

CMA STUDENT E-Bulletin

VOL 09 | NO. 12 | DECEMBER 2024

An Initiative of Directorate of Studies



ICMAI
THE INSTITUTE OF
COST ACCOUNTANTS OF INDIA

Statutory Body under an Act of Parliament
www.icmai.in

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 Kolkata having four Regional Councils at Kolkata, Delhi, Mumbai and Chennai, 117 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 5,00,000 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 सदगमय
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

Disclaimer:

Copyright of this CMA Student E-Bulletin is reserved by the Institute of Cost Accountants of India and prior permission from the Institute is necessary for reproduction of the whole or any part thereof. The write ups published in good faith on the basis of declaration furnished by the authors.

CMA STUDENT E-Bulletin

VOL 09 | NO. 12 | DECEMBER 2024

An Initiative of Directorate of Studies



ICMAI
**THE INSTITUTE OF
COST ACCOUNTANTS OF INDIA**

Statutory Body under an Act of Parliament

www.icmai.in





CONTENTS

STUDENT CMA E-Bulletin

VOL 09 I NO. 12 I DECEMBER 2024

Chief Patron

CMA Bibhuti Bhusan Nayak, President, ICMAI

Patron

CMA T.C.A. Srinivasa Prasad, Vice President, ICMAI

Editorial Board Members

CMA Vinayaranjan P.

CMA Ashwin G Dalwadi

CMA Neeraj Dhananjay Joshi

CMA (Dr.) Ashish P. Thatte

CMA Manoj Kumar Anand

CMA Avijit Goswami

CMA (Dr.) V. Murali

Chief Editor

CMA (Dr.) Debaprosanna Nandy

Secretary (Officiating)

Managing Editor

CMA (Dr.) Debaprosanna Nandy, Secretary
Training & Educational Facilities Committee

Editorial Team

CMA Avijit Mondal, Joint Director (Studies)

CMA Samarpita Ghosal, Assistant Director (Studies)

CMA Susmita Ghosh, Sr. Officer (Studies)

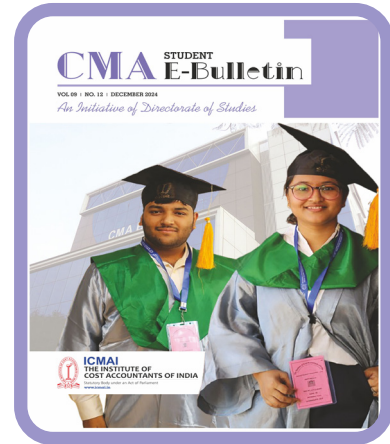
Editorial Office

The Institute of Cost Accountants of India

CMA Bhawan

12, Sudder Street, Kolkata - 700016

✉ studies.ebulletin@icmai.in



06 - Chairman's Communique

(Training & Educational Facilities Committee)

07 - 24 - CMA Foundation Course

Syllabus 2022

(Paper 1 - 4)

25 - 72 - CMA Intermediate Course

Syllabus 2022

Group I (Paper 5 - 8) & Group II (Paper 9 - 12)

73 - 120 - CMA Final Course

Syllabus 2022

Group III (Paper 13-16) & Group IV (Paper 17-19)

Electives (Paper 20A - 20C)



CHAIRMAN'S COMMUNIQUE

Dear CMA Students,

It gives me immense pleasure to connect with you through the December 2024 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 4:
Negotiable
Instruments Act,
1881

Business
Communication -

Module 5:
Business
Communication

FOUNDATION

Paper-1

Fundamentals of
Business Laws and
Business
Communication
(FBLC)

SECTION – A: FUNDAMENTALS OF BUSINESS LAWS

MULTIPLE CHOICE QUESTIONS (MCQ)

1. The law relating to Negotiable Instrument Act is contained in—
 - a) Negotiable Instrument Act, 1881
 - b) Negotiable Instrument Act, 1856
 - c) Negotiable Instrument Act, 1872
 - d) Negotiable Instrument Act, 1972
2. Negotiable Instrument Act came into force in the year—
 - a) 1861
 - b) 1881
 - c) 1871
 - d) 1891
3. Which of these Instruments are not considered as a Negotiable Instruments?
 - a) Treasury Bill
 - b) Money Draft
 - c) Money order
 - d) All of the above
4. Features of Negotiable Instruments are—
 - a) Written and signed
 - b) Recovery
 - c) Freely transferable
 - d) All of the above
5. The term ‘negotiation’ in section 14 of the N. I. Act, 1881 refers to the
 - a) Transfer of a bill of exchange, promissory note or cheque to any person, so as to constitute the person the holder thereof
 - b) Payment by a bank on a negotiable instrument after due verification of the instrument
 - c) Bargaining between the parties to a negotiable instrument
 - d) all of the above
6. The term ‘Drawer’ is explained within section of NI Act, 1881
 - a) 6
 - b) 7
 - c) 8
 - d) 5
7. If a minor draws, endorses, delivers or negotiates an instrument, such instrument binds
 - a) all parties to the instrument including the minor
 - b) only the minor and not other parties to the instrument
 - c) all parties to the instrument except the minor
 - d) none of the above
8. In a promissory note, the amount of money payable
 - a) must be certain
 - b) may be certain or uncertain
 - c) is usually uncertain
 - d) none of the above
9. The term ‘Holder’ is explained within Section of NI Act, 1881
 - a) 5
 - b) 6
 - c) 7
 - d) 8
10. The term ‘Holder in due course’ is explained within section of NI Act, 1881
 - a) 7
 - b) 8
 - c) 9
 - d) 10
11. The definition of Promissory Note has been given in the section of NI Act, 1881
 - a) 2
 - b) 3
 - c) 4
 - d) 5
12. The Negotiable Instrument defined in Negotiable Instrument Act, in the section—
 - a) 11
 - b) 12
 - c) 13
 - d) 14

13. The definition of Bill of exchange has been given in the section—
- 4
 - 5
 - 6
 - 7
14. The definition of 'cheque' has been given in the section—
- 4
 - 5
 - 6
 - 7
15. Cheque can be of—
- Three types
 - Two types
 - Four types
 - Five types
16. Crossing of cheques can be of—
- Two types
 - Four types
 - none of these
 - Five types
17. The undertaking contained in a _____ to pay a certain sum of money is unconditional
- Delivery note
 - Promissory note,
 - Cheque
 - None of the above.
18. Inchoate stamped Instrument has been explained in the section—
- 19
 - 21
 - 20
 - 22
19. According to the Negotiable Instrument Act, negotiable instruments can be of—
- 2 types
 - 3 types
 - 4 types
 - 5 types
20. Features of Promissory Note is—
- Signed
 - Certain Person
 - Specific sum
 - All of these
21. Different types of Bills of Exchanges are—
- Foreign Bill
 - Bill in sets
 - Time Bill
 - All of these
22. Which is not a Bill of Exchange—
- Foreign Bill
 - Time Bill
 - Account Payee Cheque
 - Trade Bill
23. 'Not negotiable' words written in a cheque between the two parallel lines, is an example of—
- General Crossing
 - Restrictive Crossing
 - Special Crossing
 - one of these
24. The words 'A/C Payee' or 'A/C Payee only' are written in a cheque between the two parallel lines is an example of—
- General Crossing
 - Special Crossing
 - Restrictive Crossing
 - None

SECTION – B: BUSINESS COMMUNICATION

25. Use of coupons and samples come under which mode of marketing communication?
- Sales promotion
 - Direct marketing
 - Personal selling
 - Advertising
26. What is the situation called when a bad image of the company is created?
- Positive PR
 - Negative PR
 - Customer service
 - Promotion
27. _____ communications help in establishing professionalism when marketing?
- Business
 - Informal
 - Horizontal
 - Virtual
28. Individuals involved in the process of communication must be _____.
- Critical
 - Open-minded
 - Both a and b
 - None of the above
29. Which of the following is not one of the 8C's of communication?
- Consent
 - Completeness
 - Consideration
 - Concreteness
30. Need of proper grammar and syntax comes under which C of communication?
- Clarity
 - Confident
 - Compelling
 - Correct

Answer:

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

25	26	27	28	29	30
a	b	a	b	a	d

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)

In the following MCQs , only one answer is correct. Find out the same.

1. In case of Not for Profit Organizations, excess of total assets over liabilities is known as
 - a) Profits
 - b) Surplus
 - c) Capital Fund
 - d) Accumulated Fund
2. Interest on prize funds maintained by School Authority is
 - a) Credited to Income and Expenditure Account
 - b) Credited to Receipts and Payments Account
 - c) Capital Fund
 - d) Added to prize fund
3. Scholarship granted to students out of specific funds provided by Government will be debited to
 - a) Income and Expenditure Account
 - b) Receipts and payments Account
 - c) Funds granted for Scholarship account
 - d) None of the three
4. Financial statements are a part of
 - a) Accounting
 - b) Book-keeping
 - c) Cost Accounts
 - d) Management Accounting
5. A businessman purchased goods for Rs 25,00,000 and sold 80% of such goods during the accounting year ended 31st March, 2024. The market value of the remaining goods was Rs 4,00,000. He valued the closing Inventory at cost. He violated the concept of
 - a. Money measurement
 - b. Conservatism
 - c. Cost
 - d. Accounting Standards
6. Subscription received in advance to be shown in
 - a. Liability side of the balance sheet
 - b. Asset side of the balance sheet
 - c. Income and Expenditure account
 - d. Journal
7. Provision for bad debt is made as per the
 - a) Entity concept
 - b) Conservatism concept
 - c) Cost concept
 - d) Going concern concept
8. Import duty of raw material purchased is a
 - a) Revenue Expenditure
 - b) Capital Expenditure
 - c) Deferred Revenue Expenditure
 - d) None of the above
9. Which financial statement represents the accounting equation as – Assets = Liabilities + Owner’s equity?
 - a) Income Statement
 - b) Statement of Cash Flows
 - c) Balance Sheet
 - d) Either (A) or (B)
10. A purchase of ₹49,500 from Arka was recorded in Purchases Book as ₹59,400, the profit would show
 - a) an increase of 9,900
 - b) a decrease of 9,900
 - c) an increase of 59,400
 - d) neither an increase nor a decrease
11. At the time of preparation of financial accounts, balance of Bad Debts Recovered Account will be transferred to
 - a) Debtor’s Personal a/c
 - b) Profit & Loss a/c
 - c) Bad Debts a/c
 - d) Profit & Loss Appropriation a/c
12. Expenses paid but not accrued means
 - a) Capital expenses
 - b) Outstanding expenses
 - c) Prepaid expenses
 - d) Cash
13. The amount of yearly depreciation under written down value method
 - a) remains same over the year
 - b) decreases year by year
 - c) increases year by year
 - d) fluctuates

14. When cash received for services rendered in the past
- Owner's equity increases
 - Current asset increases
 - Profit increases
 - None of the above
15. Legal charges paid to defend a suit on firm's factory site is
- Capital expenditure
 - Revenue expenditure
 - Deferred revenue expenditure
 - Prepaid expenditure
16. Errors in carry forward of closing balances from one year to another which affects
- Nominal accounts
 - Real accounts
 - Personal accounts
 - Both (B) and (C)
17. The manufacturing account is prepared
- to ascertain the cost of goods manufactured
 - to ascertain gross profit
 - to ascertain profit or loss on the goods manufacture
 - to ascertain the cost of goods sold
18. Cost of goods purchased for resale is an example of
- Revenue expenditure
 - Capital expenditure
 - Deferred revenue expenditure
 - None of the above
19. Insurance claim received on account of machinery damaged completely by fire is
- Capital receipt
 - Revenue receipt
 - Capital expenditure
 - Revenue expenditure
20. Fixed Assets and Current Assets are categorized as per concept of
- Separate Entity
 - Going Concern
 - Consistency
 - Time period
21. On which of the following asset, depreciation is charged on 'Depletion method'
- Goodwill
 - Plant and Machinery
 - Land and Building
 - Wasting asset like mine and quarries
22. Which costing method is used when the production process is continuous and the products are not identical?
- Job costing
 - Process costing
 - Batch costing
 - Contract costing
23. What is the main purpose of variance analysis?
- To identify areas for cost reduction
 - To determine the selling price of a product
 - To provide a basis for preparing financial statements
 - To analyze the differences between actual and standard costs
24. What is the purpose of calculating the cost per unit in a cost sheet?
- To determine the selling price of a product
 - To identify areas for cost reduction
 - To provide a basis for preparing financial statements
 - To evaluate the profitability of a product
25. How is the selling price calculated in a cost sheet?
- By adding the cost of goods sold and the desired profit margin
 - By adding the cost of goods sold and the overheads
 - By adding the cost of goods sold and the semi-variable costs
 - By adding the cost of goods sold and the fixed costs
26. Which of the following is an indirect cost?
- Cost of raw materials
 - Salary of the production supervisor
 - Rent of the factory building
 - All of the above

27. What is the purpose of a cost center?
- To provide a basis for preparing financial statements
 - To identify areas for cost reduction
 - To provide a basis for allocating costs to products
 - To determine the selling price of a product
28. Which of the following is a characteristic of a semi-variable cost?
- It remains the same even if the level of production changes
 - It varies directly with the level of production
 - It has both fixed and variable components
 - It is incurred periodically
29. What is the purpose of a standard cost?
- To provide a basis for preparing financial statements
 - To identify areas for cost reduction
 - To provide a basis for allocating costs to products
 - To determine the selling price of a product
30. What is the main purpose of variance analysis?
- To identify areas for cost reduction
 - To determine the selling price of a product
 - To provide a basis for preparing financial statements
 - To analyze the differences between actual and standard costs

Answer:

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

Topic

Fundamentals
of Business
Mathematics -

Module 3:
Calculus -
Application in
Business

Module 4 :
Statistical
Representation of
Data

FOUNDATION

Paper - 3

Fundamentals
of Business
Mathematics and
Statistics (FBMS)

In this issue we will carry out MCQs on Calculus & Central tendency – refer Module 3 and Module 4 of Study guide.

1. $f(x) = \frac{5x^3}{3} - \frac{7x^2}{2} + 2x + 7$
 - a) Maximum, $x = \frac{1}{5}$; Minimum, $x = -1$
 - b) Maximum, $x = \frac{3}{5}$; Minimum, $x = 3$
 - c) Maximum, $x = \frac{2}{5}$; Minimum, $x = 1$
 - d) No curvature
2. $f(x) = \frac{2x^3}{3} - \frac{7x^2}{2} + 6x + 7$
 - a) Maximum, $x = -2$; Minimum, $x = -1.5$
 - b) Maximum, $x = 3.5$; Minimum, $x = -1$
 - c) Maximum, $x = -1.33$; Minimum, $x = 1$
 - d) No curvature
3. $f(x) = \frac{2x^3}{3} - \frac{7x^2}{2} + 5x - 7$
 - a) Maximum, $x = 5$; Minimum, $x = 1.5$
 - b) Maximum, $x = -1$; Minimum, $x = \frac{7}{2}$
 - c) Maximum, $x = 1$; Minimum, $x = 2.5$
 - d) No curvature
4. $f(x) = x^3 - \frac{5x^2}{2} + 2x - 3$
 - a) Maximum, $x = 2$; Minimum, $x = -2.5$
 - b) Maximum, $x = \frac{1}{3}$; Minimum, $x = 4$
 - c) Maximum, $x = \frac{2}{3}$; Minimum, $x = 1$
 - d) No curvatures
5. $f(x) = \frac{2x^3}{3} - \frac{5x^2}{2} + 3x - 6$
 - a) Maximum, $x = 0.67$; Minimum, $x = 1$
 - b) Maximum, $x = 1$; Minimum, $x = \frac{3}{2}$
 - c) Maximum, $x = -\frac{4}{5}$; Minimum, $x = -3$
 - d) No curvature
6. $f(x) = \frac{4x^3}{3} + 10x^2 + 5x - 11$
 - a) Maximum, $x = \frac{7}{2}$; Minimum, $x = -1.5$
 - b) Maximum, $x = -\frac{9}{2}$; Minimum, $x = -\frac{1}{2}$
 - c) Maximum, $x = -\frac{1}{5}$; Minimum, $x = -5$
 - d) No curvature
7. $\frac{x^3}{3} - 2x^2 - 4x + 7$
 - a) Maximum, $x = 2$; Minimum, $x = 1$
 - b) Maximum, $x = 3$; Minimum, $x = 2$
 - c) Maximum, $x = 5$; Minimum, $x = -2$
 - d) No curvature
8. Given $\pi(x) = 17x - 28900$ how many units should be produced in order to realise a profit of ₹ 30,600
 - a) 3100
 - b) 3300
 - c) 3500
 - d) 4000
9. Given $C(x) = x - 37$ and $R(x) = x^2 - 3x + 1$. Find the value of x if the profit is ₹ 60
 - a) 11
 - b) 12
 - c) 13
 - d) 14
10. Given fixed cost = ₹ 840, the variable cost = ₹ 50 and selling price = ₹ 120. Find the profit function
 - a) $50x - 840$
 - b) $120x - 840$
 - c) $70x - 840$
 - d) None of the above
11. Given: $R(x) = 18x^2 + 1000x$; $C(x) = 25x + 1300$. Find the profit function
 - a) $9x^2 - 5x - 250$
 - b) $18x^2 - 25x - 300$
 - c) $12x^2 - 7x - 350$
 - d) $11x^2 - 5x - 450$
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

For exercise 13-17, refer the following table:

The table below shows the number of cappuccinos sold at two coffee counters A & B between 4 p.m. to 5 p.m. for a sample of 5 days last month

A	B
20	20
40	45
50	50
60	55
80	80

- 13.** The mean value of each location is
- 60, 50
 - 60, 60
 - 50, 50
 - 70, 60
- 14.** The median value of each location is
- 60, 50
 - 50, 50
 - 60, 60
 - 70, 60
- 15.** The mode value of each location is
- 60, 50
 - 70, 60
 - 60, 60
 - 50, 50
- 16.** Variances of each location is
- 400, 370
 - 500, 500
 - 370, 420
 - 480, 530
- 17.** With respect to counter A and counter B which one of the following is correct?
- Mean sale in counter A is more representative of the data
 - Mean sale in counter B is more representative of the data
 - Sales distribution in counter A is more concentrated around mean
 - Sales distribution in counter B is less concentrated around mean
- 18.** The hourly wages for a sample of part-time employees at home depot are R2, R3, R6, R8 and R9. Sample variance is
- 5.6
 - 6
 - 8
 - 9.3
- 19.** The years of service for a sample of seven employees at a state farm insurance claim office are 4, 2, 5, 4, 5, 2 and 6. Sample standard deviation is
- 4
 - 1.53
 - 2.33
 - 1
- 20.** Standard deviation of two series of observations X and Y are respectively 7.51 and 10.47. Both the series have same mean. Which one of the following is correct?
- Series X has more item compared to Series Y
 - Data in series X are more concentrated around mean as s.d. of X < s.d. of Y
 - Data in series Y are more concentrated around mean as s.d. of Y > s.d. of X
 - Series Y has more item compared to Series X
- 21.** A sample contains items 7, 2, 6, 2 and 3 taken from a population. The population standard deviation is
- 5.5
 - 4
 - 2.35
 - 7
- 22.** For a symmetrical bell shaped frequency distribution which one of the following is correct?
- 70% of the observations will lie within plus and minus 1 standard deviations
 - 93% of the observations will lie within plus and minus 2 standard deviations
 - 95% of the observations will lie within plus and minus 3 standard deviations
 - Mean, median, Mode all are equal
- 23.** If for a distribution mean = 100 and s.d s = 10 then
- 95% of the observations will lie between 80 and 120

- b) 68% of the observations will lie between 85 and 115
- c) Practically all observation will lie between 60 and 140
- d) The estimated range of the distribution is 40
24. The sum of the squares of the deviations of a variable is ___ when taken about AM
- a) Maximum
- b) Zero
- c) Minimum
- d) None
25. $\sum_{x=1}^{20} x = 54120$; While computing this it was observed that two entries were wrongly entered as 850 and 320 instead of 580 and 230. Correct value of \bar{x} is
- a) 2688;
- b) 2746.5;
- c) 2720;
- d) 2662;
26. Measures of central tendency are called averages of the ___ order.
- a) 1st
- b) 2nd
- c) 3rd
- d) None
27. A measure of central tendency tries to estimate the
- a) Central value
- b) Lower value
- c) Upper value
- d) None
28. The most commonly used measure of central tendency is:
- a) Mode
- b) Median
- c) Mean
- d) None
29. The algebraic sum of deviations of a set of observations from their AM is
- a) Negative
- b) Positive
- c) Zero
- d) None of these
30. If there are 3 observations 15, 20, 25 then the sum of deviation of the observations from their AM is
- a) 0
- b) 5
- c) -5
- d) None of these

Answer Keys:

1	c	if $f''(x) < 0 \rightarrow$ Maximum Find $f'(x)$ and put $f'(x) = 0$ to find out the roots. Now find $f''(x)$ and put the roots in $f''(x)$ in order to find out the value of $f''(x)$ Then, if $f''(x) > 0 \rightarrow$ Minimum
2	a	if $f''(x) < 0 \rightarrow$ Maximum Find $f'(x)$ and put $f'(x) = 0$ to find out the roots. Now find $f''(x)$ and put the roots in $f''(x)$ in order to find out the value of $f''(x)$ Then, if $f''(x) > 0 \rightarrow$ Minimum
3	c	if $f''(x) < 0 \rightarrow$ Maximum Find $f'(x)$ and put $f'(x) = 0$ to find out the roots. Now find $f''(x)$ and put the roots in $f''(x)$ in order to find out the value of $f''(x)$ Then, if $f''(x) > 0 \rightarrow$ Minimum
4	c	if $f''(x) < 0 \rightarrow$ Maximum Find $f'(x)$ and put $f'(x) = 0$ to find out the roots. Now find $f''(x)$ and put the roots in $f''(x)$ in order to find out the value of $f''(x)$ Then, if $f''(x) > 0 \rightarrow$ Minimum

Answer Keys:

5	b	if $f''(x) < 0 \rightarrow$ Maximum Find $f'(x)$ and put $f'(x) = 0$ to find out the roots. Now find $f''(x)$ and put the roots in $f''(x)$ in order to find out the value of $f''(x)$ Then, if $f''(x) > 0 \rightarrow$ Minimum
6	b	if $f''(x) < 0 \rightarrow$ Maximum Find $f'(x)$ and put $f'(x) = 0$ to find out the roots. Now find $f''(x)$ and put the roots in $f''(x)$ in order to find out the value of $f''(x)$
7	d	Here $f''(x) = 0$ which means the function does not have any curvature Find $f'(x)$ and put $f'(x) = 0$ to find out the roots. Now find $f''(x)$ and put the roots in $f''(x)$ in order to find out the value of $f''(x)$ Then, if $f''(x) > 0 \rightarrow$ Minimum

8	c	Put Profit Function = 30600	20	b	
9	b	Put Profit Function = 60	21	c	The sample standard deviation is used as an estimator of the population standard deviation. So we have to find sample s.d.
10	c	Profit Function = Revenue Function – Cost Function	22	d	
11	b	Profit Function = Revenue Function – Cost Function	23	a	95% of observation will lie plus minus 2 s.d. i.e between $100 - 2 \cdot 10$ to $100 + 2 \cdot 10$ i.e., from 80 to 120
12	a	Total Cost = Fixed Cost + Variable Cost (Production cost)	24	c	
13	c	Σx for both 250. So mean for both is 50	25	a	Correct $\sum_{x=1}^{20} x = 54120 - 850 - 320 + 580 + 230 = 53760$. Hence $\bar{x} = \frac{53760}{20} = 2688$
14	b	Median term is $(5+1)/2 = 3$ rd term. So for both Median is 50	26	a	
15	d		27	a	
16	a	Variance = $\frac{\Sigma(X - \mu)^2}{n}$ where X is individual item and μ is mean of series	28	c	
17	b	As variance in counter B is less mean is more representative i.e. sales distribution is more concentrated around mean	29	c	
18	d	Variance of a sample = $\frac{\Sigma(X - \bar{X})^2}{n - 1}$	30	a	
19	b	Sample s.d. = Sqrt = $\frac{\Sigma(X - \bar{X})^2}{n - 1}$			

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 developed in the respective modules/sub modules of the study guide. Students should try to solve individual questions with concepts developed from guide book to understand the correct answer of each question. For development of clear concept brief explanations are given in algebra portion. Formula used here are all covered in study guide.

Topic

Fundamentals of
Business Economics -

Fundamentals of
Management -

Module 5:
Fundamentals of
Management

FOUNDATION

Paper-4

Fundamentals of
Business Economics
and Management
(FBEM)

TIPS ON BUSINESS ECONOMICS AND MANAGEMENT FOR THE MONTH OF DECEMBER 2024

Subhas Chandra Bose eventually created the Indian National Army (INA) with the sole aim of ending British colonial rule. At the peak of its strength the INA had over 85,000 soldiers and the only female combat brigade ever fielded in Asia. The INA fought hard in the forests of Assam, Bengal and Burma. But owing to disrupted logistics, lack of training and inadequate arms and supplies, they ultimately failed in their effort. However, Bose's heroic actions energized a new generation of Indians. By Aug 14, 1947, the British had seen the writing on the wall, and independence was granted to India. India, the largest democracy the world had ever seen, stood in stark contrast to her neighbor to the north, China. (to be continued)

Let us start our mock test.

I. Choose the correct answer

1. Who was the founder of the scarcity definition of economics?
 - a) Samuelson
 - b) Marshall
 - c) Robbins
 - d) Smith
2. A point below the PPF curve indicates
 - a) Full employment
 - b) Under employment
 - c) Equilibrium
 - d) None of the above
3. When AP is rising, MP will
 - a) Rise
 - b) Fall
 - c) Change but Nothing definite can be said about the direction
 - d) None of the above
4. When TP is rising, then
 - a) $MP = 0$
 - b) $MP < 0$
 - c) $MP > 0$
 - d) None of the above
5. Market demand function is influenced by
 - a) Money income of the consumer
 - b) The demographic structure of the country
 - c) Consumer's preference
 - d) All of the above
6. Market demand curve for a commodity can be derived from
 - a) Horizontal summation of individual demand curves
 - b) Vertical summation of individual demand curves
 - c) Cumulative summation of individual demand curves
 - d) None of the above
7. An increase in the price of a commodity, when demand is inelastic, causes the total expenditure of the consumer on that commodity
 - a) To rise
 - b) To fall
 - c) To remain unchanged
 - d) None of the above
8. If the demand curve takes the shape of a rectangular hyperbola, then it implies
 - a) Elastic demand
 - b) Inelastic demand
 - c) Unitary elastic demand
 - d) None of the above
9. The demand for a commodity which can be put to a variety of uses will be
 - a) Relatively elastic
 - b) Relatively inelastic
 - c) Unitary elastic
 - d) None of the above
10. Steeper demand curve implies
 - a) Relatively elastic demand
 - b) Relatively inelastic demand

- c) Perfectly elastic demand
d) None of the above
11. At higher prices the price elasticity of demand for the commodity will be
a) Relatively elastic
b) Relatively inelastic
c) Unitary elastic
d) None of the above
12. The price elasticity of demand is unitary at
a) The middle point of the linear demand curve
b) The top of that demand curve
c) The bottom of that demand curve
d) None of the above
13. For an inferior good the value of income elasticity of demand is
a) Positive
b) Negative
c) Unity
d) Zero
14. For the increase in demand
a) The demand curve will shift leftward
b) The demand curve will shift rightward
c) Along the same demand curve the consumer will move from top to bottom
d) None of the above
15. For a normal demand curve the MR curve will
a) Appear below the demand curve
b) Appear above the demand curve
c) Be parallel to the demand curve
d) None of the above
16. SMC is equal to the
a) Change in LMC
b) Change in TFC
c) Change in TVC
d) None of the above
17. When LAC is minimum then,
a) $LAC = LMC$
b) $LAC < LMC$
c) $LAC > LMC$
d) None of the above
18. When plant size is optimal for any particular level of output, then
a) $SMC < LMC$
b) $SMC > LMC$
c) $SMC = LMC$
d) None of the above
19. Money market is controlled by
a) SEBI
b) RBI
c) IDBI
d) None of the above
20. Capital market is controlled by
a) ICICI
b) RBI
c) IDBI
d) SEBI
21. When inflation is created by a rise in wages, it is called
a) Demand pull inflation
b) Cost push inflation
c) Mark-up inflation
d) None of the above
22. There will be more organizational levels which in turn may impede communication, if the span of control is
a) Wide
b) Narrow
c) Optimum
d) None of the above
23. The supervisory load may become too heavy if the span of control is
a) Wide
b) Narrow
c) Optimum
d) None of the above

24. Responsibility can be assigned to
- Human being
 - Non-living objects
 - Both A and B
 - None of the above
25. Which one of the following is absolute and cannot be delegated
- Authority
 - Accountability
 - Responsibility
 - None of the above
26. Responsibility may be defined in terms of
- Functions
 - Targets
 - Goals
 - All of the above
27. Responsibility flows in
- Downward direction
 - Upward direction
 - All directions
 - None of the above
28. Subordinate is always responsible to his
- Peers
 - Foreman
 - Management
 - Superior
29. Authority is the right to give orders and the power to exact obedience defined by
- Barnard
 - Fayol
 - Strong
 - Louise Allen
30. Which theory is also called traditional authority theory
- The acceptance of authority theory
 - The formal authority theory
 - The competence theory
 - The organization theory

Answer:

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

So friends!!

Hope you have enjoyed the mock test thoroughly. Please do not consult the key before you have finished solving all the problems. Try to maintain a record of your performance in different mock tests. This will go a long way to help you in preparing for the exam.

All the best !!!

CMA INTERMEDIATE COURSE

Syllabus 2022

Topic

Module 13:
Business Ethics
and Emotional
Intelligence

INTERMEDIATE

Group I - Paper-5

Business Laws and
Ethics (BLE)

BUSINESS LAWS AND ETHICS

It is expected that you, the students should prepare a time-table with time allotted for each subject and read, write, revise and recapitulate all that you keep on reading. The first important point is that you must read the study materials provided by the institute and start asking questions to yourself and find your own answers. In this issue we shall deal with The Ethics with special emphasis on the concept of Business Ethics.

Concept of Ethics

Ethics is a set of rules that define right and wrong conduct. The term 'ethics' derived from Latin word 'ethos' which means character. Ethics is a social science which deals with concepts such as right and wrong, moral and immoral, good and bad behavior of dealing with one another. According to Webster's Dictionary, *ethics is a theory or system or principles that govern an individual or a group by defining rightfulness of their actions.* Actions done by individual or a group *deliberately that have an impact over other*, comes under the purview of ethical ruling. Ethics also defines moral duty and obligation for a *social practice, institution, organization and socio-economic system.* A person's judgment on a particular subject is dependent upon their *ethical belief* which set a guideline to decide correctness of that subject. This ethical belief *descends from a value sense* that is inherited by the person from his *ancestors and imbibed in his mind from education, experience and other associations.* Values such as *honesty, respect, responsibility* taught by our social leaders help us to differentiate right and wrong path in every phases of life. Human mind is complex in nature. So determining of a human action *with our changing moral belief* is difficult task. For that reason a set of ethical principles must be established to help individuals in their *ethical reasoning in some difficult situation and justifying their moral beliefs* against standard ethical rules. Keeping in mind these ethical rules, individuals or groups should perform their job with sufficient integrity, objectivity and independence and protect the interest of social people.

Ethical standards also provide a guideline to help individuals develop their moral judgment for analyzing and *evaluating correctness* of any particular action. Any action would be treated ethical if it causes *personal gain* to the person doing it. But personal gain doesn't always give enough justification to ethical performance. Thus, fulfillment of own personal needs if it *doesn't come in the way of personal interest and rights* of other social members and in this way ensures *fairness and justice* to all, we call it ethical performance. Ethics also invokes *fulfillment of every commitment made unless it results in adversity to the individual or society.* Thus if *any action is beneficial to the person doing it, to the society, it is fair and it fulfills commitment then that act is an ethical one and is strongly recommended for performance and vice versa.* But, there can be situations when all the reasons are not supporting any particular action and the individual is confused what reason (harm to the society or fairness and rights) should get prominence. In order to resolve such dilemma several ethical theories have emerged over time.

Scope of Ethics

According to Jean-Jacques Rousseau, a person belongs in a community or group which comprised of his family, friend or work environment. So every action an individual commits doesn't only have its impact over the individual himself but the community surrounding him. Every individual is entitled to receive something or authorized to perform certain job. This entitlement or authorization is called right to have to right to do certain things. Again this rights, individuals also have certain obligations to other members of the community where they belong. This framework of rights and obligation provides a complementary predisposition of ethical relationship among social members. Although we are living in an environmental set up with animals and other members of the nature, rights and obligation for them is not dealt in Rousseau's work. Different organizations all over the world have defined human rights over

certain issues. But how these rights are construed by an individual will depend upon nature of his state which is again mostly guided by his value system. Different philosophers in their research work have concluded that human being is ordinarily influenced by his own personal need and always aims at maximization of personal well being. But this would create a chaos in the society. So individuals depend on state to fulfill their rights and define their obligations. For that reason, they elect among themselves a legitimate body commonly known as government. Government based on the individual value system decides right and wrong. They are entrusted with the responsibility of fulfilling everyone's right and fixing their obligation to others so that no confusion is created. In many ethical theories, it has been found that religious belief often plays an important role in ethical decision making. In Islam or Christianity, some actions (e.g. taking interest for money lent) are completely prohibited just because it is not allowed in their religious belief. Ethical decision making based on theology may not always be acceptable.

From the above it can be concluded that, moral philosophy is an individual value sense which guide own personal decisions of that individual only. But in a social set up, this may not always provide some good result. So a political environment is set up by the individuals themselves to define their rights and responsibilities to the community they belong.

Types of Ethics

Philosophers and other social leaders have contributed their thoughtful researches in this field of philosophy.

- A. Meta Ethics:** This form of ethics is about the theoretical meaning and reference of moral propositions and how their truth values may be determined.
- B. Normative Ethics:** This form of ethics is about determining moral course of action for a particular situation. This focus on what should be rather than what it is.

- C. Applied Ethics:** This form of ethics deals with using moral outcomes in practical situation. How individuals in society or organization or business or any other profession use their moral outcomes in their work or family life is the main area of discussion under this head.

Application of Ethics

- A. Decision Ethics:** This involves ethical theories which are used in decision making process.
- B. Professional Ethics:** Ethical theories provided under this type improve professionalism. Accounting and Auditing Ethics which is the main topic of discussion of this current chapter is an important example of professional ethics.
- C. Clinical Ethics:** This ethics helps to improve our basic health needs.
- D. Business Ethics:** This form of ethics is based on individual morals used to improve ethics in an organization.
- E. Organizational Ethics:** This form of ethics is used to improve ethical sense among organizations.
- F. Social Ethics:** Ethics among nations to treat them as one global unit is referred to social ethics.

Meaning of Business Ethics

Application of ethical principles in business decision making is called business ethics. The interest groups for a business are: (a) investors; (b) employees; (c) customers; (d) suppliers; (e) creditors; (f) legal system; (g) community. Interest groups determine the right and wrong of a business decision. Business evaluates these judgments by the interest groups and defines the principles for business activities. While earning profit is right for some of the interest groups, it may not be so for other categories. Hence, business has to set a pervasive framework within which it must operate. The principles usually incorporate (a) integrity; (b) objectivity; (c) accountability; (d) confidentiality; etc. Rules are to be framed based on these principles. The principles and

rules together frames the code of conduct of a business organization according to which every business should run. However, these principles and rules are implicit in nature and not enforced by law. Hence, they are self-governed created by the business in order to fulfill the interest of different participating groups. However, interests of different stakeholders cannot be fulfilled equally. For that reason, every business should work on stakeholder engagement and decide the level of participation by each stakeholder groups. Accordingly, the ethical actions of the business would be determined and corporate social responsibility of the business is to be governed. *Cater McNamara*— “Business ethics is generally coming to know what is right or wrong in the workplace and doing what is right—this is in regard to effects of products/ services and in relationship with stake holders”. “Attention to ethics in workplace sensitizes managers and staff to know they should Act so that they retain a strong moral compass. Consequently, business ethics can be strong preventive medicine.” John Donaldson- Business ethics in short can be desired as the systematic study of ethical matters pertaining to

business industry or related activities, institutions and beliefs. Business ethics is the systematic handling of values in business and industry.

Conclusion

Business ethics is important to practice good ethical behavior. One of the most formidable challenges is avoiding immoral management, and transitioning from an amoral to a moral management mode of leadership, behavior, decision making, policies and practices. Moral management requires ethical leadership. It entails more than just ‘not doing wrong’. Moral management requires that managers search out of those vulnerable situations in which amorality may reign if careful, thoughtful reflection is not given by management. Moral management requires that managers understand, and be sensitive to, all the stakeholders of the organization and their stakes. If the moral management model is to be achieved, managers need to integrate ethical wisdom with their managerial wisdom and take steps to create and sustain an ethical climate in their organizations.

Topic

Module 4: Partnership

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:

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

2. Limited Partnership:

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

3. Partnership at Will:

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

4. Particular Partnership:

- o Formed for a specific project or activity.
- o 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:

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

2. Dissolution of the Firm:

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

Modes of Dissolution

1. By Agreement:

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

2. Compulsory Dissolution:

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

3. On Notice:

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

Hire Purchase and Instalment Sale Transactions

4. Court Intervention:

- o 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:

- o Creditors and outside liabilities are settled first.

2. Repayment of Loans by Partners:

- o Loans from partners are repaid after settling external debts.

3. Return of Capital:

- o Capital contributions are repaid to partners.

4. Distribution of Residual Balance:

- o 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:

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

2. Pooling Resources:

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

3. Synergies:

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

4. Financial Stability:

- o Merging to address financial challenges or avoid competition.

Steps in Amalgamation

1. Valuation of Assets and Liabilities:

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

2. Settlement of Old Accounts:

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

3. Creation of a New Partnership Agreement:

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

4. Combining Capital Accounts:

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

5. Recording of Assets and Liabilities:

- o 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)

Alternate Minimum Tax

Alternate Minimum Tax (AMT) is a tax levied to ensure that individuals and other entities pay at least a minimum amount of tax, even after claiming various deductions and exemptions.

The Finance Act, 2011 had introduced the concept of AMT in relation to LLPs and accordingly the LLPs were subject to AMT @ 18.5% of adjusted total income. Total income shall be increased by deductions claimed under Part C of Chapter VI-A and deductions claimed u/s 10AA to arrive at adjusted total income. The Finance Act, 2012 extended the levy of AMT to certain persons other than companies.

Subsequently, the investment linked deductions have been provided in place of profit linked deductions. With a view to include the investment linked deduction claimed u/s 35AD in computing adjusted total income for the purpose of calculating alternate minimum tax, it was amended so as to include deduction claimed u/s 35AD for the purpose of computation of adjusted total income.

At present the Act provides that where the regular income-tax payable by a person, other than a company, for a previous year computed as per the provisions of the Income-tax Act, 1961 (other than Chapter XII-BA) is less than the AMT payable for such previous year, the adjusted total income shall be deemed to be the total income of the person. Such person shall be liable to pay income-tax on the adjusted total income @ 18.5%.

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

Applicable to

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

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

Exception:

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

Taxpoint:

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

Scheme of Alternate Minimum Tax (AMT)

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

Step 3	Compute Alternate Minimum Tax (AMT) [Being 18.5% of Adjusted Total Income]	G = F * 18.5%	****
Step 4	Income Tax liability	Higher of A&G	****
	<i>Add: Health & Education Cess</i>		**
	Tax liability after Cess		****

Exceptions

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

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

- Adjusted total income (as computed in step 2) shall be deemed as total income of the assessee.
- Tax liability of the assessee shall be 18.5%¹ (+ surcharge + cess) of adjusted total income of the assessee.
- A report in Form 29C from a chartered accountant is required to be upload one month prior to the due date of furnishing of return of income u/s 139(1).
- All other provisions of the Act, like advance tax, interest, etc. apply to such assessee.

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

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

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

- However, no interest shall be payable on the tax credit allowed.

- The amount of tax credit determined shall be carried forward and set off but such carry forward shall not be allowed beyond the 15th assessment year immediately succeeding the assessment year in which tax credit becomes allowable.
- The tax credit shall be allowed set-off in a year when regular tax becomes payable by the assessee.
- Set off in respect of brought forward tax credit shall be allowed for any assessment year to the extent of the difference between the alternate minimum tax payable u/s 115JC for that assessment year and the balance of the tax credit, if any, shall be carried forward. In other words, after setting off of AMT credit, tax liability of the year cannot be less than AMT for that year.
- The amount of tax credit in respect of any income-tax paid in any country or specified territory outside India u/s 90 or 90A or 91, allowed against the alternate minimum tax payable, exceeds the amount of the tax credit admissible against the regular income-tax payable by the assessee, then, while computing the amount of credit u/s 115JD, such excess amount shall be ignored.
- If the amount of regular income-tax or the AMT is reduced or increased as a result of any order passed under this Act, the amount of tax credit allowed under this section shall also be varied accordingly.

Conclusion

The AMT u/s 115JC is a significant provision of the Income Tax Act that ensures a fair and equitable distribution of the tax burden. It prevents high-income taxpayers from avoiding tax liability through excessive use of deductions and incentives.

¹ Or 15% or 9% as the case may be

Topic

Modula 6:
Customs Act and
Rules

INTERMEDIATE

Group I - Paper-7B

Indirect Taxation
(IDT)

Customs Duty

Customs Duty is a tax imposed on imports and exports of goods. It is a significant source of revenue for the government and also serves as a tool to regulate the flow of goods in and out of the country. By imposing customs duties, governments aim to protect domestic industries, manage trade deficits, and ensure national security. This note delves into the various aspects of customs duty, its types, calculation methods, and its significance in international trade.

Purpose

Customs Duty is a tariff or tax levied on goods when they cross international borders. The primary purposes of customs duty include:

- **Revenue Generation:** Customs duty is a major source of income for governments, especially in developing countries.
- **Protection of Domestic Industries:** By imposing higher duties on certain imports, governments can protect fledgling domestic industries from foreign competition.
- **Regulation of Trade:** Customs duties can be used to regulate the import and export of certain goods, ensuring a balance in trade.
- **National Security:** By controlling the import of specific goods, governments can ensure the safety and security of their citizens.

Types of Customs Duty

There are several types of customs duties, each serving a different purpose:

- **Basic Customs Duty (BCD)**
Basic Customs Duty is the standard rate of duty applicable to imported goods. It is levied on the value of the goods at the time of import and varies depending on the product and country of origin.
- **Anti-Dumping Duty (ADD)**
Anti-dumping duty is levied on imported goods that are priced below their normal value or cost

of production. The purpose is to protect domestic industries from unfair competition caused by dumping, where foreign manufacturers sell goods at a loss to gain market share.

- **Safeguard Duty**

Safeguard Duty is a temporary measure imposed to protect a domestic industry from a sudden surge in imports that could cause serious injury. It is typically implemented for a limited period and is intended to give the domestic industry time to adjust to the increased competition.

- **Social Welfare Surcharge (SWS)**

Social Welfare Surcharge is an additional levy on imported goods, calculated as a percentage of the Basic Customs Duty. The revenue collected from this surcharge is used for social welfare projects and initiatives.

- **Protective Duty**

Protective Duty is imposed to protect domestic industries from foreign competition. It is usually higher than the Basic Customs Duty and is applied to goods that are also produced domestically.

Further, IGST and GST compensation cess, if applicable, shall also be levied.

Calculation of Customs Duty

The calculation of customs duty involves several steps and factors:

- **Assessable Value**

The first step in calculating customs duty is determining the assessable value of the imported goods. The assessable value is the cost of goods, including the cost of insurance and freight (CIF value).

- **Rate of Duty**

The rate of duty applicable to the goods is then determined based on the Customs Tariff Act. The rate may vary depending on the product, country of origin, and the type of duty being applied

- **Applying the Duty**

Once the assessable value and rate of duty are determined, the customs duty is calculated as follows:

- **BCD Calculation:** BCD is calculated on the assessable value of the goods.
- **SWS Calculation:** SWS is calculated as a percentage of the BCD.
- **IGST Calculation:** IGST is calculated on the assessable value of the goods + BCD + SWS
- **GST Cess Calculation:** Cess is calculated on the assessable value of the goods + BCD + SWS

Valuation of Goods

The valuation of goods is a critical aspect of customs duty calculation. The primary methods of valuation include:

A. Transaction Value Method

The transaction value method is the most commonly used method and is based on the price actually paid or payable for the goods when sold for export to the importing country. This method includes the cost of goods, insurance, and freight.

B. Transaction Value of Identical Goods

If the transaction value of the imported goods cannot be determined, the transaction value of identical goods imported at or about the same time can be used as the basis for valuation.

C. Transaction Value of Similar Goods

When neither the transaction value of the imported goods nor identical goods is available, the transaction value of similar goods imported at or about the same time can be used.

D. Deductive Value Method

The deductive value method is based on the resale price of the goods in the importing country, adjusted for costs and profits incurred after importation.

E. Computed Value Method

The computed value method is based on the cost of production, including materials, labour, and other expenses, plus an amount for profit and general expenses.

F. Fallback Method

If none of the above methods can be applied, the fallback method allows for a reasonable and flexible approach to determining the value, based on the principles of the previous methods.

Customs Procedures

The customs procedures for importing and exporting goods involve several steps and documentation requirements:

A. Import Procedures

- **Filing of Bill of Entry:** The importer or their authorized agent files a Bill of Entry, which is a document declaring the details of the imported goods.
- **Assessment:** The customs authorities assess the goods based on the information provided in the Bill of Entry and determine the applicable duties.
- **Payment of Duty:** The importer pays the assessed customs duty.
- **Examination and Clearance:** The goods are examined by customs officials to verify the declared details and ensure compliance with regulations. Upon satisfactory examination, the goods are cleared for release.

B. Export Procedures

- **Filing of Shipping Bill:** The exporter or their authorized agent files a Shipping Bill, which is a document declaring the details of the goods to be exported.
- **Assessment:** The customs authorities assess the goods based on the information provided in the Shipping Bill and verify the export incentives, if any.

- **Examination and Clearance:** The goods are examined by customs officials to verify the declared details and ensure compliance with export regulations. Upon satisfactory examination, the goods are cleared for export.

Impact of Customs Duty on Trade

Customs duties have a significant impact on international trade and the economy:

- **Trade Balance**

Customs duties can influence the trade balance by affecting the competitiveness of imported and exported goods. Higher duties on imports may reduce the volume of imports, while lower duties on exports can enhance the competitiveness of domestic products in international markets.

- **Domestic Industries**

By imposing customs duties, governments can protect domestic industries from foreign competition. This protection allows domestic industries to grow and develop, contributing to economic growth and employment.

- **Consumer Prices**

Customs duties can affect consumer prices by increasing the cost of imported goods. Higher duties on imports may lead to higher prices for consumers, while lower duties can make imported goods more affordable.

- **Revenue Generation**

Customs duties are a significant source of revenue for governments. This revenue is used to fund public services, infrastructure development, and social welfare programs.

Conclusion

Customs Duty is a tariff or tax imposed on the importation and exportation of goods. It is a crucial component of international trade regulations and serves multiple purposes, including revenue generation for the government, protection of domestic industries, and regulation of goods entering or leaving a country.

Topic

Module 6:
Cost Accounting
Techniques

INTERMEDIATE

Group I - Paper-8

Cost Accounting
(CA)

COST ACCOUNTING

The Chapter Marginal Costing is most important for decision making and not less than one question is set from this chapter. The students should first 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 of this chapter. Hence a thorough knowledge of Fixed Cost and Variable cost and its implication in product cost is necessary. You should have a clear understanding on the meaning and use of contribution which is the key to different problems. The effect of Profit Volume Ratio is an important part of this chapter. So you should go through these problem 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 know the Margin of Safety and Angle of Incidence.

Marginal costing

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

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

Marginal Cost

According to economists, marginal costs are the additional cost of an additional unit. But the accountants define this as the aggregate of variable costs i.e. prime cost plus variable overhead. Actually it is the added costs. These are out of pocket outlay, which would not be incurred if a particular product or product line was eliminated.

According to CIMA marginal cost is “The cost of one unit of product or service which would be avoided if that unit was not produced or provided”.

Absorption Costing

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

Contribution

The difference between sales and variable costs or

marginal costs is known as contribution. It is also called as contribution margin, marginal income, marginal balance etc. It is vital in marginal costing. It is the margin, not the profit.

Marginal cost equation

This equation is developed through the concept of contribution. The contribution is the difference between sales and variable cost or may be said to be equal to fixed cost and profit (or loss).

From the above we can write:

$$\text{Total Cost} = \text{Variable Cost (V)} + \text{Fixed Cost (P)}$$

$$\text{Profit (P)} = \text{Sales (S)} - \text{Total Cost (V + F)}$$

$$\text{As, Contribution (C)} = \text{Sales} - \text{Variable Cost.}$$

Hence we can write:

$$S = V + F + P \text{ (if any)}$$

$$: S - V = F + P \text{ (if any)}$$

$$: C = F + P \text{ in case of loss } C = F - L$$

Break-even point

Break-even point is a point where there is neither profit nor loss. Here the contribution is equal to fixed cost. It is the level of output which breaks even the costs and revenues and hence 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.

J. Wayne Kellen defines BEP as the level of sales income, which equals the sum of its variable costs and fixed expenses.

The BEP can be calculated as:

$$(i) \text{ BEP (unit)} = \text{Fixed Cost} / \text{unit contribution.}$$

$$(ii) \text{ BEP (Sales value):}$$

$$(a) (\text{Fixed Cost/unit contribution}) \times \text{unit selling price}$$

$$(b) (\text{Total Fixed costs/Total contribution}) \times \text{total sales}$$

$$(c) \text{ Total Fixed costs/P/V Ratio} = (F \times S) / C$$

The Break-even Chart

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

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

- (1) Variable Cost, Fixed Cost and Total Costs.
- (2) Total sales and Break-even point or B.E. Sales
- (3) Profit or loss
- (4) Margin of safety
- (5) Angle of incidence.

The concept of Marginal Costing may be clear through the following Problem.

Problem:

Sharp Industries makes modern toys only. An analysis of cost records gives the following information for their products.

Sales (12000) unites	₹ 2,40,000
Direct Materials	₹ 48,000
Direct Labour	₹ 36,000
Variable Production Overhead	₹ 24,000
Fixed Expenses	₹ 1,05,600

You are required to calculate:

- a) Contribution per unit
- b) P/V Ratio
- c) Break- even point
- d) Margin of Safety
- e) If the Fixed Expenses is increased by ₹20,020, then,
 - 1) What will be the new Break- even point?
 - 2) If variable Production Overhead is increased by ₹ 6000, what will be the new P/V Ratio and the new BEP in this revised situation?
- f) Sales required to earn a profit of ₹ 49,500.

Solution:

a) Contribution = Sales -- Variable Costs	
Sales	2,40,000
Less: Variable Costs	
Direct Materials.	48,000
Direct Labour	36,000
Variable Production Overhead	<u>24,000</u>
	<u>1,08,000</u>
	<u>1,32,000</u>

Therefore, Contribution per unit = $132000 / 12000$ units = ₹ 11.00

- b) $P/V \text{ Ratio} = \text{Contribution} / \text{Sales} \times 100 = 132000 / 240000 \times 100 = 55\%$
- c) Break-even Point (units):
 $\text{Fixed Cost} / \text{Contribution per unit} = 105600 / 11 = 9600$ units.
 BEP in sales value: $9600 \text{ units} \times ₹ 20 = ₹ 1,92,000$,
 Alternatively, $\text{Fixed Cost} / PV \text{ Ratio} = 105600 / 55 \times 100 = ₹ 1,92,000$
- d) Margin of safety: $\text{Actual Sales} - \text{BEP Sales} = 240000 - 192000 = ₹ 48,000$
- e)
 - 1) New BEP if the Fixed Cost is increased by ₹20,000:
 If Fixed Cost is increased, the Contribution remain unchanged.
 $B.E.P. = (\text{₹}1,05,600 + \text{₹}20,020) / ₹11 = 1,25,620 / 11 = 11420$ units.
 - 2) If Variable Cost Changes, Contribution per unit, P/V Ratio and B.E.P. will also change.
 $\text{Contribution} = \text{Sales} - \text{Variable Cost} = (12000 \times ₹ 20) - (108000 + 6000) = ₹ 1,26,000$
 Therefore, $\text{Contribution per unit} = ₹ 126000 / 1200 \text{ units} = ₹ 10.50$ per unit
 $\text{Revised P/V Ratio} = (126000 / 224000) \times 100 = 52.5\%$
 Hence, $\text{Revised B.E.P.} = (\text{Revised Fixed Cost} / \text{Revised P/V Ratio}) \times 100 = (\text{₹}125620 / 52.5) \times 100 = ₹ 239276$
- f) Sales required to earn a profit of ₹ 49500 ,
- g) $\text{Required Sales} = \text{Required Contribution} / P/V \text{ Ratio} = \{(105600 + 49500) / 55\} \times 100 = ₹ 282000$, Or, $₹ 282000 / 20 = 14100$ units.

Cost Volume Profit Analysis is an another section of Marginal Costing which is also associated with Decision making.

Cost Volume Profit Analysis

Profit is always the final goal to the businessman as well as to the management. The expression cost-volume-profit relationship is thus important to the management. Profit is actually the result of interplay of cost-volume and selling price. The effectiveness of a manager largely depends upon his ability to make correct prediction

about future profits. The knowledge of cost-volume profit relationship helps the management to find out the right path to solve the various problems that it faces in the course of its actions.

The uses of cost-volume-profit analysis are as follows:

- (1) It helps the management to estimate or predict profit over a wide range of volumes.
- (2) It helps the management in taking many crucial decisions viz. whether capacity or volume of sales should be increased or not, and 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 the management in product pricing.

Application of Marginal Costing

(1) Fixation of Selling Price

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

The price fixation is one of the principal functions of the management. Product pricing is necessary under different circumstances such as -

- (a) Under normal situations;
- (b) In times of competitions or trade depressions;
- (c) At the time of accepting additional order for utilizing idle capacity, exporting etc.

(2) Selling at or below Marginal Cost

In most of the cases the prices are equal to marginal cost plus a certain mark-up. But pricing at or below marginal cost may be necessary in some cases for the following reasons:

- (i) Expansion and establishment of the product in the foreign market.
- (ii) Introduction of new product in the market.
- (iii) Driving out the weaker competitor(s).
- (iv) To retain the existing market in near future.
- (v) To dispose off the perishable goods.
- (vi) To prevent loss of trade.
- (vii) To push up the sales of joint products.
- (viii) To keep the employees occupied.
- (ix) To keep the machine ready for full production)

(3) Level of Activity Planning

The technique of marginal costing helps the management to decide the optimum level of activity. In deciding the optimum level of activity the management must calculate the contribution per unit at different levels of activity. Where contribution is maximum, that will be the optimum level of activity.

(4) Evaluation of Profitability

The decision whether a department should continue or not depends to a large extent on their comparative profitability. Marginal costing technique helps the management in taking such decision.

As long as a concern makes a contribution towards fixed cost, closing down or suspending activity would not be profitable.

(5) Selection of Profitable Sales-mix

The technique of marginal costing can be applied in determination of most profitable product or sales-mix. Especially, when a concern produces or sells more than one product. The best product mix is that which yields the maximum contribution.

(6) Key/Limiting Factor

The key factor is that which puts a limit on production or sales. There are various things which can be considered as key factors such as shortage of materials, labour, plant capacity, capital, demand of the product etc. Ordinarily, when there is no limiting factor, the choice of the product should be based on P.V. ratio, but when there are some limiting factors, selection of the product should be based on contribution per units of limiting factors. When two or more limiting factors operate simultaneously, it is not possible to determine real ranking of product, without using linear programming.

(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. If the marginal cost is lower than the price quoted by outside vendors, it will be more profitable to manufacture the component in the factory instead of purchasing from outside. Fixed costs are not taken into consideration on the assumption that they have been already incurred.

Topic

Module 6:
Project
Management,
Monitoring and
Control

INTERMEDIATE

Group II - Paper-9

Operations
Management
and Strategic
Management
(OMSM)

Operations Management

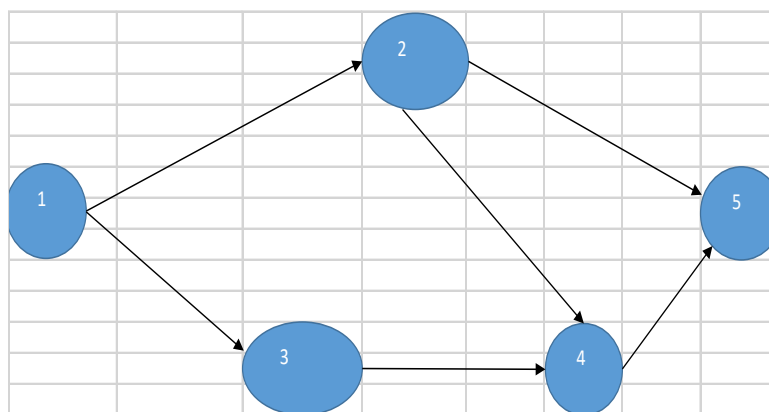
In this issue we discuss project management—its application side through different use of EST, LST, EFT, LFT etc, under resource constraints. We start with a CPM network and employ restrictions. .

Let us take a simple example given below

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

The network diagram and other requisite details for scheduling programme are given here

.Network Diagram



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

Fig.: 1

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

Fig2

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

Fig3

Please refer guide book for clear understanding on the methods for constructing all the aforementioned figures.

For the proper planning of a project, scheduling and control of the activities of the project are required through network techniques under given inter-relationships among various activities and constraints on the availability of resources.

When adequate resources are available for generating various schedules, the early start schedule, the late start schedule or any other schedule lying between these two bounds, information was required only regarding network logic and activity duration.

In real life situations however there may be restrictions on the availability of resources. When restrictions exist various schedules may have to be considered to find out which one is most appropriate in the light of these restrictions.

Scheduling to match release of funds:

The cost estimates for various activities for our project details of which are given above are:

Activity	Duration in Months	Cost per Month (B)	Cost (B)
1-2	13	2,00,000	26,00,000
1-3	12	5,00,000	60,00,000
2-4	2	10,00,000	20,00,000
2-5	15	1,00,000	15,00,000
4-5	2	7,50,000	15,00,000
		Total	1,56,00,000

The government has decided to release B15600000 required for the project in the following manner:

B 69,00,000 in the first year, B 68,00,000 in the second year and B 19,00,000 in the third year. It has also stipulated that the unspent amount would lapse and hence cannot be carried forward.

Before we develop the project schedule, a preliminary question may be asked: Is it possible prima facie to schedule this project without extending its duration beyond 28 months, which is the minimum time required given the network logic and activity durations. To answer this question let us look at the funds requirement for the early start schedule and late start schedule. This is shown below in Table 1 and Table 2:

In tables 1 and 2 funds requirements for projects month wise and cumulative are shown. The cumulative project requirements for EST and LAST are also shown in form of cost curve in the following fig. 4

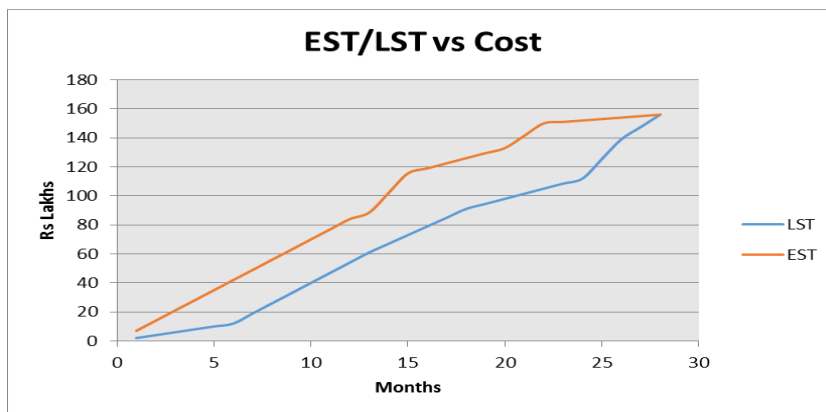


Fig4

Start To Finish	Duration (months)	Activity						Expenditures	
		1-2	1-3	2-4	3-4	2-5	4-5	Monthly	Cumulative
0-1	1	2	5					7	7
1-2	2	2	5					7	14
2-3	3	2	5					7	21
3-4	4	2	5					7	28
4-5	5	2	5					7	35
5-6	6	2	5					7	42
6-7	7	2	5					7	49
7-8	8	2	5					7	56
8-9	9	2	5					7	63
9-10	10	2	5					7	70
10-11	11	2	5					7	77
11-12	12	2	5					7	84
12-13	13	2			2.5			4.5	88.5
13-14	14			10	2.5	1		13.5	102
14-15	15			10	2.5	1		13.5	115.5
15-16	16				2.5	1		3.5	119
16-17	17				2.5	1		3.5	122.5
17-18	18				2.5	1		3.5	126
18-19	19				2.5	1		3.5	129.5
19-20	20				2.5	1		3.5	133
20-21	21					1	7.5	8.5	141.5
21-22	22					1	7.5	8.5	150
22-23	23					1		1	151
23-24	24					1		1	152
24-25	25					1		1	153
25-26	26					1		1	154
26-27	27					1		1	155
27-28	28					1		1	156
Total		26	60	20	20	15	15	156	

Table 1 on EST

Start To Finish	Duration (months)	Activity						Expenditures	
		1-2	1-3	2-4	3-4	2-5	4-5	Monthly	Cumulative
		0-1	1	2					
1-2	2	2						2	4
2-3	3	2						2	6
3-4	4	2						2	8
4-5	5	2						2	10
5-6	6	2						2	12
6-7	7	2	5					7	19
7-8	8	2	5					7	26
8-9	9	2	5					7	33
9-10	10	2	5					7	40
10-11	11	2	5					7	47
11-12	12	2	5					7	54
12-13	13	2	5					7	61
13-14	14		5			1		6	67
14-15	15		5			1		6	73
15-16	16		5			1		6	79
16-17	17		5			1		6	85
17-18	18		5			1		6	91
18-19	19				2.5	1		3.5	94.5
19-20	20				2.5	1		3.5	98
20-21	21				2.5	1		3.5	101.5
21-22	22				2.5	1		3.5	105
22-23	23				2.5	1		3.5	108.5
23-24	24				2.5	1		3.5	112
24-25	25			10	2.5	1		13.5	125.5
25-26	26			10	2.5	1		13.5	139
26-27	27					1	7.5	8.5	147.5
27-28	28					1	7.5	8.5	156
Total		26	30	0	5	15	15	156	

Table 2 on LST

From the above table we find that:

1. The rate of expenditure is relatively higher for the earlier stages on the EST schedule and is relatively higher for the later stages in LST schedule.
2. A rate of spending greater than that of the EST schedule is not possible. This is so because under this schedule all the activities are started as early as possible. So any release of funds above the EST schedule requirement curve is beyond the capacity of the project to spend.
3. The rate of spending corresponding to the LST schedule is the absolute minimum necessity to complete the project on time. Something less than this will definitely force the project developer to extend the project completion time.
4. A pattern of funds release lying between the two bounds, EST schedule and LST schedule (see figure4, area bounded by EST curve and LST curve) requirement, prima facie suggests that a schedule can be worked out without extending project duration.

Now let us look at the cumulative funds release pattern for our illustrative project. This lies between EST requirement and LST schedule requirement (Refer fig 4). So prima facie it suggests that a feasible schedule without extending the project duration can be developed. As maximum spending as EST and minimum spending as per LST both complete the project by 28th months (Refer fig 4).

Now let us consider scheduling year by year.

The activities that begin in year 1 according to EST are (1-2) and (1-3). Now if both these activities are commenced as early as possible, the fund requirement for year 1 would be B84 lakhs (Refer table 1 corresponding to row 11-12). Since this amount exceed B 69 lakhs, the amount to be released in year 1. Therefore the expenditure in year 1 has to be reduced by B (84-69) = B 15lakhs. For this we consider the possibility of shifting activities to subsequent periods.

Out of two activities (1-2) and (1-3) we cannot reschedule activity (1-2) as it is on critical path (Refer fig 1) and total float is zero (Refer fig 3). On the other hand activity (1-3) is not on the critical path (Refer fig 1) and has a total float of 6 months (Refer fig 3). Now to save B 15lakhs if we have to reschedule activity (1-3). Since cost per month for activity (1-3) is B 5lakhs, if we reschedule it by only 3 months (Total float is 6 months), we can save B (3*5) = B 15 lakhs. The new schedule will be as follows in Table 3:

In table 3 we can observe that after reschedule of activity (1-3) the amount spent in year 1 becomes equal to the amount released in year 1 i.e. B69 lakhs(Refer table 3 corresponding to row 11-12).

Start To Finish	Duration (months)	Activity						Expenditures	
		1-2	1-3	2-4	3-4	2-5	4-5	Monthly	Cumulative
		0-1	1	2					
1-2	2	2						2	4
2-3	3	2						2	6
3-4	4	2	5					7	13
4-5	5	2	5					7	20
5-6	6	2	5					7	27
6-7	7	2	5					7	34
7-8	8	2	5					7	41
8-9	9	2	5					7	48
9-10	10	2	5					7	55
10-11	11	2	5					7	62
11-12	12	2	5					7	69
12-13	13	2	5		2.5			9.5	78.5
13-14	14		5	10	2.5	1		18.5	97
14-15	15		5	10	2.5	1		18.5	115.5
15-16	16				2.5	1		3.5	119
16-17	17				2.5	1		3.5	122.5
17-18	18				2.5	1		3.5	126
18-19	19				2.5	1		3.5	129.5
19-20	20				2.5	1		3.5	133
20-21	21					1	7.5	8.5	141.5
21-22	22					1	7.5	8.5	150
22-23	23					1		1	151
23-24	24					1		1	152
24-25	25					1		1	153
25-26	26					1		1	154
26-27	27					1		1	155
27-28	28					1		1	156
Total		26	45	20	20	15	15	156	

Table 3

We now go to year 2. Before rescheduling activity (1-3) as in table 3 above, the funds requirement for year 2 was B (152-84) = B 68lakhs as per EST schedule (Refer row corresponding to 23-24 and row corresponding to 11-12 in table1). This was in line with the release of the fund by the Government for the second year. But as soon as we reschedule activity (1-3) by 3 months the requirement for funds in the second year will get distorted w.r.t fund release and requirement will be B (152-69) = B 83lakhs--- requirement increases by B 15 lakhs over and above what it is for EST schedule (table1).

Moreover as we shift activity (1-3) its earliest start schedule will be 3 months instead of 0 and its earliest finishing time will be 15 months instead of 12 months. As a result activity (3-4) we have to start latest by 15 months instead of 12 months and its earliest finishing time will be 23 months instead of 20 months. Activity (3-4) could be shifted by these 3 months as it has a total float of 6 months (Refer fig3).

As a result of this shifting of activity (3-4) activity (4-5) needs to be rescheduled. Earliest Start time of activity (4-5) now will be 23months instead of 20 months and earliest finishing time will be 25 months instead of 22 months. Activity (4-5) could be shifted by these 3 months as it has a total float of 6 months (Refer fig3).

The net result of shifting activity (1-3), (3-4) and (4-5) on cumulative cost requirement are given in Table 4 below.

But through this shifting fund requirement in 2nd year will become B (144.5-69) = B 75.5 which is more than the fund amount released B 68 lakhs by B 7.5 lakhs. So to match the fund requirement in 2nd year with the amount of fund release in 2nd year, we require to shift activity (4-5) fully to 3rd year. This will match the 2nd year requirement with the fund release pattern. Activity (4-5) has total float of 6 months. Therefore we could shift it by 4 months and fund requirement in every year will match the pattern of yearly fund release. The ultimate schedule of the activities is given in Table 5 below:

In fig 5 we could observe that ultimate schedule is within EST and LST schedule

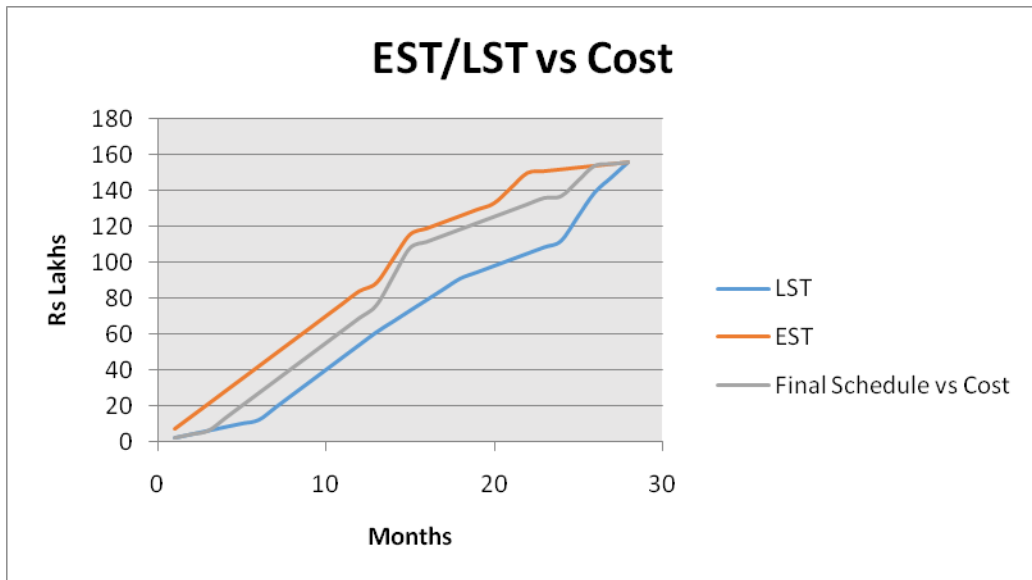


Fig-5

Start To Finish	Duration (months)	Activity						Expenditures	
		1-2	1-3	2-4	3-4	2-5	4-5	Monthly	Cumulative
		0-1	1	2					
1-2	2	2						2	4
2-3	3	2						2	6
3-4	4	2	5					7	13
4-5	5	2	5					7	20
5-6	6	2	5					7	27
6-7	7	2	5					7	34
7-8	8	2	5					7	41
8-9	9	2	5					7	48
9-10	10	2	5					7	55
10-11	11	2	5					7	62
11-12	12	2	5					7	69
12-13	13	2	5					7	76
13-14	14		5	10		1		16	92
14-15	15		5	10		1		16	108
15-16	16				2.5	1		3.5	111.5
16-17	17				2.5	1		3.5	115
17-18	18				2.5	1		3.5	118.5
18-19	19				2.5	1		3.5	122
19-20	20				2.5	1		3.5	125.5
20-21	21				2.5	1		3.5	129
21-22	22				2.5	1		3.5	132.5
22-23	23				2.5	1		3.5	136
23-24	24					1	7.5	8.5	144.5
24-25	25					1	7.5	8.5	153
25-26	26					1		1	154
26-27	27					1		1	155
27-28	28					1		1	156
Total		26	45	20	12.5	15	0	156	

Table 4

Start To Finish	Duration (months)	Activity						Expenditures	
		1-2	1-3	2-4	3-4	2-5	4-5	Monthly	Cumulative
		0-1	1	2					
1-2	2	2						2	4
2-3	3	2						2	6
3-4	4	2	5					7	13
4-5	5	2	5					7	20
5-6	6	2	5					7	27
6-7	7	2	5					7	34
7-8	8	2	5					7	41
8-9	9	2	5					7	48
9-10	10	2	5					7	55
10-11	11	2	5					7	62
11-12	12	2	5					7	69
12-13	13	2	5					7	76
13-14	14		5	10		1		16	92
14-15	15		5	10		1		16	108
15-16	16				2.5	1		3.5	111.5
16-17	17				2.5	1		3.5	115
17-18	18				2.5	1		3.5	118.5
18-19	19				2.5	1		3.5	122
19-20	20				2.5	1		3.5	125.5
20-21	21				2.5	1		3.5	129
21-22	22				2.5	1		3.5	132.5
22-23	23				2.5	1		3.5	136
23-24	24					1		1	137
24-25	25					1	7.5	8.5	145.5
25-26	26					1	7.5	8.5	154
26-27	27					1		1	155
27-28	28					1		1	156
Total		26	45	20	12.5	15	0	156	

Table 5

Suggestions:

This issue is based on project management techniques under resource constraint. The problem is just indicative type from which maximum benefits could be reached once Guide book on the paper 9- Operations Management & Strategic Management along with reference books are thoroughly consulted.

Best Wishes

Topic

Module 1 :
Accounting for Shares
and Debentures

Module 8 :
Auditing of Different
Types of Undertakings

INTERMEDIATE

Group II - Paper-10

Corporate
Accounting and
Auditing (CAA)

Section A: Corporate Accounting

Topic: Underwriting of Securities

- **Concept of Underwriting**

In the primary market, when a company goes for an Initial Public Offer (IPO) or Further Public Offer (FPO), there is every possibility that the issue is not fully subscribed. There may be various reasons for the same including bearish condition in the secondary market, too high a price band, unsatisfactory business model of the company etc. However, if the issue is not fully subscribed, the company will fail to arrange the required fund. Moreover, as per law, it is required that if the company is not able to collect 90% of the offer amount (minimum subscription), then it needs to compulsorily return the money to those who have applied for the shares. To avoid the risk of under-subscription issuers generally seek the help of a specialised group of financial service providers - called *Underwriters*.

- **Types of Underwriting Agreement**

There are two types of underwriting agreement: (a) conditional; and (b) firm.

In a conditional underwriting, the underwriter agrees to take up agreed proportion of shares, not taken up by the public.

In a firm underwriting, the underwriter agrees to take up a specified number of shares irrespective of the number of shares subscribed for by the public.

- **Marked and Unmarked Applications**

‘Marked’ applications are those applications which have the stamp of an underwriter. The ‘unmarked’ applications are those applications which have no stamp of an underwriter. These applications are received by the company directly from the public.

- **Full and Partial Underwriting**

When the whole issue is underwritten by a single underwriter or a group of underwriters, it is called full underwriting. On the other hand, when a part (say 65%) of the whole issue is underwritten by the underwriter(s) it is called partial underwriting.

- **Determination of Underwriters’ Liability in a Fully Underwritten Issue**

In general, the liability of an underwriter is the number of securities that has to be taken up by him.

This liability may be of two types - Gross Liability and Net Liability.

Gross Liability refers to the total commitment of the underwriter as per the underwriting agreement.

Net Liability refers to the liability of taking up the unsubscribed securities after taking into consideration the gross liability as per the agreement of underwriting and applications received (both, marked applications and unmarked applications).

Thus, Net Liability = Gross Liability - (Marked applications + Proportion of Unmarked applications for which the underwriter has been given credit).

Treatment of Firm Underwriting: The treatment of Firm Underwriting becomes significant as the underwriter must take up the number of securities underwritten ‘firm’ irrespective of its liability under the regular underwriting agreement.

For determining the liability of the underwriters, the shares underwritten firm may be treated in either of the following two ways:

- (a) Firm underwriting treated as Marked applications: Here, the benefit of firm underwriting is given to each individual underwriter i.e., number of shares underwritten firm is deducted from each underwriter’s respective liability; or
- (b) Firm underwriting is treated as Unmarked applications: Here, the benefit is given to all underwriters in the ratio of Gross Liability.

Thus, Underwriter’s Liability is finally calculated as –

Underwriter’s liability = Gross Liability (-) No. of Marked applications (-) Shares of Unmarked applications (+) Firm Underwriting.

Consider the following illustrations.

Note: Also, underwriters are eligible to receive ‘underwriting commission’ for assuming the risk

of under subscription. Underwriting commission is calculated on their total commitment, also known as gross liability, based on the issue price of the securities to the public. Accordingly,

Underwriting Commission = [Gross Liability (in no.) x Issue Price per security] x Rate of Commission.

• Comprehensive Problem

X Ltd., incorporated on April 1, 2023, undertook an IPO inviting applications for 10,00,000 equity shares of ₹10 each. The issue was fully underwritten by P, Q, R and S as follows:

P - 4,00,000; Q - 3,00,000; R - 2,00,000; and S - 1,00,000.

The applications were received for 9,00,000 shares of which marked applications were as follows:

P - 4,40,000; Q - 1,80,000; R - 2,20,000; and S - 20,000.

Find out the liability of the individual underwriters in each of the following cases:

- Unmarked applications are apportioned in the ratio of "Gross Liability"; and
- Unmarked applications are apportioned in the ratio of "Gross Liability (-) Marked Applications".

Solution:

(i) When Unmarked applications are apportioned in the ratio of "Gross Liability"

Calculation of Liability of the underwriters (No. of shares)

Particulars	P	Q	R	S
Gross Liability	4,00,000	3,00,000	2,00,000	1,00,000
Less: Marked Applications	4,40,000	1,80,000	2,20,000	20,000
	(40,000)	1,20,000	(20,000)	80,000
Less: Unmarked Applications	16,000	12,000	8,000	4,000
	(56,000)	1,08,000	(28,000)	76,000
Surplus of P&R apportioned between Q&S in the ratio of Gross Liability	56,000	(63,000)	28,000	(21,000)
Net Liability	Nil	45,000	Nil	27,500

Working:

Unmarked applications = Total applications received - Marked applications

$$= 9,00,000 - (4,40,000 + 1,80,000 + 2,20,000 + 20,000) = 40,000$$

Unmarked applications are apportioned in the ratio of "Gross Liability" i.e., 4:3:2:1

(ii) When Unmarked applications are apportioned in the ratio of "Gross Liability (-) Marked Applications"

Calculation of Liability of the underwriters (No. of shares)

Particulars	P	Q	R	S
Gross Liability	4,00,000	3,00,000	2,00,000	1,00,000
Less: Marked Applications	4,40,000	1,80,000	2,20,000	20,000
	(40,000)	1,20,000	(20,000)	80,000
Surplus of P&R apportioned between Q&S in the ratio of Gross Liability	40,000	(45,000)	20,000	(15,000)
	Nil	75,000	Nil	65,000
Less: Unmarked Applications	Nil	21,428	Nil	18,572
Net Liability	Nil	53,572	Nil	46,428

Working:

Total surplus = 40,000 + 20,000 = 60,000

This is to be apportioned between Q and S in 300000:100000 = 3:1

Unmarked applications = Total applications received - Marked applications

$$= 9,00,000 - (4,40,000 + 1,80,000 + 2,20,000 + 20,000) = 40,000$$

Unmarked applications are apportioned between B and D in the ratio of "Gross Liability (-) Marked Applications" = i.e., 75,000: 65,000 = 15:13

Section B: Auditing

Topic: Auditing of Different Types of Undertakings

Question:

Briefly discuss the payments related aspects to be considered while auditing a hospital. What will be your plan while auditing the assets and liabilities related aspects?

Answer:

Payment related aspects to be considered are as follows:

- (a) The auditor should ensure that all expenditure have been correctly classified into capital expenditure and revenue expenditure. He should see that all capital expenditure incurred are supported by prior sanction by competent authority.
- (b) Any purchase and sale of movable as well as immovable properties should be checked based on relevant documents. The auditor should assure that the assets purchased and not yet sold do exist through physical verification at a particular point of time.
- (c) The auditor needs to vouch all the revenue expenses.

If the amount of any revenue expenditure appears to be abnormal, he must undertake a trend analysis to establish whether there are any irregularities.

- (d) He must take additional care while investigating depreciation and other non-cash expenditure such as writing off intangible assets.

With respect to assets and liabilities, the auditor shall consider the following facts:

- (a) The auditor should see that all non-current assets have been recorded in the asset register with full details. He must ensure himself that the assets exist with the company on the date of verification. Adequacy of depreciation or amortisation as per law or any approved policy shall also be checked.
- (b) The auditor should obtain records of inventories at the end of the year and shall conduct physical verification of a significant part of the same. In specific, he should verify stock register in respect of stock and stores such as medicines, test tubes, cleaning materials, etc.

Topic

Module 7:
Financing Decision of a
Firm

Module 10:
Data Presentation:
Visualisation and
Graphical Presentation

INTERMEDIATE

Group II - Paper-11

Financial
Management and
Business Data
Analytics (FMDA)

Subject: Leverage Analysis

Leverage Analysis

Leverage in finance is the employment of an asset/source of finance for which firm pays fixed cost/fixed return. As a result, the earnings available to the shareholders/owners are affected as also their risk. There are three types of leverage, namely, operating, financial and combined.

(a) **Operating Leverage:** Operating leverage arises from the existence of fixed operating expenses. When a firm has fixed operating expenses, 1 percent change in sales leads to more than 1 percent change in EBIT. The operating costs of a firm fall into three categories: (i) fixed costs which may be defined as those which do not vary with sales volume; they are a function of time and are typically contractual; they must be paid regardless of the amount of revenues available; (ii) variable costs which vary directly with the sales volume; and (iii) semi-variable or semi-fixed costs are those which are partly fixed and partly variable. The degree of operating leverage measures how much a company's operating income changes in response to a change in sales.

Degree of Operating Leverage (DOL)

$$= \frac{\text{Percentage change in EBIT}}{\text{Percentage change in Sales}} \text{ Or}$$

Degree of Operating Leverage (DOL)

$$= \frac{\text{Contribution}}{\text{EBIT}}$$

(b) **Financial Leverage:** While operating leverage arises from the existence of fixed operating costs, financial leverage emanates from the existence of fixed interest expenses. When a firm has fixed interest expenses, 1 percent change in earnings before interest and taxes (EBIT) leads to more than 1 percent change in profit before tax (or earnings after tax or earnings per share).

Degree of Financial Leverage (DFL)

$$= \frac{\text{Percentage change in Income}}{\text{Percentage change in EBIT}} \text{ Or}$$

$$\text{Degree of Financial Leverage (DFL)} = \frac{\text{EBIT}}{\text{EBT}}$$

(c) **Combined Leverage or Total Leverage:** Combined leverage, or total leverage, arises from the existence of fixed operating costs and interest expenses.

Degree of Combined Leverage (DCL)

$$= \frac{\text{Percentage change in Net Income}}{\text{Percentage change in Number of Units Sold}} \text{ Or}$$

$$\text{Degree of Combined Leverage (DCL)} = \frac{\text{Contribution}}{\text{EBT}}$$

Or, Operating Leverage × Financial Leverage

Example 1

Following information obtained from three companies.

Company	P Ltd.	Q Ltd.	R Ltd.
Output (Units)	3,00,000	75,000	5,00,000
Fixed Costs (₹)	3,50,000	7,00,000	75,000
Unit variable costs (₹)	1.00	7.50	0.10
Interest Expenses	25,000	40,000	25,000
Unit selling price	3.00	25.00	0.50

Corporate tax rate is 35%.

You are required to prepare income statement and calculate the degree of operating leverage, degree of financial leverage and degree of combined leverage.

Answer:

Statement showing income and leverage of each company

Company	P Ltd.	Q Ltd.	R Ltd.
Output (Units)	3,00,000	75,000	5,00,000
Sales (₹)	9,00,000	18,75,000	2,50,000
Less: Variable costs (₹)	3,00,000	5,62,500	50,000
Contribution (₹)	6,00,000	13,12,500	2,00,000
Less: Fixed Cost (₹)	3,50,000	7,00,000	75,000
EBIT (₹)	2,50,000	6,12,500	1,25,000
Interest (₹)	25,000	25,000	25,000
Less: Tax (35%)	78,750	2,00,375	35,000
Earnings after Tax (EAT)	1,46,250	3,72,125	65,000
Degree of Operating Leverage (DOL) = $\frac{\text{Contribution}}{\text{EBIT}}$	2.40	2.1429	1.60
Degree of Financial Leverage (DFL) = $\frac{\text{EBIT}}{\text{EBT}}$	1.11	1.0699	1.25
Degree of Combined Leverage (DCL) = $\frac{\text{Contribution}}{\text{EBT}}$	2.67	2.2926	2.00

Example 2

A firm has sales of ₹75,00,000 variable cost of ₹42,00,000 and fixed cost of ₹6,00,000. It has a debt of ₹45,00,000 at 9% and equity of ₹55,00,000.

You are required:

- Calculate firm's ROI.
- Does it have favourable financial leverage?
- If the firm belongs to an industry whose asset turnover is 3, does it have a high or low asset leverage?
- What are the operating, financial and combined leverages of the firm?
- At what level of sales the EBIT of the firm will be equal to zero?

Answer:

Income statement

Particulars	Amount (₹)
Sales	75,00,000
Less: Variable Cost	42,00,000
Contribution	33,00,000
Less: Fixed Cost	6,00,000
EBIT	27,00,000
Less: Interest	4,05,000
EBT	22,95,000

Calculation of total investment

Particulars	Amount (₹)
Equity Share Capital	55,00,000
10% Loan	45,00,000
Total Investment	1,00,00,000

- Return on Investment (ROI)

$$= \frac{\text{EBIT}}{\text{Capital Employed}} \times 100 = \frac{₹27,00,000}{₹1,00,00,000} \times 100 = 27\%$$
- ROI is 27% whereas interest on loan funds is 9% which is less than ROI and hence firm has favourable financial leverage.
- Calculation of asset turnover ratio and comparison with industry

$$\begin{aligned} \text{Assets turnover ratio} &= \frac{\text{Sales}}{\text{Total Assets}} \\ &= \frac{₹75,00,000}{₹1,00,00,000} = 0.75 \end{aligned}$$

Industry turnover ratio is 3 whereas firm has asset turnover ratio 0.75 which is low as compared to industry. This means that either firm has low sales as compared to industry or its assets are high and not effectively utilized towards sales.

- Computation of leverages

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{₹33,00,000}{₹27,00,000} = 1.22$$

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{₹27,00,000}{₹22,95,000} = 1.18$$

$$\text{Combined Leverage} = \frac{\text{Contribution}}{\text{EBT}} = \frac{₹33,00,000}{₹22,95,000} = 1.44$$

- Calculation of level of sales when EBT of the firm will be equal to zero.

Particulars	Amount (₹)
EBT	Nil
Add: Interest	4,05,000
EBIT	4,05,000
Add: Fixed Cost	6,00,000
Contribution	10,05,000

$$\begin{aligned} \text{P/V Ratio (Existing sales)} &= \frac{\text{Contribution}}{\text{Sales}} \times 100 \\ &= \frac{₹33,00,000}{₹75,00,000} \times 100 = 44\% \end{aligned}$$

Hence,

$$44 = \frac{₹10,05,000}{\text{Sales}} \times 100$$

$$\text{Or, Sales} = ₹ 22,84,091$$

Multiple Choice Questions (MCQ)

- If fixed costs are high, the operating leverage will be-
 - Low
 - High
 - Zero
 - Negative

Answer: (b)

- If operating leverage is 4, this indicates that
 - 4% change in sales will cause 1% change in EBIT.

- (b) 1% change in sales will cause 4% change in EBIT.
- (c) 1% change in sales will cause 4% change in EPS.
- (d) 4% change in sales will cause 1% change in EPS.

Answer: (b)

3. Measure of business risk is –

- (a) Operating leverage
- (b) Financial leverage
- (c) Combined leverage
- (d) Working capital leverage

Answer: (a)

4. Following data is available for Beta Ltd.

Financial leverage	2:1
Operating leverage	3:1
Interest charges	₹20 lakhs
Corporate tax rate	40%
Variable (% of sales)	60%

Find out the sales?

- (a) ₹ 1,00,00,000
- (b) ₹ 1,20,00,000
- (c) ₹ 2,00,00,000
- (d) ₹ 3,00,00,000

Answer: (d)

Data Analytics

Data Presentation: Visualisation and Graphical Presentation

Power BI

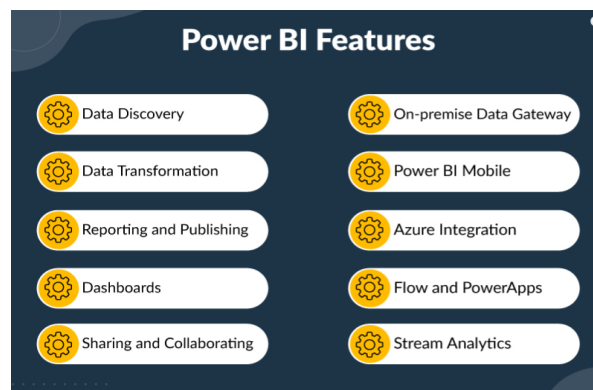
Power BI is a collection of software services, apps, and connectors that work together to turn unrelated sources of data into coherent, visually immersive, and interactive insights. Data of your company might be an Excel spreadsheet, or a collection of cloud-based and on-premises hybrid data warehouses. Power BI can easily connect to your data sources, visualize and discover what's important, and share that with anyone or everyone you want.

Advantages of using Power BI

- Accessibility.** Both nontechnical and technical persons can easily use Power BI.
- Integrations.** Power BI's ability to integrate with software such as Excel and other Microsoft applications means it can work with data from various sources.
- Customer support.** Microsoft offers customer support for those in need of troubleshooting and assistance.
- Customization.** The ability to create custom visuals adds value for businesses looking to capture and visualize important relationships or patterns found in complex data sets.

- Collaboration.** Power BI is built to facilitate collaboration, for example, among different teams within an organization.
- Scalability.** Power BI can support large-scale data sets, making it suitable for enterprises as well as small businesses.

Features of Power BI



Source: <https://techcommunity.microsoft.com/blog/nonprofittechies/exploring-power-bi-components-and-functionalities/3879201>

Components or Elements of Power BI

Power BI consists of several elements that all work together, starting with these three basics:

1. **Power BI Desktop:** A Windows desktop application called *Power BI Desktop* Power BI Desktop can be downloaded and installed as a standard executable package: such as Power BI Desktop, Interactive Reports, Microsoft Power BI.
2. **Power BI service:** An online software as a service (SaaS) service called the *Power BI service*. Power BI Service is a cloud-based platform that enables non-profit organizations to share and collaborate on reports and dashboards. It allows you to publish your Power BI reports securely and share them with stakeholders such as board members, donors, and volunteers.
3. **Power BI Mobile:** Power BI Mobile apps for Windows are iOS, and Android devices. This can be particularly useful for staff members who are working in the field, attending events, or visiting project sites. With Power BI Mobile, you can monitor real-time data, track progress, and make informed decisions based on the latest insights, ensuring that you stay connected to your

organization's data no matter where you are.

Beyond those three, Power BI also features two other elements:

4. **Power BI Report Builder:** Power BI Report Builder, for creating paginated reports to share in the Power BI service. Power BI Report Builder provides data visualizations that include charts, maps, sparklines, and data bars that can help produce new insights well beyond what can be achieved with standard tables and charts.
5. **Power BI Report Server:** Power BI Report Server is an on-premises report server with a web portal in which you display and manage reports and KPIs. Along with it come the tools to create Power BI reports, paginated reports, mobile reports, and KPIs. Your users can access those reports in different ways: viewing them in a web browser or mobile device, or as an email in their in-box.

(source:<https://learn.microsoft.com/en-us/power-bi/report-server/get-started>)

Topic

Module 9:
Responsibility
Accounting

Module 10:
Decision Theory

INTERMEDIATE

Group II - Paper-12

Management Accounting (MA)

Module 9: Responsibility Accounting

Responsibility Accounting: An Overview

Responsibility accounting is a management control system designed to assign specific responsibilities to various segments within an organization. It evaluates each segment's performance by delegating authority and holding individuals or departments accountable for outcomes. Segments, or responsibility centres, are categorized as cost centres, revenue centres, profit centres, or investment centres. Each centre is allocated a budget, and managers are assessed based on their performance against these budgeted targets. This system promotes efficient management by encouraging decentralized decision-making, with regular communication and feedback as essential components. While responsibility accounting aligns organizational goals, it can also lead to challenges like sub-optimization. Nevertheless, it remains a valuable tool for performance measurement and control.

Key Control Functions of Responsibility Accounting

Responsibility accounting supports five primary control functions for managers:

- 1. Planning:** Facilitates the development of plans using budgets and standards, communicating expectations, and delegating authority.
- 2. Data Gathering:** Classifies actual performance data according to the plan, recording and summarizing information for each unit.
- 3. Monitoring Variances:** Compares planned and actual results regularly. Responsibility reports highlight variances, allowing managers to adjust strategies.
- 4. Managerial Influence:** Managers investigate significant variances, identify root causes, and implement corrective actions. Higher management relies on responsibility reports for insight into operational performance.
- 5. Continuous Comparison and Response:** Involves ongoing comparison of data, periodic analysis, and continuous correction cycles.

Assumptions Underlying Responsibility Accounting

Several key assumptions form the foundation of responsibility accounting:

1. Clearly defined areas of responsibility, with managers accountable for these specific areas.
2. Managers are responsible only for elements they can significantly control.
3. Managers participate in setting goals and budgets against which their performance is evaluated.
4. Goals set for each responsibility area are realistically attainable through efficient performance.
5. Control reports must include significant information related to each area of responsibility.
6. Managers strive to meet or exceed budgets and objectives for their respective areas.

Responsibility Centres

A responsibility centre is a distinct organizational unit managed by an individual responsible for its performance. These centres play a pivotal role in responsibility accounting and are classified into four main types:

- 1. Cost Centre:** Focus on cost control. Managers oversee and manage costs, aiming to maintain output or service levels while optimizing cost efficiency.
- 2. Revenue Centre:** Concentrate on generating revenue. Managers implement strategies to increase sales and enhance financial performance in their designated areas.
- 3. Profit Centre:** Combine cost control and revenue generation. Managers ensure overall profitability by managing both revenues and costs effectively.
- 4. Investment Centre:** Involve responsibility for revenue generation, cost control, and capital management. Managers are evaluated based on metrics like return on investment (ROI) and efficient capital utilization.

Steps in Preparing a Responsibility Report

A responsibility report evaluates the performance of a responsibility centre by comparing actual results with budgeted targets. Key steps include:

1. **Identify the Responsibility Centre:** Determine the unit being evaluated.
2. **Collect Actual Performance Data:** Gather real-time performance metrics.
3. **Classify Data According to Budget Categories:** Organize data for accurate comparison.
4. **Create a Performance Report:** Present actual versus budgeted figures.
5. **Highlight Variances:** Identify and categorize variances as favourable or unfavourable.
6. **Explain Significant Variances:** Provide reasons behind notable discrepancies.
7. **Distribute the Report:** Share findings with relevant stakeholders.
8. **Evaluate Performance:** Assess managerial performance based on report insights.
9. **Encourage Feedback and Discussion:** Foster dialogue to refine processes.
10. **Drive Continuous Improvement:** Use findings to inform decision-making and enhance future performance.

This structured approach ensures accountability, supports informed decision-making, and drives continuous organizational improvement.

Multiple Choice Question (MCQ):

1. Which of the following is not a type of responsibility centre?
 - a) Cost centre
 - b) Profit centre
 - c) Marketing centre
 - d) Investment centre
2. In a cost centre, managers are primarily responsible for
 - a) Generating revenue.
 - b) Controlling costs.
 - c) Increasing profit margins.
 - d) Managing capital investments.
3. Which key control function involves comparing actual performance with budgeted figures?
 - a) Planning
 - b) Data Gathering
 - c) Monitoring Variances
 - d) Managerial Influence
4. What is the main focus of a revenue centre?
 - a) Minimizing costs
 - b) Generating revenue
 - c) Managing investments
 - d) Controlling profit margins
5. Managers in an investment centre are evaluated based on
 - a) Total sales.
 - b) Cost efficiency.
 - c) Return on investment (ROI).
 - d) Customer satisfaction.
6. Which of the following is an assumption of responsibility accounting?
 - a) Managers are responsible for all company operations.
 - b) Managers set unattainable goals to encourage higher performance.
 - c) Control reports contain significant information about the responsibility centre.
 - d) External consultants set the performance goals.
7. What is the first step in preparing a responsibility report?
 - a) Collecting actual performance data
 - b) Identifying the responsibility centre
 - c) Comparing actual data with the budget
 - d) Distributing the report
8. Which type of responsibility centre focuses on both cost control and revenue generation?
 - a) Cost centre
 - b) Profit centre
 - c) Revenue centre
 - d) Investment centre

9. In a control report of Department Z, it is mentioned as indirect materials are ₹ 1,000, indirect labor ₹ 200, Overtime Charges ₹ 200, Depreciation on equipment ₹ 600, Allocated factory overhead (20% of factory space) ₹ 500, Allocated overhead of repair shop is ₹ 1,000. Determine total costs treating Department Z as a responsibility centre.
- ₹ 5,000
 - ₹ 4,500
 - ₹ 4,000
 - ₹ 2,500
10. Responsibility accounting relies on which key concept for performance measurement?
- External benchmarks
 - Managerial accountability for controllable factors
 - Employee satisfaction surveys
 - Competitor analysis
11. A department has actual costs of ₹ 15,000 and budgeted costs of ₹ 18,000. Calculate the variance percentage.
- 16.67% favorable
 - 16.67% unfavorable
 - 20% favorable
 - 20% unfavorable

Answer:

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

Fill in the blanks

- Responsibility accounting is the key management control tool in a _____ organization.
- A responsibility accounting system produces _____ that assist higher level of management in evaluating the performances of respective organizational units.

- The _____ centre should be an independent organizational unit whose managers have the ability to obtain resources at the most economical prices.
- _____ is the degree of influence that a specific manager has over costs, revenues, or other items in question.
- A _____ centre is one where the employees located in a specific functional area are solely responsible for attaining preset revenue levels.

Answer

- decentralized
- responsibility reports
- profit
- Controllability
- revenue

State True or False

- In a revenue centre, performance evaluations are limited because the manager has control over only one item: revenues.
- Sub-optimization occurs when responsibility centre managers focus solely on optimizing their own performance, disregarding the organizational goals.
- Investment centres are particularly suitable for companies in stable markets where rapid decision-making is not critical.
- In order to provide relevant contents in the responsibility report, all responsibility manager performance should be reported.
- Responsibility accounting is the system for collecting and reporting revenue and cost information by areas of responsibility.

Answer

- True
- True
- False
- False
- True

Module 10: Decision Theory

Decision theory is a critical aspect of management science that provides a structured framework for making optimal decisions in the face of uncertainty, risk, and certainty. As organizations navigate increasingly complex business environments, decision-making processes play a pivotal role in achieving organizational goals. This chapter explores the fundamental concepts, decision-making conditions, and methodologies that underpin decision theory, along with illustrative numerical examples to demonstrate their practical applications.

1. Introduction to Decision Theory

Decision theory is the study of choices, emphasizing the process of selecting the most rational course of action among several alternatives. Its primary objective is to optimize outcomes by systematically analyzing decisions using economic, statistical, and mathematical principles. Decision theory can be broadly categorized into:

- **Normative Decision Theory:** Describes ideal decision-making using logical and mathematical models.
- **Descriptive Decision Theory:** Explains how decisions are actually made, including human behavior and psychology.

Organizations use decision theory to tackle problems related to resource allocation, risk management, and strategy formulation.

2. Decision-Making Conditions

Decision-making conditions are categorized based on the availability of information about outcomes and their likelihood:

2.1 Decision-Making under Certainty

In this scenario, all outcomes and their impacts are known with complete certainty. There is no ambiguity, and the decision-maker can confidently predict the consequences of each alternative. For example, day-to-

day operational decisions, such as payment of salaries, often fall under this category.

Example:

A vendor knows it will rain on a given day and must decide between selling ice cream or coffee. Since the weather outcome is certain, the payoff matrix simplifies to one column, allowing a straightforward choice based on maximum profit.

2.2 Decision-Making under Risk

Here, the decision-maker has incomplete information but can assign probabilities to possible outcomes. This is a common condition in business where probabilities are derived from historical data or subjective judgment.

Example:

A coin toss offers a 50% chance of heads and a 50% chance of tails. If heads yields a profit of ₹ 500 and tails ₹ 200, the expected value (EV) is calculated as:

$$EV = (0.5 \times 500) + (0.5 \times 200) = ₹ 350$$

2.3 Decision-Making under Uncertainty

Under uncertainty, no probabilities can be assigned to outcomes due to the absence of reliable data. Decision-makers rely on heuristic criteria or subjective judgment to make choices.

3. Decision-Making Tools and Techniques

Decision theory provides various tools and criteria to evaluate alternatives based on payoffs and probabilities.

3.1 Payoff Matrix

A payoff matrix organizes all possible outcomes for each decision under different states of nature. It helps compare alternatives by displaying payoffs (profits, costs, etc.) associated with each combination of actions and future scenarios.

3.2 Expected Value Criterion

The expected value (EV) represents the weighted average of all possible payoffs, where weights are

the probabilities of outcomes. It is widely used under conditions of risk.

Formula:

$$EV = \sum (P(X_i) \times X_i)$$

Where $P(X_i)$ is the probability of event i , and X_i is the payoff for event i .

Example:

For a vendor choosing between tea and ice cream:

- Probabilities: 85% sunny, 15% rainy.
- Payoffs: ₹ 30 for tea (sunny), ₹ 300 for tea (rainy); ₹ 150 for ice cream (sunny), ₹ 10 for ice cream (rainy).

$$EV(\text{tea}) = (0.85 \times 30) + (0.15 \times 300) = ₹ 70.5$$

$$EV(\text{ice cream}) = (0.85 \times 150) + (0.15 \times 10) = ₹ 129$$

Thus, selling ice cream is the optimal decision.

3.3 Maximin and Maximax Criteria

- **Maximin:** Selects the alternative with the best of the worst-case payoffs, suitable for risk-averse decision-makers.
- **Maximax:** Focuses on maximizing the best possible payoff, ideal for optimistic decision-makers.

Example:

Given a payoff table:

Alternatives	Worst-Case Payoff	Best-Case Payoff
A1	-1	8
A2	0	6

Maximin chooses A2 (0), while Maximax selects A1 (8)

3.4 Minimax Regret Criterion

This method minimizes the maximum regret, calculated by comparing each payoff to the best payoff in the same state of nature. Regret represents the opportunity cost of not choosing the optimal alternative.

Example:

A regret table is derived by subtracting the maximum payoff in each column from all payoffs in that column.

The decision-maker selects the alternative with the smallest maximum regret.

3.5 Laplace Criterion

The Laplace criterion assumes all states of nature are equally likely and calculates an EV for each alternative using equal probabilities.

4. Decision-Making Models

4.1 Decision Trees

Decision trees visually represent sequential decisions and their possible outcomes, incorporating probabilities and payoffs. They are particularly useful for complex, multistage decisions.

4.2 Expected Value of Perfect Information (EVPI)

EVPI quantifies the value of eliminating uncertainty by obtaining perfect information. It is calculated as:

$$EVPI = EV(\text{with perfect information}) -$$

$$EV(\text{without perfect information})$$

Example:

If EV (with perfect information) is ₹ 1,785 and EV (without perfect information) is ₹ 1,500, then:
 $EVPI = ₹ 1,785 - ₹ 1,500 = ₹ 285$

5. Risk Measurement and Analysis

5.1 Standard Deviation

Standard deviation measures the dispersion of payoffs around their mean. A higher standard deviation indicates greater risk.

5.2 Coefficient of Variation (CV)

The CV assesses risk relative to the expected return, calculated as:

$$CV = \frac{\text{Standard Deviation}}{\text{Expected Value}}$$

Example:

Investment A has a return of 20% and a standard deviation of 15%, giving:

$$CV = 15/20 = 0.75$$

6. Applications and Limitations

6.1 Applications

Decision theory is widely applied in project selection, risk assessment, and operational planning. It enables businesses to navigate complex environments, optimize resource allocation, and improve long-term outcomes.

6.2 Limitations

- Subjective probabilities may lead to biased results.
- EV calculations ignore risk preferences.
- Perfect information is rarely available.

Decision theory provides a systematic approach to decision-making, equipping managers with the tools to handle varying degrees of uncertainty and risk. By applying criteria such as expected value, maximin, and minimax regret, decision-makers can align their strategies with organizational objectives. Despite its limitations, decision theory remains an indispensable framework for informed and rational decision-making in dynamic business environments.

Multiple Choice Question (MCQ):

1. What is the main focus of decision theory?
 - a) Planning operations
 - b) Analyzing choices under uncertainty
 - c) Reducing costs
 - d) Optimizing human resources
2. Decision-making under risk assumes that:
 - a) Outcomes are fully known
 - b) Probabilities can be assigned to future events
 - c) Decisions have no consequences
 - d) All events are equally likely
3. Which criterion selects the alternative with the maximum of the minimum payoffs?
 - a) Maximax
 - b) Maximin
 - c) Laplace
 - d) Minimax regret
4. What is the probability of all possible outcomes combined?
 - a) Always 0
 - b) Between 0 and 1
 - c) Always 1
 - d) Greater than 1
5. What is the Expected Value (EV)?
 - a) The total payoffs of all alternatives
 - b) The probability-weighted average payoff
 - c) The sum of all probabilities
 - d) The highest payoff in the matrix
6. Which method assumes equal probabilities for all states of nature?
 - a) Laplace criterion
 - b) Hurwicz criterion
 - c) Minimax criterion
 - d) Expected value criterion
7. What is the main difference between risk and uncertainty?
 - a) Probabilities can be assigned under risk, not under uncertainty
 - b) Outcomes are measurable under uncertainty
 - c) Risk is uncontrollable, while uncertainty is not
 - d) Uncertainty always leads to higher payoffs

8. If the probability of success is 0.7 and the payoff is ₹1000, while the probability of failure is 0.3 and the payoff is ₹400, what is the Expected Value?
- ₹700
 - ₹820
 - ₹1000
 - ₹400
9. A coin toss has an equal chance of heads or tails. If heads pays ₹500 and tails pays ₹200, what is the Expected Value?
- ₹300
 - ₹500
 - ₹200
 - ₹350
10. In a minimax regret approach, decisions are based on:
- Minimizing the maximum regret
 - Maximizing the minimum regret
 - Equal probabilities
 - Subjective estimates
11. In decision theory, “acts” refer to:
- Probabilities of outcomes
 - Decisions or alternatives available
 - States of nature
 - Payoff values
12. What does a decision tree help in analyzing?
- Static decisions
 - Sequential and multistage decisions
 - Single alternative decisions
 - Random variables

Answer

- B
- B
- B
- C
- B
- A
- A
- B
- D
- A
- B
- B

Fill in the blanks

- The _____ of an event lies between 0 and 1.
- The _____ measures the spread of data around its mean.
- The _____ method assumes that every outcome has an equal chance of occurring.
- Decision trees are useful for analyzing _____ decisions.
- A _____ is a graphical representation of decisions and their outcomes.

Answer

- Probability
- Variance
- Classical

4. Sequential
5. decision tree

State True or False

1. The EVPI is always greater than the Expected Value.
2. Standard deviation is used as a measure of variability and risk.
3. Coefficient of Variation compares risk relative to return.
4. A decision tree is useful for single-stage decisions

only.

5. Decision-making under risk does not involve probabilities.

Answer

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

CMA FINAL COURSE

Syllabus 2022

Topic

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

FINAL

Group III - Paper-13

Corporate and
Economic Laws
(CEL)

Overview of the Prevention of Money Laundering Act (PMLA) 2002

The Prevention of Money Laundering Act (PMLA), 2002 is an legislation to combat money laundering and related financial crimes. The law is to for deterring financial crimes by preventing the use of illegal money. The Prevention of Money Laundering Act, 2002 (PMLA) forms the core of the legal framework on the subject. PMLA and the Rules notified there under came into force with effect from July 1, 2005 .

The PMLA and rules notified thereunder impose obligation on banking companies, financial institutions, and intermediaries and persons carrying on a designated business or profession, to verify identity of clients, maintain records and furnish information to FIU-IND.

Objectives of the Act:

1. **Prevent Money Laundering:** To prevent and control money laundering activities.
2. **Confiscation of Property:** To confiscate proceeds of crime linked to money laundering.
3. **Global Cooperation:** To foster global cooperation and exchange of information regarding financial crimes.
4. **To Combat Financial Crimes:** To establish a legal framework to identify, investigate, and prosecute money laundering activities.

Key Features of the Act

1. Definition of Money Laundering:

The Act defines money laundering as the process of converting illegally obtained money (proceeds of crime) into legitimate assets, thereby hiding the illicit origin of the funds. Whosoever directly or indirectly attempts to indulge or knowingly assists or knowingly is a party or is actually involved in any process or activity connected with the proceeds of crime including its concealment, possession, acquisition or use and projecting or claiming it as untainted property shall be guilty of offence of money-laundering. Offence includes direct or indirect attempt in to indulging or knowingly is a party or is actually involved in one or more of the following processes or activities connected with proceeds of crime, namely: --

- (a) concealment; or
- (b) possession; or
- (c) acquisition; or

- (d) use; or
- (e) projecting as untainted property; or
- (f) claiming as untainted property,
 - o in any manner whatsoever;

2. Offences Under the Act:

- o **Money Laundering:** The core offense is engaging in money laundering activities by concealing the origin, location, ownership, or control of illicit funds.
- o **Proceeds of Crime:** Property derived or obtained, directly or indirectly, from criminal activity is considered as proceeds of crime.

3. Authority:

The Enforcement Directorate (ED), specifically the Directorate of Enforcement, is the primary agency responsible for investigating and enforcing the provisions of PMLA. The ED is empowered to attach and confiscate properties involved in money laundering activities. Director,

FIU-IND and Director (Enforcement) have been conferred with exclusive and concurrent powers under relevant sections of the Act to implement the provisions of the Act.

4. Attachment of Property:

The Act empowers the ED to attach property linked to money laundering for a period of 180 days, with further extensions. Where the Director or any other officer not below the rank of Deputy Director authorised by the Director for the purposes of this section, has reason to believe (the reason for such belief to be recorded in writing), on the basis of material in his possession, that--

- (a) any person is in possession of any proceeds of crime; and
- (b) such proceeds of crime are likely to be concealed or transferred;

he may, by order in writing, provisionally attach such property for a period not exceeding one hundred and eighty days from the date of the order, in such manner as may be prescribed:

Provided that no such order of attachment shall be made unless, in relation to the scheduled offence, a report has been forwarded to a Magistrate under

section 173 of the Code of Criminal Procedure, 1973 (2 of 1974), or a complaint has been filed by a person authorised to investigate the offence mentioned in that Schedule, before a Magistrate or court for taking cognizance of the scheduled offence, as the case may be, or a similar report or complaint has been made or filed under the corresponding law of any other country:

- Provided further that, notwithstanding anything contained in 2[first proviso], any property of any person

5. Adjudicating Authority and Appellate Tribunal:

- The Act establishes an **Adjudicating Authority**, which is responsible for adjudicating matters related to the attachment and confiscation of properties. There is also an **Appellate Tribunal** to handle appeals against decisions made by the Adjudicating Authority.

6. Punishments for Money Laundering:

- The penalties include **imprisonment** ranging from **three years to seven years**, and a fine, which can be extended.

7. Provisional Attachment:

8. Under the Act, the ED can attach properties suspected to be proceeds of crime on a provisional basis, even before filing a formal charge sheet, for a period of up to 180 days. All the rights and title in such property shall vest absolutely in the Central Government free from all encumbrances:

Reporting entity to maintain records.

Every reporting entity shall maintain a record of all transactions, including information relating to transactions and furnish to the Director within such time as may be prescribed, information relating to such transactions, whether attempted or executed, the nature and value of which may be prescribed;

(e) maintain record of documents evidencing identity of its clients and beneficial owners as well as account files and business correspondence relating to its clients which shall be kept confidential. The records shall be maintained for a period of five years from the date of transaction.

1. Filing of a Money Laundering Case (ECIR):

- The Enforcement Directorate files an **ECIR (Enforcement Case Information Report)** in a money laundering case, which is the equivalent of an FIR (First Information Report) in criminal law.

11. Obligations of Financial Institutions:

- Banks, financial institutions, and intermediaries are required to adhere to the provisions of the PMLA, including customer due diligence (CDD) and reporting suspicious transactions to the Financial Intelligence Unit (FIU).

12. Non-bailable Offenses:

- Money laundering is classified as a non-bailable offense, meaning individuals arrested for money laundering cannot easily secure bail without a thorough investigation.

13. Proceeds of Crime (PoC):

- The Act allows authorities to seize property if it is linked to proceeds of crime. These proceeds can be used as evidence in an investigation or trial.

14. Confiscation of Process:

- When the ED attaches properties believed to be proceeds of crime, the accused can appeal against the order. If no appeal is filed or the case is adjudicated in Favor of the ED, the assets are permanently confiscated.

Important Amendments to the PMLA

- **2005 Amendment:**
 - Included the concept of “proceeds of crime” and made money laundering a specific offense under the Act.
- **2009 Amendment:**
 - Included new offenses and expanded the list of predicate offenses (crimes that generate proceeds of crime) to encompass more economic offenses.
- **2012 Amendment:**
 - Tightened provisions on property attachment, making it easier for enforcement authorities to deal with proceeds of crime.

Conclusion

The **Prevention of Money Laundering Act (PMLA), 2002** has played a vital role in strengthening India's financial system and combating money laundering activities. Authorities can take swift action against illicit money flows and authorising institutions to detect and prevent money laundering, the Act has helped to promote transparency in the economy. Despite challenges in enforcement, PMLA continues to be a critical tool in India's fight against financial crimes.

Topic

Module 10:
Portfolio
Performance
Evaluation and
Portfolio Revision

Module 15:
Foreign Exchange
Market

FINAL

Group III - Paper-14

Strategic Financial Management (SFM)

Section: International Financial Management

Topic: Portfolio Theory and Practice

Multiple Choice Questions

1. While plotting a graph with risk on X-axis and expected return on Y-axis, a line drawn with co-ordinates $(0, r_f)$ and (β, r_m) is called:
- Security Market Line
 - Characteristic Line
 - Capital Market Line
 - CAPM Line

Answer:

(A) Security Market Line

Justification:

Security Market Line simply represents the average or normal trade-off between risk and return for a group of securities where risk is measured typically in terms of the securities betas.

2. The probability distribution of security N is given below:

Probability	Return (%)
0.30	30
0.40	20
0.30	10

The risk of the return of the security will be around:

- 60%
- 8%
- 20%
- 24%

Answer:

(B) 8%

Probability (Pi)	Return (Xi)	xi-20	(xi-20) ²	Pi (xi-20) ²
0.3	30	+10	100	30
0.4	20	0	0	0
0.3	10	-10	100	30
		Mean = 0		60

Variance = 60

Std deviation = $\sqrt{60} = 7.746\% = 8\%$

3. The value of beta of a security does not depend on
- standard deviation of the security
 - standard deviation of the market
 - correlation between the security and the market
 - risk free rate

Answer:

(D) Risk free rate $\beta = r \sigma_y / \sigma_m$ where r is correlation coefficient, σ_y is standard deviation of security and σ_m is the standard deviation of market. Hence beta is independent of risk-free rate.

Comprehensive Problems

Problem 1

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

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

The expected risk-free real rate of return and the premium for inflation are 3.0% and 6.5% p.a. respectively.

As a financial analyst in the Research Division, you are required to calculate the following for stock A and stock B:

- Expected return
- Covariance of returns with the market returns
- Beta

Answer:

(i) Expected return on stock

$$E(R_A) = \sum_{s=1}^n R_s P_s = 0.15(-15) + 0.25 \times 10 + 0.45 \times 25 + 0.15 \times 40 = 17.5\%$$

$$E(R_B) = 0.15 \times (-3) + 0.25 \times 7 + 0.45 \times 15 + 0.15 \times 25 = 11.8\%$$

$$E(R_M) = 0.15 \times (-10) + 0.25 \times 13 + 0.45 \times 18 + 0.15 \times 32 = 14.65\%$$

(ii) Covariances

$$\begin{aligned} \text{COV}_{AM} &= \sum_{s=1}^n [R_{A,s} - E(R_A)] [R_{M,s} - E(R_M)] P_s \\ &= 0.15[(-15)-17.5][(-10)-14.65] + 0.25[10-17.5][13-14.65] + 0.45[25-17.5][18-14.65] + 0.15[40-17.5][32-14.65] \\ &= 120.16875 + 3.09375 + 11.30625 + 58.55625 \\ &= 193.13 \end{aligned}$$

$$\begin{aligned} \text{COV}_{BM} &= 0.15[(-3)-11.8][(-10)-14.65] + 0.25[7-11.8][13-14.65] + 0.45[15-11.8][18-14.65] + 0.15[25-11.8][32-14.65] \\ &= 54.723 + 1.98 + 4.824 + 34.353 \\ &= 95.88 \end{aligned}$$

$$\begin{aligned} \text{VAR}_M (\sigma_M^2) &= 0.15[(-10)-14.65]^2 + 0.25[13-14.65]^2 + 0.45[18-14.65]^2 \\ &= 0.15[32-14.65]^2 \\ &= 142.03 \end{aligned}$$

$$\text{(iii) } \beta_A = \frac{\text{COV}_{AM}}{\sigma_M^2} = 193.13/142.03 = 1.36$$

$$\beta_B = \frac{\text{COV}_{BM}}{\sigma_M^2} = 95.88/142.03 = 0.675 = 0.68$$

Alternatively, $R_f = 9.5$

$$\text{Beta for A} = \beta_A \text{ from CAPM} = \frac{R_A - R_f}{R_M - R_f} = (17.5 - 9.5)/(14.65 - 9.5) = 1.553 = 1.6$$

$$\text{Beta for B} = \beta_B \text{ from CAPM} = \frac{R_B - R_f}{R_M - R_f} = (11.80 - 9.5)/(14.65 - 9.5) = 0.45$$

Problem 2

Your client holds the following securities:

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

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

Solution:

Calculation of expected return on market portfolio (R_m)

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

$$R_m = (5,800 + 5,000) / 68,000 \times 100 = 15.88\%$$

Calculation of expected rate of return on individual security:

Security

$$\text{Share T} \quad 6 + 0.8(15.88 - 6.0) = 13.90\%$$

$$\text{Share Q} \quad 6 + 0.7(15.88 - 6.0) = 12.92\%$$

$$\text{Share M} \quad 6 + 0.5(15.88 - 6.0) = 10.94\%$$

$$\text{Share P} \quad 6 + 0.2(15.88 - 6.0) = 7.98\%$$

Problem 3

A Portfolio Manager has the following four stocks in his portfolio:

Security	No. of shares	Market price (₹) per share	$\beta = \text{Beta}$
ADU	12,000	40	0.9
DVU	6,000	20	1.0
NDU	10,000	25	1.5
SVU	2,000	225	1.2

Compute the following:

- Portfolio Beta (β)
- If the Portfolio Manager seeks to reduce the portfolio Beta to 0.8, how much risk-free investment should he bring in? Consider that he disposes the riskier securities first and replaces them with risk free investment. Present the revised portfolio.

Solution:

(i)

Security	No. of Shares	MPS	MV	Beta	Product
ADU	12,000	40	4,80,000	0.9	4,32,000
DVU	6,000	20	1,20,000	1.0	1,20,000
NDU	10,000	25	2,50,000	1.5	3,75,000
SVU	2,000	225	4,50,000	1.2	5,40,000
			13,00,000		14,67,000

$$\beta = 14,67,000/13,00,000 = 1.1285 = 1.13$$

(ii) Reduce β to 0.8

Beta can be reduced replacing High beta stocks in the portfolio with risk free investment which carry a Beta of Zero.

$$\text{So, Required Value} = 0.8 \times 13,00,000 = 10,40,000$$

$$\text{Difference in value} = ₹ (14,67,000 - 10,40,000) = 4,27,000$$

Hence, ₹ 4,27,000 should be eliminated from product column (Value).

NDU has highest β and to be replaced ₹ 3,75,000.

Remaining value ₹ 52,000

Next highest beta is of SVU

$$\text{Market value of ₹ 52,000 (Product)} = 52,000/1.2 = ₹ 43,334$$

$$\text{No. of Share of SVU to be replaced} = 43,334/225 = 192.5 \text{ or } 193.$$

$$\begin{aligned} \text{Total value of risk-free investment to be brought in} &= ₹ [2,50,000 + (193 \text{ shares} \times 225)] = ₹ (2,50,000 + 43,425) \\ &= ₹ 2,93,425 \end{aligned}$$

Hence, ₹ 2,93,425 securities should be replaced.

Security	No. of Shares	MPS	MV	Beta	Product
ADU	12,000	40	4,80,000	0.9	4,32,000
DVU	6,000	20	1,20,000	1.0	1,20,000
NDU	0	0	0	1.5	0
SVU	1,807	225	4,06,575	1.2	4,87,890
Risk free securities			2,93,425	0	0
			13,00,000		10,39,890

$$\text{Beta} = 10,39,890 / 13,00,000 = 0.8$$

Topic: Arbitrage Pricing Theory

Problem 4

Mr. NK has categorized stock in the market into four types, viz. Small cap growth stocks, Small cap value stocks, Large cap growth stocks and Large cap value stocks. Mr. NK also estimated the weights of the above categories of stocks in the market index. Further, the sensitivity of returns on these categories of stocks to three important factors are estimated to be:

Category of Stocks	Weight in the Market Index	Factor I (Beta)	Factor II (Book Price)	Factor III (Inflation)
Small cap growth	25%	0.80	1.39	1.35
Small cap value	10%	0.90	0.75	1.25
Large cap growth	50%	1.165	2.75	8.65
Large cap value	15%	0.85	2.05	6.75
Risk Premium		6.85%	-3.5%	0.65%

The rate of return on treasury bonds is 4.5%.

- (i) Using Arbitrage Pricing Theory, determine the expected return on the market index.
- (ii) Mr. NK wants to construct a portfolio constituting only the 'small cap value' and 'large cap growth' stocks. If the target beta for the desired portfolio is 1, determine the composition of his portfolio.

Solution:

(i)

Category	Wts	Factor I	Factor II	Factor III	Wts x FI	Wts x FII	Wts x FIII
S Cap Gr	0.25	0.80	1.39	1.35	0.2	0.3475	0.3375
S Cap V	0.10	0.90	0.75	1.25	0.09	0.075	0.125
L Cap Gr	0.50	1.165	2.75	8.65	0.5825	1.375	4.325
L Cap Va	0.15	0.85	2.05	6.75	0.1275	0.3075	1.0125
Total					1	2.105	5.8
Risk Premium					6.85	-3.5	0.65
Product					6.85	-7.3675	3.77
Total					3.2525		

Expected Return on market index under APT = $4.5 + 3.2525 = 7.7525\%$

- (ii) Let S be the investment in small cap value and L in large cap growth

Thus, $0.9S + 1.165L/(S+L) = 1$

$S(0.9-1) = L(1-1.165)$

$0.1S = 0.165L$, or $S = 1.65L$,

i.e. $1/1 + 1.65 = 1/2.65 = 37.74\%$ in L and 62.26 or 62.3% in S

Topic

Module 13:
Transfer Pricing

FINAL

Group III - Paper-15

Direct Tax Laws
and International
Taxation (DIT)

Transfer Pricing

“Transfer Pricing is not an exact science but does require the exercise of judgement on the part of both the tax administration and taxpayer”

Transfer pricing refers to the rules and methods for pricing transactions within and between enterprises under common ownership or control. The main objective of transfer pricing regulations is to ensure that transactions between related parties are conducted at arm’s length prices, thereby preventing profit shifting and base erosion. Commercial transactions between the different parts of the multinational groups may not be subject to the same market forces shaping relations between the two independent firms. One party transfers goods or services to another for a price. That price is known as “transfer price”. This may be arbitrary and dictated, with no relation to cost and added value, diverge from the market forces. Transfer price is, thus, a price which represents the value of goods or services between independently operating units of an organisation. But, the expression “transfer pricing” generally refers to prices of transactions between associated enterprises which may take place under conditions differing from those taking place between independent enterprises. It refers to the value attached to transfers of goods, services and technology between related entities. It also refers to the value attached to transfers between unrelated parties which are controlled by a common entity.

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

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

The provisions are as under:

Provisions	Example	Treatment	Impact on income
Any income arising from an <i>international transaction</i> shall be computed having regard to the <i>arm’s length price</i> .	X Ltd., resident, sold goods or services to its associated enterprises, XY Plc. (a foreign company), for ₹ 5 lacs whereas the arm’s length price of such goods or services is ₹ 9 lacs	While computing income of X Ltd., ₹ 9 lacs shall be considered as sale value	Income of X Ltd. will be increased by ₹ 4 lacs.
The allowance for any expense or interest arising from an international transaction or specified domestic transaction ¹ shall also be determined having regard to the arm’s length price.	R Ltd. takes a loan of ₹ 20 lacs from an associated enterprise in Ireland @ 20% p.a. whereas the arm’s length rate of interest is 12% p.a.	Interest @ 12% p.a. shall be allowed as deduction to R Ltd.	Income of R Ltd. will be increased by ₹ 1,60,000/-

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

<p>Where in an international transaction or specified domestic transaction,</p> <ul style="list-style-type: none"> • two or more <i>associated enterprises</i> • enter into a mutual agreement or arrangement for the apportionment of, or any contribution to, any cost incurred • in connection with a benefit, service or facility provided to any such enterprises, the cost apportioned to (contributed by), any such enterprise shall be determined having regard to the arm's length price of such benefit, service or facility. 	<p>An enterprise in Germany makes research on a new product and incurred ₹ 50 lacs. Out of this, ₹ 40 lacs has been allocated to its Indian associated enterprises dealing in the same product.</p>	<p>While computing income of Indian enterprise, it will be required to be examined whether the Indian enterprise is deriving proportionate benefit to the research expenditure allocated</p>	<p>If no such benefit is available to the Indian enterprise, total income of such enterprises is suitably increased by disallowing proportionate allocated cost.</p>
<p>The provisions (in any of aforesaid situation) shall not apply in a case where the computation of income or the determination of the allowance for any expense or interest or the determination of any cost or expense allocated or contributed has the <i>effect of reducing the income</i> chargeable to tax or increasing the loss, as the case may be, computed on the basis of entries made in the books of account in respect of the previous year in which the international transaction or specified domestic transaction was entered into.</p>	<p>X Ltd., resident, sold goods or services to its associated enterprises, XY Plc. (a foreign company), for ₹ 5 lacs whereas the arm's length price of such goods or services is ₹ 3 lacs</p>	<p>The provision of transfer pricing is not applicable</p>	<p>No Impact</p>

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

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

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

- a price which is applied or proposed to be applied in a transaction
- between persons other than associated enterprises (i.e., unrelated person, resident or non-resident),
- in uncontrolled conditions.

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

Meaning of associated enterprise [Sec. 92A]

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

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

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

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

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

Equity Holding	Management	Activities	Control
1. $\geq 26\%$ direct / indirect holding by enterprise OR	6. Appointment $> 50\%$ of Directors / one or more Executive Director by an enterprise OR	8. 100% dependence on use of intangibles for manufacture / processing / business	11. One enterprise controlled by an individual and the other by himself or his relative or jointly
2. By same person in each enterprise	7. Appointment by same person in each enterprise	9. Direct / indirect supply of $\geq 90\%$ Raw Materials under influenced prices and conditions	12. One enterprise controlled by HUF and the other by
3. Loan $\geq 51\%$ of Total Assets		10. Sale under influenced prices and conditions	- a member of HUF
4. Guarantees $\geq 10\%$ of debt			- his relative or
5. $> 10\%$ interest in Firm / AOP / BOI			- Jointly by member and relative

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

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

A. Traditional Transaction Methods

1. Comparable Uncontrolled Price (CUP) Method:

- The CUP method compares the price charged for goods or services in a controlled transaction to the price charged in a comparable uncontrolled transaction under similar circumstances.
- This method is considered the most direct and reliable way to apply the arm's length principle if reliable comparables are available.

2. Resale Price Method (RPM):

- The RPM begins with the price at which a product purchased from an associated enterprise is resold to an independent party. This resale price is then reduced by an appropriate gross margin to determine the arm's length price.
- This method is particularly useful when the reseller does not add significant value to the goods.

3. Cost Plus Method (CPM):

- The CPM involves determining the arm's length price by adding an appropriate mark-up to the costs incurred by the supplier of goods or services in a controlled transaction.
- This method is often used for transactions involving the provision of services or the manufacture of goods involving routine functions.

B. Transactional Profit Methods

1. Transactional Net Margin Method (TNMM):

- The TNMM examines the net profit margin relative to an appropriate base (e.g., sales, costs, assets) that a taxpayer realizes from a controlled transaction.
- This method is commonly used when traditional transaction methods are not feasible due to the lack of reliable comparables.

2. Profit Split Method (PSM):

- The PSM identifies the combined profit to be split for the associated enterprises from the controlled transactions and then splits those profits based on an economically valid basis that reflects the relative value of each enterprise's contribution.
- This method is suitable for complex, highly integrated operations involving the development and exploitation of intangibles.

Transfer pricing is a critical aspect of international taxation, ensuring that transactions between related parties are conducted at arm's length. The regulations aim to prevent profit shifting and base erosion, promote fair competition, and align with international standards. Compliance with transfer pricing regulations requires meticulous documentation, adherence to prescribed methods, and a thorough understanding of the economic and functional aspects of the transactions. As the global business environment continues to evolve, transfer pricing practices must adapt to address emerging challenges and ensure fair and transparent tax practices.

Topic

Module 15:
Introduction
to Tools for
Data Analytics /
Simulation

FINAL

Group III - Paper-16

Strategic Cost
Management (SCM)

Tools for Data Analytics

1.0 Introduction

Data can be defined as a set of information in the form of facts represented by numbers to be used for analysis of facts or make decisions.

Analytics is the scientific process of discovering and communicating the meaningful patterns that can be observed through data. In simple words it can be expressed as a science that analyses raw data to fetch information contained in it. It is concerned with turning raw data into insight for making better decisions. Analytics relies on the application of various tools like statistics, computer programming and operations research in order to quantify and gain insight to the meaning of data. It is especially useful in areas where the quantum of available information is quite large and difficult to process and analyse.



Figure 1.

Data Analytics is Converting Raw Data into Actionable Insights. It includes the collection, transformation and organization of data in order to draw conclusions, make predictions and help informed decision making. Data analytics is often confused with data analysis. While these are related terms, they aren't exactly the same.

'Data Analytics' is a broad term that encompasses many diverse types of Data Analysis. Any type of data or information can be subjected to the techniques of data analytics to get insight that can be used to improve the situation. These techniques can reveal trends and metrics that would otherwise be lost in the mass of information.

The output of data analytics can then be used to optimize processes to increase the overall efficiency of a system. Implementing it into business models means companies can help reduce costs by identifying more efficient ways of doing business and by storing large amounts of data. Actually, this helps to make better business decisions by analysing customer trends and level of satisfaction that can lead to development of new and better products and services.

2.0 Significance of Data Analytics

The significance of the Data Analytics for a business enterprise can be understood with the help of following points:

- i. **Gather hidden insights** – Hidden insights from data are gathered and then analysed with respect to the requirements of the business.
- ii. **Generate reports** – Reports are generated and passed on to the respective teams and individuals to deal with further actions for a high rise in business.
- iii. **Perform Market Analysis** – Market analysis is performed to understand the strengths and weaknesses of the competitors.
- iv. **Improve business requirements** – Analysis of data facilitates improvement in business by meeting the actual requirements of the customer.

3.0 Steps in Data Analytics

The process of Data analytics involves 6 steps. These steps can be understood with the help of adjacent diagram and explanation below:

3.01 First step is to determine the data requirements or how the data is grouped. Data may be grouped by age, demography, income, gender etc. Data values may be numerical or be divided by category.



Figure 2

3.02. The second step is to collect the relevant data. This can be done through a variety of sources – computers, on line sources, cameras, satellites or through personnel.

3.03. Once the data is collected, it must be organized properly so that it can be analysed. This may take place on a Spread-sheet or other form of software that can take statistical data.

3.04. The data is then cleaned up before analysis. This means it is scrubbed and checked to ensure there is no duplication or error and that it is not incomplete. This step helps to correct any error before being analysed. This process is also known as Data Wrangling.

3.05. After the data is organized and cleaned up, it is ready for analysis and working out the results.

3.06. Last step is to generate the report stating all relevant findings and result of Data analytics to help the management for decision making.

4.0 Type of Data Analytics

There are four types of Data Analytics depending on the type of data available and the type of decision, user is expecting from the available data. These are –

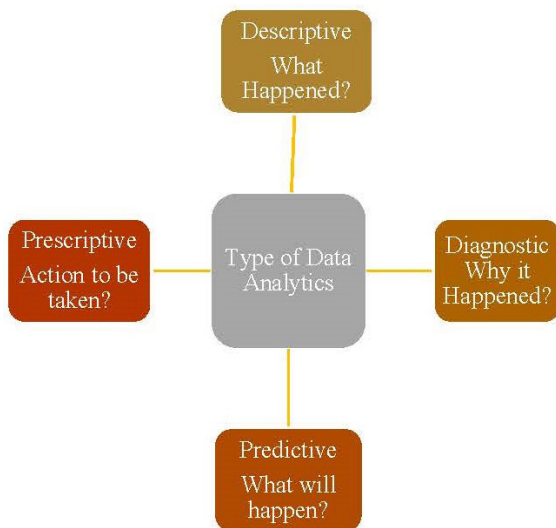


Figure 3

4.01. Descriptive Analytics: As the name indicates, it is descriptive analytics of past happenings. This is the most basic type of post facto analytics. It provides quantitative information on “what happened” by analysing the data with the help of statistical techniques like calculation of mean, median, mode etc. For example, analysis of Daily Production Report is an example of Descriptive Analytics.

4.02. Diagnostic Analytics: It goes deeper than Descriptive Analytics by seeking to understand the “Why” behind what happened. While the production report may show an increase in the Cost of Production of the item, but the reason behind the same is not mentioned. Diagnostic Analytics will look into the patterns and deviations to find the root cause of increase in the cost. Diagnostic Analytics involve correlation of two different datasets.

4.03. Predictive Analytics: This relies on historical data, past trends and assumptions to answer questions about “What will happen” in future. This is of immense importance as far as the situations of future prediction (like Sales forecasting) are concerned. Predictive Analytics correlates the results of Descriptive and Diagnostic Analytics with external datasets.

4.04. Prescriptive Analytics: This identifies the specific actions an individual or organisation should take to reach future targets or goals. It comes up with recommendations of “What actions should be taken”. In fact, different possible scenarios are taken into account and the corresponding outcomes of every situation are considered and finally the best possible solution is recommended. Huge computing power is necessary for going through such type of analytics. For this type of analytical skill Artificial Intelligence & Machine Learning are recommended.

5.0 Tools of Data Analytics

In a nutshell, it is clear that acquiring and storing data, processing the same and finally report generation are the steps involved in Data Analytics. For entire process of Data analytics, different tools are available in the form of various Softwares. Depending on the purpose for which a tool is used, one can classify them as follows:

- i. Tools for Data Transformation
- ii. Tools for Data Analytics
- iii. Tools for Visualisation

5.01 Tools for Data Transformation

These tools are basically used for the purpose of cleansing of the available data. A prime requirement of getting meaningful output from any software is to provide it with the data in specific field types and structures. Normally lot of issues are noticed in the datasets procured from various sources regarding

formats, structures, spellings etc. To take care of these, **ETL (Extract, Transform and Load) tools** are used. **Xplenty, Stitch, ABS Glue, Skyvia** etc. are some of the commonly used ETL Tools that are capable of handling this cleansing process.

5.02 Tools for Data Analysis

These tools are meant for the analysis of the data. Broad classification of these tools can be understood with the help of Figure 4.



Figure 4

- i. **Spread Sheets:** Spread-sheet software is still indispensable for many businesses. From generating reports and creating a budget to becoming a glorified to-do list, spread-sheets have the flexibility to meet just about every need of the user. There are several Spread-sheet database software solutions that offer more than a traditional spread- sheet.
- ii. **Business Intelligence (BI) tool:** Business Intelligence (BI) Software is a set of business analytics solutions used by companies to retrieve, analyse and transform data into useful business insights usually within easy-to-read visualization - like charts, graphs and dashboards. Handling of large data is possible with the help of BI tools only. There are multiple BI software in the market and every day new are joining in. Few prominent BI Software are – **Tableau, Insight Squared, Domo,**

Qlik View, Birst, Good Data, Hubble, Looker, Micro Strategy, BOARD, Microsoft Power BI, Oracle BI, Logi Analytics, Sisense, Alteryx etc.

- iii. **Tools for Financial Data Analysis:** Financial Analytics, a subset of Business Intelligence (BI) and Enterprise Performance Management (EPM), has become indispensable in the modern business environment. Using tools for financial analytics, companies can examine huge volumes of financial, accounting and other data to identify patterns and predict trends, boost revenues and slash costs.

There are many BI Tools with option for Financial Analytics. Some of the BI applications with specific modules for Financial Analytics are **Jedox, Quickbooks, Zoho Analytics, Hyper Anna, NetSuite, FICO** etc.

- iv. **Programming Languages:** Data scientists use several Programming Languages in their work. Programming allows the creation of specific analytical solution which may not be available in other ready to use software. This helps in getting customized software. Some of the most popular languages for this purpose are – R Programming, Python, SAS etc.
- v. **Statistical Tools:** There are many software for Statistical analysis. Major software are SAS, SPSS, E Views etc.
- vi. **Industry Specific Tools:** There are many tools available to meet the specific requirements of a particular Industry. These are can be made by using ERP, SAP, Oracle, Tally, Microsoft Dynamics, Sage etc.

5.03. Tools for Visualization:

These are basically Reporting tools and help making colourful reports & presentations. This provides visualisation of data results from the view point of end user. Zoho Reports, Power BI, Tableau etc. are popular tools for visualization.

6.0. Assimilation: Data Analytics is the most significant tool in the hands of Managers.

Topic

Module 7:
Cost Audit
Documentation,
Audit Process and
Execution

FINAL

Group IV - Paper-17

Cost and
Management Audit
(CMAD)

COST AND MANAGEMENT AUDIT

Cost Audit Documentation

Like any other type of Audit (e.g. Financial Audit, Internal Audit, Management Audit) documentation is equally important for Cost Audit . Documentation refers to the collection and preparation of records and information necessary for conducting the audit and accomplishment of the objectives of the relevant Audit assignment. Documentation also helps in justifying the Audit opinion formed.

Audit Documentation having the following steps :

- a. Understanding the specific requirement for the related Audit
- b. Collection of the required Document
- c. Perusal of the Document collected
- d. Referring the same with audit objective /outcome
- e. Preservation (physical/ electronic) for future requirement

The following documents are typically required for conducting Cost Audit:

Financial statements (Balance Sheet, Profit & Loss Statement)

Cost accounting records (Cost Ledgers, Cost Sheets)

Inventory records (Stock Registers, Material Movement Register - receipts, and issues)

Payroll Records (Employee salary, wages, and benefits)

Purchase Invoices and Contracts including contractual services

Sales Invoices and Contracts

Production records (Production Schedules, Capacity utilization, Idle Time)

Fixed Asset Records (Asset Register, Depreciation Schedules)

Overheads allocation keys

Cost allocation and apportionment documents

Cost Audit Process:

The cost audit process involves the following stages:

1. Planning and Preparation

Define audit objectives and scope

Identify audit team members and their Roles

Develop audit program and timeline

Review previous audit reports and recommendations

Audit Note Book

2. Risk Assessment

Identify areas of high risk (e.g., inventory valuation, Labour costs)

Assess internal controls and procedures

Determine audit procedures for high-risk areas

3. Fieldwork

Conduct site visits and observations

Interview employees and management

Review and verification of documentation

Perform tests and procedures (e.g., inventory counts, transaction testing)

4. Audit Testing

Test transactions and balances (e.g., purchases, sales, payroll)

Verify accuracy and completeness of cost data

Evaluate internal controls and procedures

5. Reporting

Prepare draft Audit Report

Discuss findings with Management

Finalize audit report and recommendations

6. Quality Control

Review of audit work papers

Peer review and quality control checks

Compliance with professional standards (e.g., MCA, ICWA)

Preparation and Filing of Cost Audit Report

Here's a comprehensive overview of the preparation and filing of a Cost Audit Report:

Preparation of Cost Audit Report:

Collection and analysis of data: Collect and review cost accounting records, financial statements, and other relevant documents.

Identify audit findings: Document material weaknesses, inaccuracies, or inefficiencies in cost accounting systems.

Evaluate internal controls: Assess effectiveness of internal controls over cost accounting processes.

Formulate recommendations: Provide actionable suggestions for improving cost accounting systems, internal controls, and cost management.

Prepare draft report: Compile findings, recommendations, and supporting schedules.

Structure of Cost Audit Report:

Executive Summary: Brief overview of audit findings and recommendations.

Introduction: Background, scope, and objectives of the audit.

Cost Accounting System: Description of existing system, including strengths and weaknesses.

Audit Findings: Detailed discussion of material weaknesses, inaccuracies, or inefficiencies.

Internal Controls: Evaluation of internal controls over cost accounting processes.

Recommendations: Actionable suggestions for improvement.

Conclusion: Summary of key findings and recommendations.

Appendices: Supporting schedules, tables, and documents.

Key Components of Cost Audit Report:

Cost Audit Observations: Findings related to cost accounting records, financial statements, and internal controls.

Non-Compliances: Instances of non-compliance with regulatory requirements or company policies.

Qualifications: Reservations or limitations in expressing opinion on cost accounting systems.

Emphasis of Matter: Drawing attention to significant matters that may impact cost management.

Other Reporting Requirements: Disclosure of related-party transactions, contingencies, or uncertainties.

Filing of Cost Audit Report (CAR):

Filing with Regulatory Authorities:

Filing CAR with Ministry of Corporate Affairs (MCA) within 30 days of receipt of audit report.

Filing with Company Management:

Submit report to Board of Directors or Audit Committee.

Discuss findings and recommendations with management.

Timeline for Filing Cost Audit Report:

Within 30 days of receipt of audit report (Rule 14 of Companies (Cost Records and Audit) Rules, 2014).

Within 180 days from the end of financial year (Section 148 of Companies Act, 2013).

Consequences of Non-Compliance:

Penal actions (e.g., fines, imprisonment)

Reputational risk

Scrutiny by Regulatory Authority

Inability to access capital markets or secure funding

Best Practices:

Ensure timely completion and filing of cost audit report.

Provide clear, concise, and actionable recommendations.

Maintain professional skepticism and independence.

Document audit procedures and findings thoroughly.

Communicate effectively with management and stakeholders.

By following these guidelines, cost auditors can ensure accurate, informative, and timely preparation and filing of cost audit reports, facilitating improved cost management and compliance with regulatory requirements.

CAR SUBMISSION TO MCA - PROCESS

Here's a step-by-step guide on submitting the Cost Audit Report (CAR) to the Ministry of Corporate Affairs (MCA)-

Pre-Requisites:

Registered user account on MCA21 portal ((link unavailable))

Valid Digital Signature Certificate (DSC) of the Cost Auditor

Approved and signed Cost Audit Report (CAR)

Submission Process:**Step 1: Login to MCA21 Portal**

Go to (link unavailable) and login with your registered user ID and password.

Click on “MCA Services” and select “Cost Audit Report”.

Step 2: Fill Cost Audit Report Form (Form CRA-4)

Click on “Form CRA-4” and fill in the required details:

Company CIN (Corporate Identification Number)

Cost Auditor details

Financial year and period

Audit report details

Attach the signed Cost Audit Report (CAR) in PDF format.

Step 3: Upload Supporting Documents

Upload supporting documents, if applicable:

Audit certificate

Other relevant documents

Step 4: Pay Fees

Pay the prescribed fees (currently ₹500) through online payment gateway.

Step 5: Submit Form CRA-4

Review and confirm the information.

Submit Form CRA-4.

Step 6: Verification and Approval

MCA system verifies the submission.

Approval is granted, and an acknowledgement is generated.

Timeline:

Submit CAR within 30 days of receipt of audit report

(Rule 14 of Companies (Cost Records and Audit) Rules, 2014).

Submit CAR within 180 days from the end of financial year (Section 148 of Companies Act, 2013).

Checklist:

Ensure accurate and complete information.

Verify digital signature and certification.

Confirm payment of fees.

Retain a copy of the acknowledgement.

Common Errors:

Incorrect CIN or company details.

Insufficient or incorrect documentation.

Non-payment of fees.

Invalid digital signature.

Help and Support:

MCA21 Helpdesk: support@mca.gov.in

MCA21 Contact Number: 0124-4832500

By following these steps and ensuring accuracy, you can successfully submit the Cost Audit Report to the Ministry of Corporate Affairs.

Here’s a sample Cost Audit Report:

[Company Logo]

[Company Name]

Cost Audit Report for the Financial Year [FY]

Submitted to:

[Board of Directors/Audit Committee]

Submitted by:

[Cost Auditor’s Name]

[Cost Auditor’s Firm]

[Date]

Executive Summary: Sample Case Study

This Cost Audit Report presents the findings and recommendations arising from our audit of [Company Name]’s cost accounting records for the financial year [FY]. Our audit focused on evaluating the accuracy, completeness, and reliability of cost data, as well as assessing internal controls over cost accounting processes.

Introduction:

1.1 Background [Company Name] is a leading [industry] company with a turnover of [amount].

1.2 Objective: The objective of this cost audit was to examine and report on the cost accounting records and systems.

1.3 Scope: The audit covered the financial year [FY] and encompassed all material cost centers.

Cost Accounting System:

2.1 Overview: The company maintains a comprehensive cost accounting system.

2.2 Strengths

Accurate and timely recording of cost transactions.

Effective cost classification and reporting.

2.3 Weaknesses

Limited automation of cost allocation processes.

Inadequate documentation of cost accounting policies.

Audit Findings:

3.1 Material Weaknesses

Inaccurate labour cost allocation ([amount]).

Inadequate inventory valuation ([amount]).

3.2 Internal Controls

Inadequate segregation of duties in cost accounting.

Limited review and reconciliation of cost accounts.

Recommendations:

4.1 Cost Accounting System Improvements

Automate cost allocation processes.

Document cost accounting policies.

4.2 Internal Control Enhancements

Implement segregation of duties in Functions/ Department.

Conduct regular review and reconciliation of cost accounts.

Conclusion:

Our cost audit identified areas for improvement in [Company Name]'s cost accounting system and internal controls. Implementation of our recommendations will enhance the accuracy, completeness, and reliability of cost data.

Appendices:

A. Cost Audit Certificate

B. Cost Accounting Policies

C. Audit Program

D. Supporting Schedules

Certification:

I, [Cost Auditor's Name], certify that this report is true and fair and has been prepared in accordance with the Companies (Cost Records and Audit) Rules, 2014.

Signature:

[Cost Auditor's Signature]

[Date]

Note:

This sample report is for illustrative purposes only and should be tailored to the specific needs and requirements of the company being audited.

Topic

Module 5 :
Accounting
for Business
Combinations and
Restructuring

Module 7:
Recent
Developments in
Financial Reporting

FINAL

Group IV - Paper-18

Corporate Financial
Reporting (CFR)

Topic: Accounting for Business Combinations and Restructuring

• Multiple Choice Questions

1. K Ltd. agreed to absorb S Ltd. S Ltd. has 120000 Equity Shares of ₹10 having intrinsic value of ₹24 each. If intrinsic value of K Ltd's equity share is ₹ 48 each, then how many equity shares should be issued by K Ltd. to S Ltd. to meet out the purchase consideration?

- A. 60000 shares
- B. 56000 shares
- C. 45000 shares
- D. 90000 shares

Solution: The correct answer is (A).

Justification:

No. of new shares to be issued = $(120000 \times 24)/48$
= 60000.

2. At the time of absorption of B Ltd by A Ltd., 10% debenture holders of ₹2,40,000 of ₹100 each in B Ltd are to be paid off at 10% premium by 9% debentures in A Ltd. issued at a premium of 20%. How many debentures of ₹100 each are to be issued by A Ltd?

- A. 2300
- B. 2200
- C. 2400
- D. 2100

Solution: The correct answer is (B)

Justification:

No. of new 9% debentures to be issued by A Ltd. = $(240000 \times 110)/(100 \times 120) = 2200$.

3. P Ltd. agreed to absorb R Ltd. For this purpose, R Ltd.'s 10000, 9% Preference shares are valued at ₹ 62.25 each and 130000 equity shares are valued at ₹ 16 each. If P Ltd. discharged purchase consideration by issuing its equity shares of ₹10 each which is having intrinsic value of ₹ 46 each, No. of equity shares issued by P Ltd. to R Ltd. will be:

- A. 54750

B. 58750

C. 63750

D. 48750

Solution: The correct answer is (B)

Justification:

Purchase consideration to be discharged = $(10000 \times 62.25 + 130000 \times 16) = ₹ 2702500$

Intrinsic value per share = ₹ 46

No. of equity shares issued by P Ltd. to R Ltd. will be = $2702500/46 = 58750$

4. P Ltd. acquires 80% of Q Ltd. for ₹ 1200000 paid by equity at par. Fair Value (FV) of B's net assets at time of acquisition amounts ₹ 900000. NCI is measured at proportionate fair value of net assets. The value of goodwill will be:

- A. ₹ 300000
- B. ₹ 480000
- C. ₹ 450000
- D. ₹ 500000

Solution: The correct answer is (B)

Justification:

As per Ind AS 103, Goodwill = Consideration + Non-controlling Interest – Net assets

Here, Consideration = ₹ 1200000; Net Assets (fair value) = ₹ 900000. Value of non-controlling interest = $900000 \times 20\% = ₹ 180000$

So, Goodwill = $1200000 + 180000 - 900000 = ₹ 480000$

5. M Ltd. acquired a 60% interest in N Ltd. on January 1, 2023. M Ltd. paid ₹ 900 Lakhs in cash for their interest in N Ltd. The fair value of N Ltd.'s assets is ₹ 2000 Lakhs, and the fair value of its liabilities is ₹ 1000 Lakhs. NCI is measured at proportionate fair value of net assets. The value of goodwill will be:

- A. ₹ 300 lakhs
- B. ₹ 250 lakhs

C. ₹ 400 lakhs

D. ₹ 350 lakhs

Solution: The correct answer is (A)

Justification:

Net assets = 2000 – 1000 = ₹ 1000 lakhs

Consideration = ₹ 900 lakhs

Non-controlling interest = 40% of Net Assets = 40% of ₹ 1000 = ₹ 400

So, Goodwill = 900+400-1000 = ₹ 300 lakhs.

6. On 1 January 2023, P Ltd. acquires 80 per cent of the equity interests of Q Ltd in exchange of cash of ₹ 600 lakhs. The identifiable assets are measured at ₹ 925 lakh and the liabilities assumed are measured at ₹ 150 lakh. The fair value of the 20 per cent non-controlling interest in P is ₹ 90 lakhs. the gain on bargain purchase will be:

A. ₹ 90 lakhs

B. ₹ 85 lakhs

C. ₹ 105 lakhs

D. ₹ 75 lakhs

Solution: The correct answer is (B)

Justification:

Net Assets (fair value) = 925 – 150 = ₹ 775 lakhs.

Fair value of the 20 per cent non-controlling interest in Q is ₹ 90 lakh.

Consideration = ₹ 600 lakhs.

Since (Consideration + non-controlling interest) < Net assets, there is gain on bargain purchase.

So, Gain on bargain purchase = 775 – (600 + 90) = ₹ 85 lakhs.

7. A Ltd. has acquired 100% of the equity of B Ltd. on March 31, 2023. The purchase consideration comprises of an immediate payment of ₹ 100 lakhs and three further payments of ₹ 5.0 lakhs if the Return on Equity exceeds 25% in each of the subsequent three financial years. A discount rate of 10% is used. Compute the value of total consideration at the acquisition date.

A. ₹ 100 lakhs

B. ₹ 112.43 lakhs

C. ₹ 110 lakhs

D. ₹ 115 lakhs

Solution: The correct answer is (B)

Total purchase consideration = Immediate payment + Fair value of contingent consideration

$$= ₹ 100 + [5.0 \times \frac{1}{(1.10)^1} + 5.0 \times \frac{1}{(1.10)^2} + 5.0 \times \frac{1}{(1.10)^3}]$$

= ₹ 112.43 lakhs.

Topic: Recent Developments in Financial Reporting

• Comprehensive Problem

X Ltd. is interested to calculate Economic Value Added (EVA) of the company. You are provided the following information. Share price at the beginning of the year was Rs 200 per share and face value of each share is ₹ 10. Last year EVA was ₹ 250 crores. From the trend of share price, it is likely that an increase in EVA from 26% to 50% leads to 25% increase in the share price. Any increase up to 25% leads to no change and an increase beyond 50% leads to 30% increase in the share price as compared to that in the beginning of the year. There was no issuance of fresh equity shares during the year.

Debt capital 12% ₹2,000 crores

Equity capital	₹500 crores
Reserve and surplus	₹7,500 crores
Capital employed	₹10,000 crores
Risk-free rate	6%
Beta factor	1.50
Market rate of return	15%
Operating profit after tax	₹2,100 crores
Tax rate	30%

Based on the above information relating to X Ltd., you are required to calculate Economic Value Added (EVA) and Market Value Added (MVA) of X Ltd.

Solution:

Calculation of EVA:

$$E.V.A. = NOPAT - COCE$$

$$NOPAT = \text{Net Operating Profit after Tax}$$

$$COCE = \text{Cost of Capital Employed}$$

$$COCE = \text{Weighted Average Cost of Capital} \times \text{Average Capital Employed} = WACC \times \text{Capital Employed}$$

$$\text{Debt Capital} = ₹2,000 \text{ crores}$$

$$\text{Equity} (500+7,500) = ₹8,000 \text{ crores}$$

$$\begin{aligned} \text{Capital employed} &= 2,000+8,000 \\ &= ₹10,000 \text{ crores} \end{aligned}$$

$$\begin{aligned} \text{Debt to capital employed} &= 2,000/10,000 \\ &= 0.20 \end{aligned}$$

$$\begin{aligned} \text{Equity to Capital employed} &= 8,000/10,000 \\ &= 0.80 \end{aligned}$$

$$\text{Debt cost before Tax} = 12\%$$

$$\text{Less: Tax (30\% of 12\%)} = 3.6\%$$

$$\text{Debt cost after Tax} = 8.4\%$$

According to Capital Asset Pricing Model (CAPM)

$$\begin{aligned} \text{Cost of Equity Capital} &= \text{Risk Free Rate} + \text{Beta} \\ &\quad (\text{Market Rate} - \text{Risk Free Rate}) \\ &= 6\% + 1.50 (15-6) \% \\ &= 6 + 1.50 \times 9 \\ &= 19.5\% \end{aligned}$$

$$\begin{aligned} WACC &= \text{Equity to CE} \times \text{Cost of Equity capital} + \text{Debt} \\ &\quad \text{to CE} \times \text{Cost of debt} \end{aligned}$$

$$= 0.8 \times 19.5\% + 0.20 \times 8.40\%$$

$$= 15.60\% + 1.68\%$$

$$= 17.28\%$$

$$COCE = WACC \times \text{Capital employed}$$

$$= 17.28\% \times 10,000 \text{ crores}$$

$$= 1728 \text{ crores}$$

$$E.V.A. = NOPAT - COCE$$

$$= ₹ 2,100 - ₹ 1,728$$

$$= ₹ 372 \text{ crores}$$

Calculation of MVA.

- No. of outstanding equity shares
= ₹ 500 crores / ₹ 10
= 50 crores.
- Increase in EVA = $(372-250)/250 \times 100$
= 48.8%
- Likely increase in share price = 25%
- Share price at the year-end
= ₹ 200 + 25% of ₹ 200
= ₹ 250
- MVA = $(₹ 250 \times 50 \text{ crores}) - (₹ 200 \times 50 \text{ crores})$
= ₹ 2500 crores

Topic

Module 26:
Export Promotion
Schemes under
Foreign Trade Policy

FINAL

Group IV - Paper-19

Indirect Tax Laws
and Practice (ITLP)

Foreign Trade Policy

Foreign Trade Policy (FTP) is a set of guidelines and regulations formulated by a country's government to manage and promote international trade. The policy outlines the framework for trade relations with other nations and aims to enhance the country's export performance, improve trade balance, and facilitate economic growth.

The primary objectives of a foreign trade policy are:

- **Boosting Exports:** To increase the country's exports by providing incentives, reducing trade barriers, and promoting value-added products.
- **Import Regulation:** To regulate imports to protect domestic industries, ensure the availability of essential goods, and maintain the trade balance.
- **Economic Growth:** To contribute to economic growth by enhancing the competitiveness of domestic industries and integrating the economy with global markets.
- **Job Creation:** To create employment opportunities by promoting export-oriented industries and attracting foreign investment.
- **Technology Transfer:** To facilitate the transfer of advanced technologies and skills from other countries to improve domestic production capabilities.
- **Diversification of Trade:** To diversify export markets and products to reduce dependency on a few markets and mitigate risks.

The FTP 2023 aims at process re-engineering and automation to facilitate ease of doing business for exporters. It also focuses on emerging areas like dual use high end technology items under SCOMET, facilitating e-commerce export, collaborating with States and Districts for export promotion. The new FTP is introducing a one-time Amnesty Scheme for exporters to close the old pending authorizations and start afresh.

The FTP 2023 encourages recognition of new towns through "Towns of Export Excellence Scheme" and exporters through "Status Holder Scheme". The FTP 2023 is facilitating exports by streamlining the popular Advance Authorization and EPCG schemes, and enabling merchanting trade from India.

Process Re-Engineering and Automation

Greater faith is being reposed on exporters through automated IT systems with risk management system for various approvals in the new FTP. The policy emphasizes export promotion and development, moving away from an incentive regime to a regime which is facilitating, based on technology interface and principles of collaboration. Considering the effectiveness of some of the ongoing schemes like Advance Authorisation, EPCG etc. under FTP 2015-20, they will be continued along with substantial process re-engineering and technology enablement for facilitating the exporters. FTP 2023 codifies implementation mechanisms in a paperless, online environment, building on earlier 'ease of doing business' initiatives. Reduction in fee structures and IT-based schemes will make it easier for MSMEs and others to access export benefits.

Duty exemption schemes for export production will be implemented through Regional Offices in a rule-based IT system environment, eliminating the need for manual interface. During the FY23-24, all processes under the Advance and EPCG Schemes, including issue, re-validation, and EO extension, will be covered in a phased manner. Cases identified under risk management framework will be scrutinized manually, while majority of the applicants are expected to be covered under the 'automatic' route initially.

Towns of Export Excellence

Four new towns, namely Faridabad, Mirzapur, Moradabad, and Varanasi, have been designated as Towns of Export Excellence (TEE) in addition to the existing 39 towns. The TEEs will have priority access

to export promotion funds under the MAI scheme and will be able to avail Common Service Provider (CSP) benefits for export fulfillment under the EPCG Scheme. This addition is expected to boost the exports of handlooms, handicrafts, and carpets.

Recognition of Exporters

Exporter firms recognized with 'status' based on export performance will now be partners in capacity-building initiatives on a best-endeavor basis. Similar to the 'each one teach one' initiative, 2-star and above status holders would be encouraged to provide trade-related training based on a model curriculum to interested individuals. This will help India build a skilled manpower pool capable of servicing a \$5 Trillion economy before 2030. Status recognition norms have been re-calibrated to enable more exporting firms to achieve 4 and 5-star ratings, leading to better branding opportunities in export markets.

Promoting export from the districts

The FTP aims at building partnerships with State governments and taking forward the Districts as Export Hubs (DEH) initiative to promote exports at the district level and accelerate the development of grassroots trade ecosystem. Efforts to identify export worthy products & services and resolve concerns at the district level will be made through an institutional mechanism – State Export Promotion Committee and District Export Promotion Committee at the State and District level, respectively. District specific export action plans to be prepared for each district outlining the district specific strategy to promote export of identified products and services.

Streamlining SCOMET Policy

India is placing more emphasis on the "export control" regime as its integration with export control regime countries strengthens. There is a wider outreach and understanding of SCOMET (Special Chemicals, Organisms, Materials, Equipment and Technologies) among stakeholders, and the policy regime is being made more robust to implement international treaties

and agreements entered into by India. A robust export control system in India would provide access of dual-use High end goods and technologies to Indian exporters while facilitating exports of controlled items/ technologies under SCOMET from India.

Facilitating E-Commerce Exports

E-commerce exports are a promising category that requires distinct policy interventions from traditional offline trade. Various estimates suggest e-commerce export potential in the range of \$200 to \$300 billion by 2030. FTP 2023 outlines the intent and roadmap for establishing e-commerce hubs and related elements such as payment reconciliation, book-keeping, returns policy, and export entitlements. As a starting point, the consignment wise cap on E-Commerce exports through courier has been raised from ₹ 5 Lakh to ₹ 10 Lakh in the FTP 2023. Depending on the feedback of exporters, this cap will be further revised or eventually removed. Integration of Courier and Postal exports with ICEGATE will enable exporters to claim benefits under FTP. The comprehensive e-commerce policy addressing the export/import ecosystem would be elaborated soon, based on the recommendations of the working committee on e-commerce exports and inter-ministerial deliberations. Extensive outreach and training activities will be taken up to build capacity of artisans, weavers, garment manufacturers, gems and jewellery designers to onboard them on E-Commerce platforms and facilitate higher exports.

Facilitation under Export Promotion of Capital Goods (EPCG) Scheme

The EPCG Scheme, which allows import of capital goods at zero Customs duty for export production, is being further rationalized. Some key changes being added are:

- Prime Minister Mega Integrated Textile Region and Apparel Parks (PM MITRA) scheme has been added as an additional scheme eligible to claim benefits under CSP (Common Service Provider) Scheme of Export Promotion capital Goods Scheme (EPCG).

- Dairy sector to be exempted from maintaining Average Export Obligation – to support dairy sector to upgrade the technology.
- Battery Electric Vehicles (BEV) of all types, Vertical Farming equipment, Wastewater Treatment and Recycling, Rainwater harvesting system and Rainwater Filters, and Green Hydrogen are added to Green Technology products – will now be eligible for reduced Export Obligation requirement under EPCG Scheme

Facilitation under Advance authorization Scheme

Advance authorisation Scheme accessed by DTA units provides duty-free import of raw materials for manufacturing export items and is placed at a similar footing to EOU and SEZ Scheme. However, the DTA unit has the flexibility to work both for domestic as well as export production. Based on interactions with industry and Export Promotion councils, certain facilitation provisions have been added in the present FTP such as

- Special Advance Authorisation Scheme extended to export of Apparel and Clothing sector under para 4.07 of HBP on self-declaration basis to facilitate prompt execution of export orders – Norms would be fixed within fixed timeframe.

- Benefits of Self-Ratification Scheme for fixation of Input-Output Norms extended to 2 star and above status holders in addition to Authorised Economic Operators at present.

Merchanting trade

To develop India into a merchanting trade hub, the FTP 2023 has introduced provisions for merchanting trade. Merchanting trade of restricted and prohibited items under export policy would now be possible. Merchanting trade involves shipment of goods from one foreign country to another foreign country without touching Indian ports, involving an Indian intermediary. This will be subject to compliance with RBI guidelines, and won't be applicable for goods/items classified in the CITES and SCOMET list. In course of time, this will allow Indian entrepreneurs to convert certain places like GIFT city etc. into major merchanting hubs as seen in places like Dubai, Singapore and Hong Kong.

Conclusion

India's Foreign Trade Policy serves as a roadmap for sustainable economic growth, job creation, and global competitiveness. By fostering collaboration, simplifying procedures, and embracing emerging trends, the FTP aims to position India as a major player in international trade.

Topic

Module 4:
Enterprise Risk
Management

Module 9:
Valuation in
Mergers and
Acquisitions

ELECTIVES

Paper-20A

Strategic
Performance
Management and
Business
Valuation (SPMBV)

Practical issues as well as areas in budgeting for Enterprise Risk Management

Budgeting for enterprise risk management (ERM) is a critical exercise that lies at the heart of ensuring an organisation's resilience to both foreseeable and unforeseen risks. While the importance of risk management is well recognised, the process of determining how much to allocate to address these risks introduces its own set of complexities and risks. Striking a balance between mitigating risks and maintaining cost efficiency is challenging, especially given the competing priorities within an enterprise.

Understanding Enterprise Risk Management and Budgeting

Enterprise risk management involves the identification, assessment, and prioritisation of risks, followed by the coordinated application of resources to minimise, monitor, and control the probability or impact of such risks. Budgeting for ERM requires financial allocations to address risks adequately, encompassing areas such as compliance, cybersecurity, operational disruptions, and market uncertainties. However, this task is far from straightforward, as it necessitates estimating the likelihood and severity of risks while remaining within financial constraints.

The budgeting exercise for ERM must consider both direct costs, such as technology investments, training, and risk insurance, and indirect costs, including potential reputational damage, legal liabilities, and opportunity costs associated with risk realisation. Misjudging these allocations can expose an organisation to significant vulnerabilities or lead to unnecessary expenditure on risks that may not materialise.

Key Risks in Budgeting for ERM

1. **Inadequate Risk Identification and Assessment** One of the primary risks in the budgeting process is the failure to identify or adequately assess risks. ERM budgeting is inherently dependent on the accuracy of risk identification and evaluation processes. If

risks are overlooked or underestimated, insufficient funds may be allocated to address them, leaving the organisation exposed. Conversely, overestimating risks can result in an overcommitment of resources, diverting funds from other critical operations.

For example, cybersecurity risks often involve unknown variables, such as emerging attack vectors. Misjudging the likelihood or potential impact of these threats can lead to either underfunding, which increases vulnerability, or overfunding, which ties up capital that could be used more effectively elsewhere.

2. **Over-reliance on Historical Data** Budgeting exercises often rely heavily on historical data to predict future risks and determine financial allocations. While past incidents provide valuable insights, they may not fully capture the dynamic nature of modern risk landscapes. Emerging threats, such as those driven by technological advancements or geopolitical changes, may not have historical precedents, making it challenging to allocate resources appropriately.

For instance, reliance on historical data might fail to anticipate risks associated with artificial intelligence (AI) governance, a rapidly evolving area that requires forward-looking investment. Allocating insufficient funds to address such novel risks could undermine the organisation's preparedness and resilience.

3. **Subjectivity in Risk Prioritisation** Risk prioritisation inherently involves subjective judgment, influenced by individual biases, organisational culture, and stakeholder expectations. This subjectivity introduces the risk of misallocating funds, particularly if certain risks are overemphasised due to prevailing biases or external pressures. For instance, an organisation might over-allocate

resources to high-visibility risks, such as regulatory compliance, while underfunding less tangible risks, such as employee well-being or supply chain vulnerabilities.

4. **Inflexibility in Budgeting Structures** Traditional budgeting processes are often rigid, with limited scope for adjustments once allocations have been finalised. This inflexibility can be problematic in dynamic environments where risks evolve rapidly. For example, an organisation that allocates its entire ERM budget at the start of the fiscal year may find itself ill-equipped to respond to unexpected events, such as a global pandemic or a sudden technological breach.

Allocating contingency funds can help address this issue, but it also introduces the risk of tying up capital in reserves that may remain unused. Striking the right balance between flexibility and cost efficiency is a persistent challenge in ERM budgeting.

5. **Cost-Benefit Misalignment** Determining how much to spend on mitigating specific risks involves assessing the cost-benefit ratio of potential investments. However, this calculation is fraught with uncertainty, as the benefits of risk mitigation are often intangible and difficult to quantify. For example, investments in brand protection may not yield immediate, measurable returns, making it challenging to justify significant expenditure.

Organisations may also face pressure to demonstrate short-term financial performance, leading to underinvestment in risk management initiatives that offer long-term benefits. Conversely, overestimating the benefits of certain measures can result in excessive spending, diminishing overall financial efficiency.

6. **Competing Organisational Priorities** ERM budgets must compete with other organisational priorities, such as innovation, growth initiatives, and operational improvements. Allocating excessive

resources to risk management may hinder an organisation's ability to invest in these areas, potentially stifling competitiveness. Conversely, deprioritising ERM can leave the organisation vulnerable to risks that undermine its strategic objectives.

Benefits of Cost Control in ERM Budgeting

While the risks inherent in ERM budgeting are significant, adopting a disciplined approach to cost control can yield substantial benefits. Effective cost control ensures that resources are allocated efficiently, maximising the value derived from risk management investments. Key benefits include:

1. **Optimised Resource Allocation** By exercising due control over costs, organisations can allocate resources to the most critical risks, ensuring that funds are directed where they are needed most. This approach not only enhances risk mitigation effectiveness but also minimises waste, enabling the organisation to achieve more with limited resources.
2. **Enhanced Organisational Agility** Cost control measures, such as incorporating flexible budgeting frameworks, enable organisations to adapt to changing risk landscapes. For example, maintaining contingency funds or adopting a zero-based budgeting approach allows organisations to reallocate resources as new risks emerge, ensuring that they remain agile in the face of uncertainty.
3. **Improved Stakeholder Confidence** A well-controlled ERM budget demonstrates financial prudence and strategic foresight, fostering confidence among stakeholders, including investors, regulators, and employees. By demonstrating that risks are being managed effectively without excessive expenditure, organisations can build trust and credibility.
4. **Increased Long-term Sustainability** Effective cost control supports the organisation's long-term sustainability by ensuring that financial resources are

not unduly strained. By avoiding overexpenditure on risk management, organisations can maintain a healthy balance sheet, enabling them to invest in growth and innovation while remaining resilient to future challenges.

5. **Alignment with Organisational Objectives** Cost control measures help align ERM budgets with broader organisational objectives, ensuring that risk management efforts complement, rather than compete with, strategic goals. For example, investments in cybersecurity can be framed as enablers of digital transformation, aligning risk management with innovation initiatives.

Strategies for Mitigating Risks in ERM Budgeting

To address the risks inherent in the ERM budgeting process, organisations can adopt several strategies:

1. **Strengthening Risk Assessment Processes** Investing in robust risk assessment methodologies, including scenario analysis and stress testing, can improve the accuracy of risk identification and prioritisation. Leveraging advanced analytics and predictive modelling can also enhance the organisation's ability to anticipate emerging threats.
2. **Adopting Flexible Budgeting Frameworks** Implementing flexible budgeting structures, such as rolling forecasts or activity-based budgeting, allows organisations to adjust allocations as needed. These frameworks provide greater agility, enabling organisations to respond to changes in the risk landscape without compromising financial efficiency.
3. **Fostering Cross-functional Collaboration** Involving diverse stakeholders in the budgeting process can help mitigate biases and ensure a holistic approach to risk prioritisation. Cross-functional collaboration promotes a balanced perspective, ensuring that financial allocations reflect the organisation's overall risk profile.
4. **Incorporating Contingency Planning** Allocating

a portion of the ERM budget to contingency funds provides a safety net for unforeseen events. However, these funds should be managed strategically to avoid tying up excessive capital in reserves.

5. **Quantifying Intangible Benefits** Developing frameworks to quantify the intangible benefits of risk management investments, such as reputational protection and stakeholder trust, can help justify financial allocations. This approach enables organisations to balance cost considerations with the broader value derived from risk mitigation.
6. **Integrating ERM with Strategic Planning** Aligning ERM budgeting with the organisation's strategic planning processes ensures that risk management efforts support, rather than hinder, strategic objectives. For example, integrating risk assessments into capital allocation decisions can enhance decision-making and optimise resource utilisation.

Conclusion

The budgeting process for enterprise risk management is fraught with inherent risks, from inadequate risk identification to cost-benefit misalignments. However, by recognising and addressing these challenges, organisations can enhance the efficacy of their risk management efforts while maintaining cost efficiency. Adopting flexible budgeting frameworks, strengthening risk assessment processes, and fostering cross-functional collaboration are essential strategies for mitigating the risks associated with ERM budgeting.

Moreover, exercising due control over costs offers significant benefits, including optimised resource allocation, enhanced organisational agility, and improved stakeholder confidence. By striking the right balance between risk mitigation and financial prudence, organisations can ensure their long-term sustainability and resilience in an increasingly complex and uncertain world.

Practical issues as well as areas that can go wrong in a valuation exercise for a merger

Valuation Pitfalls in a Merger Scenario

Valuation is a critical element in the context of mergers, underpinning the determination of transaction terms, pricing, and the overall strategic rationale. The objective of valuation in a merger is to arrive at a fair representation of the value of the target entity, ensuring that both acquirer and seller can agree on terms that align with their respective goals. However, the process is fraught with complexities, uncertainties, and subjective judgments that can introduce pitfalls capable of undermining the success of the transaction. This essay explores the key valuation pitfalls in a merger scenario, highlighting their implications and strategies to mitigate them.

The Importance of Accurate Valuation in Mergers

Valuation forms the foundation of merger decision-making, influencing critical factors such as offer price, financing arrangements, and post-merger integration plans. An accurate valuation ensures that the acquirer pays a fair price while preserving shareholder value and that the seller receives appropriate compensation for relinquishing ownership. Conversely, flawed valuations can lead to overpayment, underpayment, or disputes, jeopardising the success of the transaction.

In a merger scenario, the valuation exercise typically considers various approaches, such as discounted cash flow (DCF) analysis, comparable company analysis, precedent transaction analysis, and market valuation methods. While these methodologies provide structured frameworks for assessing value, their application is inherently subject to assumptions, estimations, and external influences, creating opportunities for errors and misjudgments.

Key Valuation Pitfalls in Mergers

1. **Over-reliance on Projections** A fundamental pitfall in merger valuations is the over-reliance on financial projections, which are often optimistic and assume

ideal operating conditions. These projections may fail to account for market fluctuations, competitive dynamics, or operational challenges that could negatively impact the target's future performance.

For instance, in a DCF analysis, minor adjustments to revenue growth rates or discount rates can lead to significant variations in valuation outcomes. Overestimating growth prospects may result in overpayment, while underestimating them could lead to undervaluation and lost opportunities.

2. **Failure to Account for Synergies** Synergies—cost savings, revenue enhancements, or operational efficiencies expected to arise from the merger—play a crucial role in determining the transaction's value. However, a common pitfall is either overestimating or failing to realise these synergies. Inflated synergy estimates can justify an excessively high purchase price, while neglecting to factor in achievable synergies may result in undervaluing the strategic benefits of the deal.

For example, if two companies in complementary industries merge, their combined operations may yield economies of scale or enhanced market access. Failing to properly quantify or implement these synergies can undermine the merger's value proposition.

3. **Neglecting Integration Costs** While synergies are often emphasised, the costs associated with post-merger integration are frequently underestimated or overlooked. Integration costs, such as restructuring expenses, technology harmonisation, and cultural alignment efforts, can significantly impact the combined entity's financial performance.

An example is the 2001 merger of AOL and Time Warner, which failed to account adequately for integration challenges, leading to substantial write-offs and diminished shareholder value. Ignoring

integration complexities during valuation can result in unrealistic expectations of merger benefits.

4. **Bias in Valuation Assumptions** Valuation exercises are inherently subject to biases, whether intentional or unintentional. For example, acquirers may exhibit “deal fever,” where the desire to close a transaction overrides objective assessment. This bias can lead to overly optimistic assumptions about the target’s growth potential, market conditions, or competitive advantages.

Similarly, sellers may inflate valuations by emphasising non-recurring revenues, downplaying risks, or providing selective disclosures. Such biases distort the true value of the target, leading to mispricing and potential disputes during or after the merger.

5. **Ignoring Market Conditions** Valuation models often assume stable market conditions, disregarding the volatility and uncertainty that characterise real-world scenarios. Changes in interest rates, exchange rates, commodity prices, or industry dynamics can materially impact the value of the target.

For example, during periods of economic uncertainty, valuations based on pre-recession metrics may fail to reflect the true risks and opportunities associated with the target. Ignoring market dynamics can lead to valuations that are either overly aggressive or overly conservative, undermining the transaction’s rationale.

6. **Inadequate Due Diligence** Valuation is heavily reliant on the accuracy and completeness of the data used in the process. Inadequate due diligence—such as failing to uncover hidden liabilities, overestimating asset quality, or underestimating operational risks—can lead to flawed valuations.

For instance, a target company with undisclosed regulatory issues or legal disputes may appear more valuable than it is. Post-transaction discovery of these issues can lead to financial losses,

reputational damage, and strained relationships between merging entities.

7. **Underestimating Cultural and Human Capital Risks** While valuation models focus primarily on financial metrics, they often fail to adequately account for cultural compatibility and human capital risks. Misalignment in corporate cultures, management styles, or employee retention can derail the benefits of a merger, diminishing the realised value.

For example, the merger between Daimler-Benz and Chrysler in the late 1990s encountered significant cultural clashes, undermining operational synergies and leading to the eventual dissolution of the partnership. Ignoring these qualitative factors during valuation can result in overestimating the merger’s potential benefits.

8. **Failure to Adjust for Risk Factors** Valuation models often assume a “base case” scenario, failing to adequately account for downside risks or adverse events. Factors such as technological disruptions, regulatory changes, or competitive threats can erode the target’s value, rendering pre-merger valuations overly optimistic.

For instance, a technology company reliant on a single innovation may face significant risks if competitors develop superior solutions. Failure to incorporate these risk factors into valuation estimates can result in overpayment and reduced shareholder returns.

Mitigating Valuation Pitfalls in Mergers

To address these pitfalls and ensure accurate valuations, organisations can adopt several best practices:

1. **Robust Due Diligence** Conducting comprehensive due diligence is essential to uncover hidden risks, validate assumptions, and ensure the accuracy of financial data. Engaging cross-functional teams, including financial, legal, operational, and cultural experts, enhances the due diligence process, providing a holistic view of the target’s value.

2. **Scenario Analysis and Sensitivity Testing** Incorporating scenario analysis and sensitivity testing into valuation models can help organisations understand the potential impact of varying assumptions, market conditions, and risk factors. For example, testing different discount rates or revenue growth scenarios can provide a range of potential valuation outcomes, enabling more informed decision-making.
3. **Independent Valuation Experts** Engaging independent valuation experts reduces the risk of biases and ensures an objective assessment of the target's value. These experts can provide valuable insights into industry trends, market conditions, and valuation methodologies, enhancing the credibility of the valuation process.
4. **Realistic Synergy and Integration Estimates** Organisations should adopt a conservative approach to estimating synergies and integration costs, ensuring that assumptions are achievable and grounded in data. Independent verification of synergy estimates can further enhance the reliability of valuation outcomes.
5. **Regular Market Updates** Valuation exercises should be periodically updated to reflect changes in market conditions, industry dynamics, and regulatory environments. Incorporating real-time

data ensures that valuations remain relevant and accurate throughout the merger process.

6. **Post-Merger Monitoring** Establishing mechanisms to track the realisation of synergies and integration progress post-merger provides valuable feedback for future transactions. Lessons learned from previous mergers can inform valuation practices and improve outcomes.

Conclusion

Valuation is a cornerstone of merger success, yet it is fraught with pitfalls that can undermine transaction outcomes if not adequately addressed. Over-reliance on projections, neglecting integration costs, and biases in assumptions are among the key challenges that organisations face. However, by adopting rigorous due diligence, leveraging independent expertise, and incorporating scenario analysis, organisations can mitigate these risks and achieve more accurate valuations.

Ultimately, a disciplined approach to valuation ensures that mergers create value for stakeholders, align with strategic objectives, and withstand the test of dynamic market conditions. By recognising and addressing valuation pitfalls, organisations can enhance their ability to execute successful mergers that deliver long-term benefits.

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 are very useful entity in the financial intermediary process in the economic system. Key role banks play in the economy is the maturity transformation. Banking is accepting deposits and transforming them into long term assets. In return for providing this service they make profit by charging more for a loan than then offer to pay on deposits. Banks assume various risks, i.e. create chances of incurring future losses, in the process of allocating their deposits and other borrowings to loans and investments. Liquidity risk arises due to maturity transformation since banks borrower short and lend long to generate profit. Credit risk is inherent because banks are lending to counterparties to generate assets and therefore exposed to default risk. When market fluctuations are regulated or predictable, these risks and potential losses are small. But, with globalization, innovation and competition, portfolios of Indian banks have become much more complex. In such an environment, only some risks are explicit while most others are hidden. Large losses from these latent risks are bunched during episodes like the global financial crisis. This is why Basel III advanced approaches (BCBS 2010) insists on detailed measurement of all possible risks, their correlations in normal markets and shifts in such correlations during stress situations.

Liquidity risk and credit risk are considered as the two important sources of banking risk. The global financial crisis has shown once again how challenging credit risk management and asset-liability management can be under banking competition. Fewer attempts by banks to reduce long term, liquid assets or short-term volatile liabilities culminated in the global financial crisis. The recent NBFCs crisis in India was also triggered by such problems. As banks fund their long-term assets with short-term liabilities, to increase net interest margins, they are exposed to liquidity risk. The possibility of sudden withdrawal of short-term deposits and other borrowings threatened the solvency of even reputed banks.

Credit risk arises due to uncertainty in a borrower's ability or willingness to meet its contractual obligations. Credit risk results in increase in the ratio of gross nonperforming assets in banks. Liquidity risk arises

when banks are unable to meet its commitments on time due to unexpected cash outflow or unable to sell assets or investment loses its liquidity. All these may result in customer deposit runoff, fall in market value of the securities, increase in funding costs and fall in borrowing capabilities in banks. Hence, liquidity risk is defined as the risk of being unable to meet the obligation of depositors or to fund increases in assets due to shortage of liquid assets in the financial entity.

Liquidity Risk Management ensures that there is enough cash or near cash assets to repay maturing liabilities on time. Credit Risk Management ascertains that, despite some defaults and delayed payment, the overall quality of maturing assets is good enough to pay down liabilities as scheduled. A bank might expect the cash inflows from different assets to arrive in full and on time. The problem arises when some of its assets make delayed or partial payments and then bank can run into a funding deficit. Additionally, since banks accept deposits from savers and lend those funds to borrowers, a bank's asset and liability structures are closely connected, especially in terms of borrower's default and deposit outflows.

Liquidity is a bank's ability to meet its cash and collateral obligations without sustaining unacceptable losses. Liquidity risk refers to how a bank's inability to meet its obligations (whether real or perceived) threatens its financial position or existence. Institutions manage their liquidity risk through effective asset liability management (ALM).

To successful liquidity risk management and ALM:

To institute an effective liquidity risk management and ALM system at Bank organisation, follow these three steps.

1. Establish an analytic framework for calculating risk, optimising capital and measuring market events and liquidity.

Minimise the effects of market shocks and look for better risk management opportunities by analysing the consequences of changes in cost and liquidity in near-real time. Then can act with precision.

Analyse cash flow and market value dynamics comprehensively and granularly. Proactively

manage Bank assets and liabilities with on-demand scenario analysis incorporating forward-looking market condition and balance sheet evolution assumptions.

2. Manage data.

Gain a centralised view of firmwide interest rate and liquidity risks by integrating the latest market information, portfolio updates, capital returns and a market view of liquidity on an intraday scenario basis.

3. Integrate risk management processes.

Value complex portfolios and asset classes using an efficient platform to integrate portfolio valuation and scenario analyses with consistent market, credit and behavioural models. Process orchestration and governance can further reduce operational risk.

Liquidity is the ability of a bank¹ to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. The fundamental role of banks in the maturity transformation of short-term deposits into long-term loans makes banks inherently vulnerable to liquidity risk,² both of an institution-specific nature and that which affects markets as a whole. Virtually every financial transaction or commitment has implications for a bank's liquidity. Effective liquidity risk management helps ensure a bank's ability to meet cash flow obligations, which are uncertain as they are affected by external events and other agents' behaviour. Liquidity risk management is of paramount importance because a liquidity shortfall at a single institution can have system-wide repercussions. Financial market developments in the past decade have increased the complexity of liquidity risk and its management.

Challenges to successful credit risk management:

- ✓ Inefficient data management. An inability to access the right data when it's needed causes problematic delays.
- ✓ No groupwide risk modelling framework. Without it, banks can't generate complex, meaningful risk measures and get a big picture of groupwide risk.

- ✓ Constant rework. Analysts can't change model parameters easily, which results in too much duplication of effort and negatively affects a bank's efficiency ratio.
- ✓ Insufficient risk tools. Without a robust risk solution, banks can't identify portfolio concentrations or re-grade portfolios often enough to effectively manage risk.
- ✓ Cumbersome reporting. Manual, spreadsheet-based reporting processes overburden analysts and IT.

Best practices in credit risk management:

The first step in effective credit risk management is to gain a complete understanding of a bank's overall credit risk by viewing risk at the individual customer and portfolio levels.

While banks strive for an integrated understanding of their risk profiles, much information is often scattered among business units. Without a thorough risk assessment, banks have no way of knowing if capital reserves accurately reflect risks or if loan loss reserves adequately cover potential short-term credit losses. Vulnerable banks are targets for close scrutiny by regulators and investors, as well as debilitating losses.

The key to reducing loan losses and ensuring that capital reserves appropriately reflect the risk profile is to implement an integrated, quantitative credit risk solution. This solution should get banks up and running quickly with simple portfolio measures. It should also accommodate a path to more sophisticated credit risk management measures as needs evolve. The solution should include:

- ✓ Better model management that spans the entire modelling life cycle.
- ✓ Real-time scoring and limits monitoring.
- ✓ Robust stress-testing capabilities.
- ✓ Data visualization capabilities and business intelligence tools that get important information into the hands of those who need it, when they need it.

Risk in Insurance Business

India Insurance Business, currently ranking as the 10th-largest insurance market in the world, the Indian insurance market is expected to grow rapidly to become the 6th largest insurance market globally in the next decade, as estimated by the Insurance Regulatory and Development Authority of India (IRDAI).¹ In the upcoming five year period from 2024 to 2028, the industry anticipates a robust 7.1% real term increase in total insurance premiums. This growth surpasses the global average of 2.4%, as well as the averages for emerging and advanced markets, which stand at 5.1% and 1.7% respectively. At this pace, India is poised to lead as the fastest-growing insurance sector among G20 nations.

Identifying emerging risks: Recognising the macro trends affecting the insurance sector Emerging risks fall under the category of ‘anticipated risks.’ Such risks often go unnoticed until it’s generally too late and they’ve had large-scale adverse impacts on markets and businesses. Since the nature of emerging risks cannot be quantified, they have to be anticipated by studying historical risks emerging from developing trends.

1. Environmental dangers and climate change: The growing frequency and intensity of extreme weather events, such as hurricanes, floods, earthquakes and wildfires, put financial burden on insurance houses, leading to larger economic challenges.
2. Modern technological developments: The rapid development of technology, including mobile applications, AI/ML platform automation and digital KYC, requires new risk assessments and coverage models, considering possible responsibility shifts from traditional insurance firms to third-party insurance brokers and technology providers.
3. Geopolitical instabilities: Political unrest, trade tensions and geopolitical conflicts can lead to economic volatility and may cause insurers to face heightened risks related to property damage, business interruptions and supply chain disruptions.
4. Social shifts: Social shifts that affect insurance companies extensively include urbanisation and demographics. Rapid urbanisation increases the magnitude and severity of claims involving infrastructural losses and overpopulation. Changes in demographics, such as increasing aging population and permanent migrations, drastically influence the demand patterns for property, life

and health insurance, while bolstering the need for novel insurance products and strategies for risk management.

5. Economic uncertainties: Solvency and investment returns of insurers are greatly impacted by fluctuations in interest rates, unpredictable investment market and global economic volatility.
6. Regulatory compliance and data privacy: Following data protection laws such as the newly introduced Digital Personal Data Protection Act 2023 (DPDP) in India is essential to safeguard customer data and avoid heavy fines. Non-compliance to data privacy laws will lead to severe distrust amongst policyholders, while resulting in serious reputational damage and loss of potential customers.
7. Data security breach: Data security breaches, due to cyberattacks and illegal access to private data, pose serious dangers to insurers and policyholders. If such breaches result in compromising personal and financial information, identity theft and fraud, there can be serious financial losses for both insurers and policyholders.
8. Insider threats: Insider threats, which consist of employees’ or outside contractors’ purposeful or inadvertent abuse of information, represent intra-organisational dangers to insurers’ data security. Threat actors may gain access to sensitive private data by way of illegal access, data theft or due to careless data management.
9. Data integrity: Assurance of data quality and integrity is an essential need for insurers to carry out well-informed business decisions and provide accurate risk assessments. Inconsistent, inaccurate or out-of-date data can lead to misunderstandings, arguments over claims and financial losses.
10. Biases in data: AI and data analytics integrated into the insurance decision-making process carry the possibility of prejudice and discrimination. Age, gender or socioeconomic status are some of the few factors due to which policyholders may be treated unfairly because of erroneous data models or biased algorithms.

Market Conduct Risk:

Another aspect of emerging risks is the market conduct

risk. Insurance as a concept deal with two very important and sensitive human characteristics health and death. Hence, it becomes imperative for insurance firms to strictly adhere to ethical practices while marketing their products.

In any economy, older populations are heavily impacted by this model, as their risk management requirements are often complex. Therefore, there's a growing concern regarding banking investments being sold as insurance products with highly attractive benefits despite their inadequate coverage. This ultimately raises significant reputational risk for insurance firms and their distributors, since it misleads consumers.

Furthermore, banks are not the only distribution channels where conduct risks are noticeably greater. There are several regulated and unregulated insurance distribution channels, including:

- Tied-agency channels: Tied agents, working for a single insurer, have to strike a balance between advancing the interests of their clients and completing targeted sales goals. Mis-selling and putting business objectives ahead of consumer demands is a recurring risk with tied agencies.
- Insurance broking: Consumers are frequently offered biased insurance investment advice and products to complete target sales. The risks stem from conflicts of interest, insufficient commissions and inaccurate fee disclosures.
- Direct insurance sales: Sales through telesales and e-commerce tend to be more efficient, but there are risks associated with transparency and client understanding of product conditions. As a result, there are numerous consumers who become susceptible to the mis-selling of insurance products.
- Microfinance: To serve low-income populations, microfinance institutions must make sure that insurance products are both reasonably priced and tailored to the individual needs of their clients. To stop consumer exploitation, it is important to educate them about insurance products/services.

While the IRDAI and insurance firms are making continuous concerted efforts to manage and reduce market conduct risks, due to the sensitive nature of insurance investments for consumers and limited awareness, there still remain a great number of associated risks in the sector. This highlights the difficulties in sustaining moral behaviour throughout the distribution chain.

Third-party Insurance Brokers

With access to large volumes of sensitive customer data, both online and offline third-party insurance brokers may create serious challenges regarding data security in India. Third parties utilise the data to offer personalised services, streamline insurance procedures and enhance client experiences. To reach their insurance sales targets, however, many independent brokers and brokerage companies either purposefully or inadvertently misuse data. This negatively affects consumers whose information is being accessed without permission.

Emerging risks associated with third-party insurance brokers:

- I. Data misappropriation:** Third-party online or offline broking companies might purposefully or inadvertently share consumer data with other third-party companies to widen their marketing demographics, resulting in significant misuse of data and privacy breaches.
- II. Lack of transparency:** Many third-party intermediaries neglect to reveal how their operating systems access, utilise and safeguard client data. Such non-disclosures might be attributed to ineffective fraud detection software and dated firewall solutions implemented by third parties. Such lack of transparency heightens customers' vulnerabilities and causes distrust among them regarding third-party insurance brokers.
- III. Advertisement/marketing biases:** Third-party intermediaries may use consumer data to create promotional marketing collaterals or adverts based on customer preferences, generating biases that align primarily with the firm's objectives, without consent or authorisation from the consumers. This leads to inaccurate decisions and exploitation of consumers in selecting insurance products.
- IV. Inadequate security mechanisms:** Several third-party broking firms do not prioritise adopting robust cybersecurity defensive systems, or investing in security training initiatives, and further lack organisational risk culture. As a result, client data remains vulnerable to threat actors.
- V. Regulatory non-compliances:** The IRDAI has put forward several third-party governance and regulations for insurance brokers to strictly follow on data privacy and security, both legally and technically. Non-compliance can result in major legal consequences and heavy fines, while regulatory violations may seriously damage reputations of both the third-party firms and insurance houses that are in a contract with the former.

Topic

Module 8:
Types of New Age
Business

ELECTIVES

Paper-20C

Entrepreneurship
and Start Up (ENTS)

Types of New Age Business

New Age Business

New-age businesses are companies that use technology to create innovative business models and products, and are different from traditional firms in several ways. These are as follows:

1. **Business model:** New-age businesses are knowledge-based and technology-focused, and often use the internet to connect buyers and sellers. They can be subscription-based, like music streaming apps, or transaction-based, like Swiggy. Their business model is completely different from that of traditional firms which are asset-heavy in nature. There are also other types of business models such as a subscription-based model as seen in music-streaming app (Gaana, Saavn) firms or transaction-based firms such as Swiggy.
2. **Technology:** New-age businesses use new technologies like artificial intelligence, machine learning, and the Internet of Things (IoT) to create unique products and services. Often, new-age firms leverage technology/internet to drive their operations, acting as a platform wherein buyers meet sellers. Their focus is to facilitate the smooth functioning of a business transaction.
3. **Workplace:** New-age businesses may have a collaborative and cooperative workplace, with flexible schedules and a flat organization chart.
4. **Skill sets:** New-age businesses may require new skill sets and open up new markets.
5. **Asset ownership:** New-age businesses may not need to own physical assets to provide services, unlike traditional businesses.

Types of New age businesses in India

New age business in India includes tech startups, social enterprises, and businesses in the deeptech domain.

1. **Tech startups:** A tech startup is a new business that focuses on developing and selling technology-based products or services. Some of the top emerging startups in India in 2024 include Zepto, Sprinto, Lucidity, GrowthX, Jar, Wiingy, SourceBae, and BiofuelCircle. In 2024, new-age tech startups raised nearly Rs 15,000 crore through IPOs, the best since 2021.

Characteristics of tech Startups

- (a) **Technology focus:** Tech startups are driven by technology and innovation, and often develop

software applications, new hardware devices, or emerging technologies.

- (b) **Scalability:** Tech startups have the potential for rapid growth and scalability.
 - (c) **Early-stage:** Tech startups are in the early stages of operations, and are generally newly created.
 - (d) **Funding:** Tech startups usually rely on funding from friends, family, angel investors, VC firms, or crowdfunding.
 - (e) **Innovative solutions:** Tech startups are characterized by innovative solutions that disrupt existing markets or create entirely new ones
2. **Social enterprises:** A social enterprise, or social business, is a business designed to achieve specific social objectives as its primary purpose. Social enterprises generate revenue through their endeavors to fund their social causes, differentiating them from charities. Social enterprises in India are businesses that prioritize social intent over profit-making. They can be for-profit or not-for-profit, and can be registered as a Pvt. Ltd, LLP, Trust, Society, or Section 8 company. Social entrepreneurship in India is crucial because of its potential to:
 - Address pressing societal challenges such as poverty and inequality.
 - Empower marginalized communities.
 - Provide innovative solutions that benefit both society and the environment.
 - Support economic growth while prioritizing social impact.

3. **Deeptech:** Deep tech, or deep technology, is a term used to describe advanced technologies that are based on scientific or engineering innovations. Deep tech companies use these technologies to address complex problems and societal challenges, such as climate change, food production, and chronic diseases. Deeptech is a broad domain that includes AI, robotics, ML, biotech, and quantum computing technologies. Deeptech advancements are redefining sectors like aerospace, green energy, mobility, and medical sciences.

Agro Entrepreneurship

Agro or Agri entrepreneurship refers to the entrepreneurial activities and initiatives within the agricultural sector. It involves identifying

opportunities, taking risks, and creating innovative solutions to address challenges in agriculture and related industries. Agri entrepreneurs may be farmers, agribusiness professionals, or individuals outside the traditional agricultural sector who introduce new products, services, technologies, or business models to improve productivity, sustainability, and profitability in agriculture.

Advantages of Argo entrepreneurship include:

1. **Income growth:** Agripreneurs can use innovative techniques to increase the income of agricultural produce.
2. **Employment opportunities:** Agri startups create employment opportunities for farmers and agricultural graduates.
3. **Rural welfare:** The increase in employment and revenue for agricultural businesses can promote rural welfare.

Qualities and competencies of Agri-entrepreneurs

1. **Innovation:** Agri-entrepreneurs are willing to embrace change and uncertainty. They try new crops, animals, and technologies to increase productivity and reduce risk.
2. **Adaptability:** Agri-entrepreneurs are resilient and can adapt to change.
3. **Community-oriented:** Agri-entrepreneurship is sustainable and community-oriented.
4. **Direct marketing:** Agri-entrepreneurs directly market their produce.
5. **Integration of value chain:** Agri-entrepreneurs integrate the value chain by engaging in food processing, direct marketing, or organic production.
6. **Expansion of farm enterprise:** Agri-entrepreneurs expand their farm enterprise through tourism or other non-agricultural businesses.

Women Entrepreneurship

The Government of India has defined a woman entrepreneurship as “an enterprise owned and controlled by a woman having a minimum financial interest of 51% of the capital and giving at least 51% of the employment generated in the enterprise to women. Woman entrepreneur has to perform all the activities involved in establishing an enterprise. These include idea generation and screening, determination of objectives, project preparation, product analysis etc.

Some women entrepreneurship schemes in India:

1. **Bhartiya Mahila Bank Business Loan:** A scheme that offers financial assistance and flexible

repayment options for women entrepreneurs

2. **Annapurna Scheme:** A scheme that provides financial aid for equipment and utensils to help women establish and expand their businesses
3. **Stand-up India:** A scheme that promotes entrepreneurship in traditionally male-dominated sectors by facilitating bank loans for women
4. **Pradhan Mantri Mudra Yojana:** A scheme that provides collateral-free loans to women entrepreneurs through its Shishu, Kishor, and Tarun categories
5. **Trade-Related Entrepreneurship Assistance and Development (TREAD) Scheme for Women:** A subsidy scheme that provides up to 30% of the total project cost as a subsidy
6. **Dena Shakti Scheme:** A loan scheme that is available to women entrepreneurs in retail, service activities, manufacturing, and self-employment
7. **Women Entrepreneurship Platform (WEP):** A platform that provides access to programs for incubation, acceleration, entrepreneurship skilling, mentorship, marketing assistance, funding, compliance and tax assistance, and community and networking

(Source: https://www.startupindia.gov.in/content/sih/en/women_entrepreneurs.html)

Case Scenario



1. Overview of the Start-Up

Founded in 2016, AgNext is a fast-growing AgTech company that aims to solve quality and trust in food value chains by making them safer, transparent and fairer. With digitalization of food quality assessment at its core, the firm offers a unique, integrated and AI-driven SaaS platform to agribusinesses for automated and instant food quality results.

AgNext, a rapidly growing AgTech company, aims to enhance the safety, transparency, and fairness of food value chains. By employing innovative technologies to address quality and trust issues, AgNext ensures consumers can confidently trust the food they consume while aiding producers and suppliers in maintaining product integrity. Their transformative approach is positively reshaping the food industry.

2. Business Model

The business model comprises of using technology as an intersection for buying and selling, for instant assessment of quality, thereby establishing transparency and trust in trade.

AgNext is present at all food trade intersections such as:

- Farm gates/collection centers/Farmer Producer Organizations (FPOs)
- Warehouses
- Processing centers
- Millers
- SMEs to Large FMCG Companies
- Export/import hubs
- Cloud kitchens

3. Technology Description

AgNext uses high-tech instant food quality assessment for fairer price determination. The Qualix AI engine uses molecular spectral analysis, computer vision, and IoT sensing solutions, delivered through an integrated hardware and software interface for accurate and instant quality analysis along with farmer-wise data for quality produce, managing suppliers by lots, and building business intelligence through quality maps. The hardware solution suite comprises of devices utilizing NIR spectroscopy for chemical quality assessment, AI-based image processing technologies for physical quality assessment of food commodities, and LoRA WAN-based IoT applications which provide quality estimations in multiple agriculture processes in spatial arrangements like curing, food storage, warehousing, and logistics.

4. Impact Generated

AgNext has boosted income of 2.5 lakh + farmers by facilitating fairer pricing and by selling produce faster with efficient market linkages. It has helped reduce:

- procurement cost by (upto) 30% for 150+ food & agribusinesses.
- food quality testing time by (upto) 60%.
- testing cost by (upto) 40%.

AgNext, a rapidly growing AgTech company, aims to enhance the safety, transparency, and fairness of food value chains. By employing innovative technologies to address quality and trust issues, AgNext ensures consumers can confidently trust the food they consume

while aiding producers and suppliers in maintaining product integrity. Their transformative approach is positively reshaping the food industry.

(Sourcefile:///C:/Users/ASHISH%20KUMAR%20SANA/Downloads/Agri-Entrepreneurship-New%20Book.pdf)

Choose the correct option from the given alternatives based on the above scenario:

1. Which of the following is not correct for new age business model?
 - (a) It **changes the way businesses operate**
 - (b) It challenges the basic measurement and tracking of business
 - (c) It alters the main levers for performance of businesses.
 - (d) It again starts with an existing product.

Answer (d)

2. An agritech startup is a business that uses technology to improve the efficiency, profitability, and of -----agriculture.
 - (a) Sustainability
 - (b) Marketing
 - (c) Pricing
 - (d) Production

Answer: (a)

3. AgNext is the -----type of startup.
 - (a) Fintech
 - (b) Agritech
 - (c) Edutech
 - (d) None of the above

Answer: (b)

4. Which of the following types of technologies are using by AgNext?
 - (a) Qualix AI
 - (b) Long Range Wide Area Network (LoRA WAN) based IoT
 - (c) Only (a)
 - (d) Both (a) and (b)

Answer: (d)

Invitation to Contribute Articles for CMA Student E-Bulletin - Showcasing Your Expertise!

Dear CMA Student,

We are excited to extend an invitation to you to contribute an article for the **CMA Student E-Bulletin**, our esteemed monthly e-journal exclusively crafted for CMA students. This platform, managed by the Directorate of Studies at ICAI, aims to provide a space for your insights, experiences and knowledge-sharing within the CMA community.

Submission Guidelines:

- ⦿ **Article Length:** Please prepare articles ranging between 1200 to 1500 words.
- ⦿ **Topic:** The articles can cover a wide spectrum of subjects, including but not limited to advancements in finance, industry insights, case studies, personal experiences and emerging trends in the field.
- ⦿ **Originality:** We encourage you to share your unique perspectives and experiences. Ensure that your submission has not been published elsewhere.

Submission Deadline: We kindly request you to submit your article by **20th of the previous month of publication**. This will allow us ample time to review and prepare the upcoming issues of the CMA Student E-Bulletin.

Submission Process: Please send your article to studies.ebulletin@icmai.in with the subject line "**CMA Student E-Bulletin Submission - [Your Name, Registration No.]**". Include a brief author bio and a high-resolution photograph to be featured alongside your article.

Recognition and Rewards: Selected articles will be featured prominently in the CMA Student E-Bulletin, providing you with a valuable platform to showcase your expertise. Additionally, authors of published articles will be acknowledged and the top contributors may be eligible for special recognition and rewards.

We believe that your unique insights and experiences will contribute significantly to the enrichment of the CMA Student E-Bulletin. Your participation will not only enhance your visibility within the CMA community but also foster a culture of knowledge-sharing and collaboration.

Best Regards,

Team DoS

The Institute of Cost Accountants of India

E-mail – studies.ebulletin@icmai.in



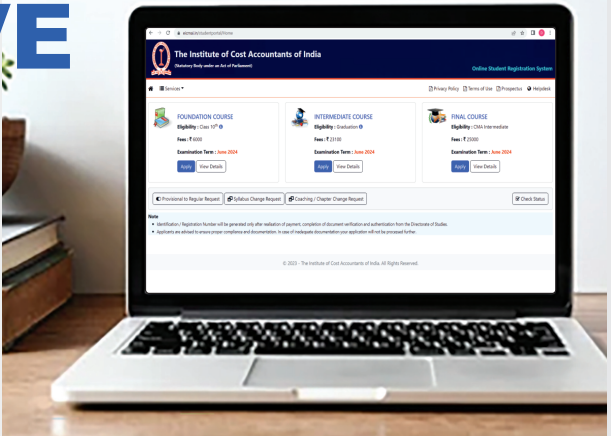
THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

Statutory Body under an Act of Parliament

www.icmai.in



NEW IT INITIATIVE TO PROVIDE ENHANCED FACILITIES TO CMA STUDENTS



A login feature has been integrated into the **ONLINE REGISTRATION APPLICATION SYSTEM** enabling students to access various services through their accounts.

To utilize this feature, students need to create a login account by verifying their email address through an OTP sent to their registered email ID. Once the email ID is verified, it becomes the user ID and students can set their password during the account creation process.

The introduced system enables students to:

Register online for Foundation, Intermediate & Final Courses

Check the status of their online applications

Request Conversion from Old Syllabus to New Syllabus

Request changes in Oral / Postal Coaching and opt for Chapter-to-Chapter Conversion

Convert from Provisional to Regular status

Additional services for students will be seamlessly incorporated in the near future.

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



ICMAI
THE INSTITUTE OF
COST ACCOUNTANTS OF INDIA
Statutory Body under an Act of Parliament
www.icmai.in

Since 1944

CMA Leads

- 4 Regional Councils
- 11 Overseas Centers
- 117 Chapters across India
- 61 CMA SC & 401 ROCC
- 1,00,000+ Alumni
- 5,00,000+ Students

Value Added Services for the CMA Students

- Study Materials
- Students E-Bulletin
- Knowledge Web Series
- E-Library
- Webinars
- Model Question Papers
- MCCQ Portal
- Tutorial Workshops
- Coaching - Oral/Postal (E-learning)
- Skills Training
- Practical Training
- Industry Oriented Training Programme

Admission Deadlines

- For June Exam - 31st January of same Calendar Year
- For December Exam - 31st July of same Calendar Year

✉ studies@icmai.in

LARGEST CMA BODY IN THE WORLD

Under the administrative control of Ministry of Corporate Affairs (MCA), Government of India

CMA COURSE GOING GLOBAL

Mentoring Future-Ready Professionals

Eligibility

- Admission in Foundation Course**
- Passed Class 10 (Require to pass 10+2 before appearing in CMA Examination)
 - 10+2 Pass or its equivalent (Students appearing for 10+2 also apply on provisional basis)

- Registration to Intermediate Course**
- Passed CMA Foundation Examination
 - Graduates of any discipline (Students awaiting final result also apply on provisional basis)
 - Qualified CAT Level - I of The Institute of Cost Accountants of India
 - Qualified CA Intermediate
 - Qualified Engineers

Course Fees

Foundation - ₹6,000/-

Intermediate - ₹23,100/-*

Final - ₹25,000/-*

*Installation facility available



To know more,
Scan the QR code



Skills Training Partner



NPTEL®

Online Admission

<https://eicmai.in/studentportal/Home>

Prominent Recruiters in CMA Campus Placement Drives



And many more...

Headquarters

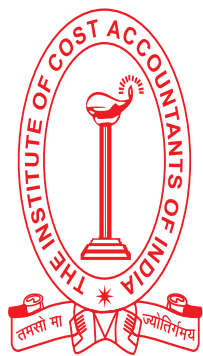
CMA Bhawan, 12, Sudder Street, Kolkata - 700016
☎ 03-40364777/40364722/40364726

Delhi Office

CMA Bhawan, 3, Institutional Area, Lodhi Road
New Delhi - 110003
☎ 011-2462156/24622157/24622158

✉ placement@icmai.in

Behind every successful business decision, there is always a CMA



ICMAI

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

Statutory Body under an Act of Parliament

www.icmai.in

Headquarters

CMA Bhawan, 12, Sudder Street, Kolkata - 700016

Ph: 033-40364777/40364722/40364726

Delhi Office

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

Ph: 011-24622156/24622157/24622158

studies@icmai.in



Behind every successful business decision, there is always a CMA