spreading/Diversification:** Spreading risks across a portfolio or geographic areas.
- **Transfer:** Using reinsurance, contracts, or derivatives to shift risk.
- **Retention:** Accepting some risks (risk financing).
- **Monitoring & Review:** Continuously track risks, update risk registers, and adapt strategies as the environment changes.

Risk Management Frameworks and Best Practices: To manage these risks effectively, Indian insurers combine traditional actuarial techniques with modern tools and regulatory guidance.

a) Robust Underwriting and Pricing Models: Actuarial analysis, supported by data and predictive models, helps insurers price coverage accurately and set aside adequate reserves for future claims.

b) Reinsurance as Risk Transfer: Reinsurance enables insurers to transfer portions of risk to larger reinsurers, especially for catastrophe exposures. While reinsurance can be expensive, it stabilises loss volatility and protects capital resources.

c) Integrated Enterprise Risk Management (ERM): A formal ERM framework aligns risk across business units from underwriting to operations and investment using risk appetite statements, scenario testing, stress tests, and capital allocation strategies.

d) Technology and InsurTech Solutions: Adopting digital tools such as AI, machine learning, and automation enhances risk assessment, fraud detection, and customer service. InsurTech partnerships help insurers scale operations and improve efficiency.

e) Cybersecurity and Data Protection: Given the increasing digital threat landscape, insurers invest in strong cybersecurity measures, including multi-factor authentication, encryption, regular vulnerability assessments, and incident response planning.

f) Regulatory Compliance and Reporting: Maintaining compliance with IRDAI's regulations, solvency margins, reporting standards, and fair practice codes, is fundamental to risk governance and building policyholder confidence.

Regulatory & Strategic Importance

- **Compliance:** Ensures adherence to IRDAI regulations, like the Own Risk and Solvency Assessment (ORSA).
- **Financial Stability:** Protects capital and ensures insurers can meet policyholder obligations.
- **Informed Decisions:** Enables better underwriting, investment, and overall business strategy.

The Role of Culture and Governance: Strong corporate governance is essential in embedding risk awareness at all organisational levels. Ethical sales practices, transparent communication, and ongoing training help reduce mis-selling risks and regulatory penalties, while reinforcing public trust.

Conclusion: Managing risk in the Indian insurance business involves navigating a complex ecosystem of market dynamics, regulatory expectations, evolving technology risks, and customer behaviour. Successful insurers balance traditional risk management disciplines with innovation, leveraging data analytics, digital platforms, and proactive governance to remain resilient and competitive in a rapidly transforming market.

Topic

Module 6:
Risk Management
Strategies

ELECTIVES

Paper-20C

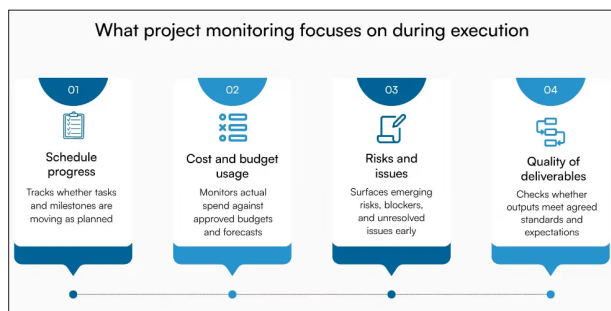
Entrepreneurship
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Project Monitoring

Every project moves through the project life cycle. The project life cycle is a basic framework that Project Managers and teams use to effectively structure projects and set them up for success. A project life cycle is the structured series of phases a project goes through from beginning to end, typically including **Initiation, Planning, Execution, Monitoring & Control, and Closure**, providing a roadmap for managing tasks, resources, and achieving goals efficiently, ensuring delivery on time and within budget.

Project Monitoring

Project monitoring is defined as the process of tracking, reviewing, and regulating the progress and performance of a project to ensure it stays on course and meets the objectives outlined in the project plan. It involves collecting data on various aspects of the project, such as tasks, timelines, budget, and quality, and comparing actual performance against the planned milestones.



Source: <https://plane.so/blog/what-is-project-monitoring>

Steps involved in Project Monitoring

The project monitoring process involves a series of key steps that ensure the project is progressing as planned and meets its goals. These are discussed below:

- 1. Define Monitoring Objectives & Metrics:** The first step in project monitoring is to determine the key performance indicators (KPIs (KPIs like budget, schedule, scope, quality) and metrics (time, cost, scope, quality, and risk) that will be used to assess the project's progress. Once these metrics are established, baseline data is gathered from the project plan. This baseline provides the standard against which actual performance will be measured.
- 2. Track project performance:** Once the metrics are established, project performance is regularly tracked against the project plan. Tools such as Gantt charts, project management software, and dashboards are often used to collect and visualize performance data. This step ensures that the project is on track and that any discrepancies between planned and actual performance are quickly identified.

- 3. Monitor Project Risks:** Risk monitoring involves regularly reviewing known risks and identifying any new ones that may arise during the project. If risks are identified, appropriate mitigation measures or contingency plans should be enacted to prevent negative impacts on the project.
- 4. Analyze Data and Generate Reports:** Data collected from tracking performance and risks is analyzed to understand the project's current status. This analysis helps identify trends, variances from the plan, and potential areas of concern.
- 5. Implement Corrective Actions:** If discrepancies, delays, cost overruns, or other issues are identified during performance tracking, corrective actions must be taken. The goal is to bring the project back in line with the original plan or make necessary adjustments to stay within the project's constraints.
- 6. Review and update the project plan:** Project monitoring is a dynamic process, and regular reviews ensure that the project remains adaptable and responsive to new challenges or changes in scope. Updating the project plan ensures that it remains relevant and reflective of the current state of the project.
- 7. Communicate with stakeholders:** Regular communication with stakeholders is a key part of the project monitoring process and it ensures transparency and keeps everyone informed of the project's status, risks, and any changes made.

Project Controlling

Project controlling plays an important role in all project phases. Despite detailed planning, many projects often fail in the implementation phase because problems and delays are recognized too late and the project can no longer be saved. The causes of failure can be due to external factors that can only be controlled to a limited extent, but often the origin can be found internally:

Project controlling can help increase the success rate of projects. This is because project controlling monitors all processes, checks them and, if necessary, intervenes to control them. This not only provides an overview of the entire project, but also an insight into the individual areas.

Objectives of Project Controlling

- The main aim of project controlling is to keep the planned and actual project progress in line. This means that the costs, expenses, deadlines and results (see specifications) agreed with the client are adhered to as far as possible.

- The project plan is the most important project controlling instrument, because without a project plan there is no way of comparing target and actual data.

According to PMI standards the key tasks involved in project controlling are as follows:

- Performance Measurement:** Monitoring and measuring project progress and performance using key performance indicators (KPIs) and project management tools. This often involves Earned Value Management (EVM) techniques to compare planned versus actual progress.
- Scope Verification and Control:** Ensuring the project remains within its defined scope and implementing scope change control processes for any alterations.
- Cost Control:** Project cost control is the process of monitoring and managing project expenses to ensure they stay within the allocated budget. It involves tracking actual costs against the baseline, identifying variances, and taking corrective actions to prevent overruns. This includes comparing actual costs to estimates, reviewing project plans, and making adjustments as needed.
- Schedule Control:** Next to cost, time is the most important parameter that needs to be controlled. Monitoring the project schedule, identifying any deviations from the planned schedule, and implementing corrective actions to address these deviations.
- Quality Control:** Quality Control refers to quality-related activities associated with the creation of project deliverables. Quality control is used to verify that deliverables are of acceptable quality and that they are complete and correct. Examples of quality control activities include deliverable peer reviews and the testing process.
- Risk Monitoring and Control:** This is a process in which a project is closely monitored for known and unknown risks and proper control mechanisms are put in place to mitigate the effect. During the process, risk management plans are executed in order to respond to risk events throughout the project. As risks are dynamic, risk management strategies are continually monitored.
- Stakeholder Engagement:** Keeping stakeholders informed about project progress and performance and managing their expectations through effective communication.
- Communications Management:** Ensuring that there is effective communication among project stakeholders, team members, and other relevant parties.

- Procurement Control:** Managing procurement relationships, contract performance, and making changes and corrections as necessary.

- Integration Control:** Overseeing all aspects of the project to ensure that they are working together properly, including making adjustments to the project plan and executing change control processes as needed.

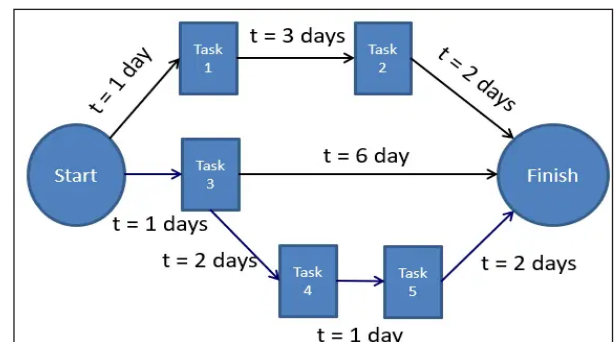
Schedule Control (PERT and CPM)

Two different techniques for network analysis namely the PERT – Program Evaluation and Review Technique and CPM – Critical Path Method.

Program Evaluation and Review Technique (PERT)

The **PERT** is a project management tool used to calculate the time required to realistically finish a project by breaking it down into individual tasks and dependencies. The PERT chart is used to schedule, organize and co-ordinate tasks within the project. The PERT chart breaks down the project into individual tasks and shows the sequence in which they must be completed. Each task is represented by a node, and arrows indicate the dependencies between tasks. By analyzing the chart, teams can identify the critical path, which helps determine the shortest time to complete the project and allocate resources effectively.

The objective of PERT chart is to determine the critical path, which comprises critical activities that should be completed on schedule. This chart is prepared with the help of information generated in project planning activities such as estimation of effort, selection of suitable process model for software development and decomposition of tasks into subtasks.



Program Evaluation and Review Technique (PERT) Chart

Source: <https://acqnotes.com/acqnote/tasks/pert-analysis>

Critical Path Method (CPM)

The critical path analysis is an important tool in project planning and scheduling. The critical path in project management is the **longest sequence of dependent tasks** that determines the project's minimum completion

time. CPM also helps project managers identify critical tasks and non-critical tasks, allowing them to prioritize resources and manage project schedules effectively.

Differences between PERT and CPM

Aspect	PERT	CPM
Definition	PERT is a technique of project management which is used to manage uncertain (i.e., time is not known) activities of any project.	CPM is a technique of project management which is used to manage only certain (i.e., time is known) activities of any project.
Orientation	It is event-oriented technique which means that network is constructed on the basis of event.	It is activity-oriented technique which means that network is constructed on the basis of activities.
Model Type	It is a probability model.	It is a deterministic model.
Focus	It majorly focuses on time as meeting time target or estimation of percent completion is more important.	It majorly focuses on Time-cost trade off as minimizing cost is more important.

Multiple Choice Questions (MCQs)

- Which of the following is the primary purpose of monitoring in a project?
 - Hiring external consultants
 - Post-project auditing
 - Increasing project costs
 - Systematic and continuous data collection to track performance

Answer: (D)

- Which project management phase occurs simultaneously with the execution phase?
 - Planning
 - Initiating
 - Monitoring and Controlling
 - Closing

Answer: (C)

- Which of the following is a key output of the Project Controlling phase?
 - Project Charter.
 - Work Performance Information (e.g., status reports).
 - Stakeholder Register.
 - Business Case.

Answer: (B)

- In a PERT chart, the “Critical Path” is defined as:
 - The longest path through the network with zero slack.
 - The path with the most activities.
 - The path with the shortest duration.
 - The path containing the most expensive tasks.

Answer: (C)

- Which of the following statements best describes CPM?
 - It is a deterministic model suitable for repetitive and predictable projects.
 - It is a probabilistic model used for unique R&D projects.
 - It uses three-time estimates (Optimistic, Most Likely, Pessimistic).
 - It is primarily event-oriented rather than activity-oriented.

Answer: (A)

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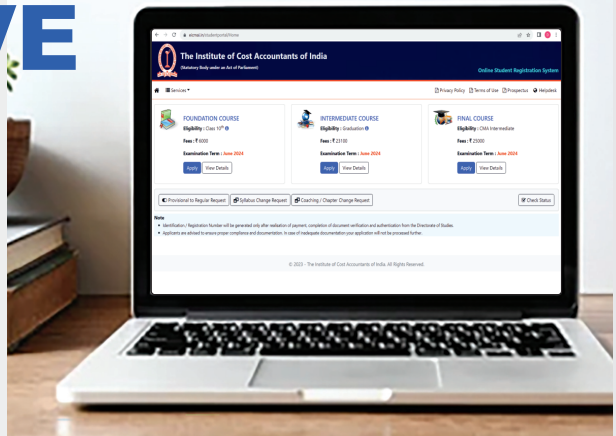


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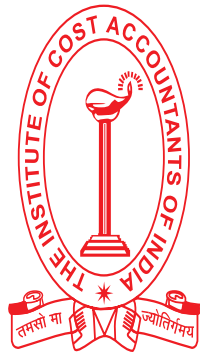
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Kolkata Office

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