INTERMEDIATE EXAMINATION **SET 1**

MODEL ANSWER **TERM – DECEMBER 2025**

PAPER – 12 **SYLLABUS 2022**

MANAGEMENT ACCOUNTING

Time Allowed: 3 Hours **Full Marks: 100**

The figures in the margin on the right side indicate full marks.

SECTION – A (Compulsory)

I. Choose the correct option: **[15 x 2 = 30]**

(i) Creation of value through effective use of resources is the focus area of the _____.

a. 1st stage
b. 2nd stage
c. 3rd stage
d. 4th stage

(ii) Which personnel of a financial firm play a key role in management accounting?

a. Investors
b. Suppliers
c. Managers
d. Customers

(iii) Activity based cost systems would probably provide the greatest benefits for organizations that use_____.

a. Job order costing
b. Process costing
c. Standard costing
d. Historical costing

(iv) Which of the following activities is not a batch level activity?

a. Processing purchase order
b. Designing products
c. Receive raw materials from suppliers
d. Setting up equipment

(v) Determine sales in rupees for desired profit if fixed cost is ₹10,000, Variable cost is ₹30,000, Sales is ₹50,000 and desired profit is ₹5,000:

a. ₹73,500
b. ₹75,000
c. ₹5,000
d. ₹37,500

(vi) **For the coming year, a manufacturing company has budgeted as under:**
Contribution/Sales (C/S) Ratio = 45%
Margin of Safety Ratio = 33½ %
Fixed Costs = ₹ 5, 85,000. Determine Profit for the coming year.

a. **₹3,25,000**
b. **₹2,92,500**
c. **₹3,00,000**
d. **₹2,50,000**

(vii) **A company has a break-even point when sales are ₹3,20,000 and variable cost at that level of sales are ₹2,00,000. How much would contribution margin increase or decrease if variable expenses are dropped by ₹30,000?**

a. **Increase by 27.5%.**
b. **Increase by 9.375%.**
c. **Decrease by 9.375%.**
d. **Increase by 37.5%.**

(viii) **Which of the following is/ are not method of Transfer Pricing?**

a. **Total cost method**
b. **Marginal cost method**
c. **Market price method**
d. **Skimming price method**

(ix) **XYZ factory working for 50 hours per week employs hundred workers on a job work. The standard output is 200 units per gang hour and standard rate is ₹1 per hour. During a week in June, five employees were paid @ ₹1.20 per hour and ten employees were paid @ 80 paise per hour. Rest of the employees was paid @ standard hour rate. The actual number of units produced was 10,200. Determine labour cost variance:**

a. **₹100 favourable**
b. **₹150 unfavourable**
c. **₹150 favourable**
d. **₹100 unfavourable**

(x) **What is the labour rate variance if standard hours for 100 units of output are 400 @ ₹2 per hour and actual hours taken are 380 @ ₹2.25 per hour?**

a. **₹120 (A)**
b. **₹100 (A)**
c. **₹95 (A)**
d. **₹25 (F)**

(xi) **Purchase budget is prepared using the information from –**

a. **Capital Expenditure Budget**
b. **Material Budget**
c. **Both A and B**
d. **None of the above**

(xii) Which of the following is not one of the main parts of the Kaplan-Norton balanced scorecard concept?

a. Financial and non-financial measurements.
b. Cash flows and non-cash flows.
c. Short term and long term measurements.
d. Leading and lagging indicators.

(xiii) There are three departments A, B and C in a company. The sales of A, B and C are ₹ 3, 52,000, ₹2, 88,000 and ₹ 1, 60,000, respectively. The variable costs of A, B and C are ₹ 2, 40,000, ₹1, 76,000 and ₹ 1, 44,000 respectively. The direct fixed costs of A, B and C are ₹ 28,000, ₹ 22,400 and ₹12,800. Rank the different departments on basis of relative profitability.

a. A- Rank 3, B- Rank 1 and C- Rank 2
b. A- Rank 2, B- Rank 1 and C- Rank 3
c. A- Rank 3, B- Rank 2 and C- Rank 1
d. Insufficient data

(xiv) Circumstances that influence the profitability of a decision are referred to as:

a. Strategies
b. A Payoff matrix
c. State of nature
d. The marginal utility of money

(xv) A strategy that yields an expected monetary payoff of zero is called:

a. Risk- neutral strategy
b. Fair game
c. Zero-sum game
d. Certainty equivalent

Answer:

i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv
d	c	a	b	d	b	b	d	c	c	b	b	b	c	b

Section – B

(Answer any five questions out of seven questions given. Each question carries 14 Marks)

[5 x 14 = 70]

2. (a) Describe the role and scope of management accounting with examples of its applications in business operations. [7]

(b) A manufacturing company has three accounts clerks responsible for processing purchase invoices of suppliers. Each clerk is paid a salary of ₹1,50,000 per annum and is capable of processing 5,000 purchase invoices per year. In addition to the salary, the company spends ₹45,000 per year for printing of forms, postage etc. (assuming that 15,000 purchase invoices are processed). During the year, 12,500 purchase invoices were processed. You are required to:

(i) Calculate the activity rate for the purchase order activity. Break the activity rate into fixed and variable components.

(ii) Calculate the total activity availability and break this into activity usage and unused activity.

(iii) Calculate the total cost of resources supplied and break this into activity usage and unused activity. [7]

Answer:

(a) The scope of management accounting is very wide and broad-based. It includes all information which is provided to the management for financial analysis and interpretation of the business operations.

(i) Financial Accounting: Financial accounting though provides historical information but is very useful for future planning and financial forecasting. Designing of a proper financial accounting system is a must for obtaining full control and co-ordination of operations of the business.

(ii) Cost Accounting: It provides various techniques of costing like marginal costing, standard costing, differential and opportunity cost analysis, etc., which play a useful role n t operation and control of the business undertakings.

(iii) Budgeting and Forecasting: Forecasting on the various aspects of the business is necessary for budgeting. Budgetary control controls the activities of the business through the operations of budget by comparing the actual with the budgeted figures, finding out the deviations, analysing the deviations in order to pinpoint the responsibility and take remedial action so that adverse things may not happen in future. Both the techniques are necessary for management accountant.

(iv) Cost Control Procedures: These procedures are integral part of the management accounting process and includes inventory control, cost control, labour control, budgetary control and variance analysis, etc.

(v) Reporting: The management accountant is required to submit reports to the management on the various aspects of the undertaking. While reporting, he may use statistical tools for presentation of information as graphs, charts, pictorial presentation, index numbers and other devices in order to make the information more impressive and intelligent.

(vi) **Methods and Procedures:** It includes in its study all those methods and procedures which help the concern to use its resources in the most efficient and economical manner. It undertakes special cost studies and estimations and reports on cost volume profit relationship under changing circumstances.

(vii) **Tax Accounting:** It is an integral part of management accounting and includes preparation of income statement, determination of taxable income and filing up the return of income etc.

(viii) **Internal Financial Control:** Management accounting includes the internal control methods like internal audit, efficient office management, etc.

(ix) **Interpretation:** Management accounting is closely related to the interpretation of financial data to the management and advising them on decision-making.

(x) **Office Services:** The management accountant may be required to maintain and control office services in some organizations. This function includes data processing, reporting on best use of mechanical and electronic devices, communication, etc.

(xi) **Evaluating the Performance of the Management:** Management accounting provides methods and techniques for evaluating the performance of the management. It evaluates the performance of the management in the light of the objectives of the organisation. Thus, it helps in the implementation of the principle of management by exception.

(b) **i.** Activity Rate = [(3 × ₹1,50,000) + ₹45,000] ÷ 15,000 = ₹33 per invoice
Fixed Activity Rate = ₹4,50,000 ÷ 15,000 = ₹30 per invoice
Variable Activity Rate = ₹45,000 ÷ 15,000 = ₹3 per invoice.

ii. Activity availability = Activity usage + Unused Activity
15,000 invoices = 12,500 invoices + 2,500 invoices

iii. Cost of resources supplied = Cost of activity used + Cost of unused activity
or, ₹4,50,000 + (₹3 × 12,500) = (₹33 × 12,500) + (₹30 × 2,500)
or, ₹4,87,500 = ₹4,12,500 + ₹75,000

3. (a) A Company is manufacturing a product marks an average net profit of ₹2.50 per piece on a selling price of ₹14.30 by producing and selling 6,000 pieces or 60% of the capacity. His cost of sales is as under:

Particulars	₹
Direct material	**3.50**
Direct wages	**1.25**
Works overheads (50% fixed)	**6.25**
Sales overheads (25% variable)	**0.80**

During the current year, he intends to produce the same number but anticipates that fixed charges will go up by 10%, with direct labour rate and material will increase by 8% and 6% respectively but he has no option of increasing the selling price. Under this situation, he obtains an offer for further 20% of the capacity. Calculate the minimum price you will recommend for acceptance to ensure the manufacturer an overall profit of ₹16,730. **[7]**

(b) BC Company fixes the inter-divisional transfer prices for its products on the basis of cost, plus a return on investment in the division. The Budget for Division for Alpha for the year 2025-26 appears as under:

Fixed Assets	**₹5,00,000**
Current assets	**₹3,00,000**
Debtors	**₹2,00,000**
Annual Fixed Cost of the Division	**₹8,00,000**
Variable Cost per unit of Product	**₹10**

Budgeted Volume 4,00,000 units per year
Desired ROI 28% on ₹10,00,000
Calculate the transfer Price for Alpha. **[7]**

Answer:

(a) Computation of profit at present after increase in cost

Particulars	₹
Selling price	14.30
Variable costs:	
Material (₹ 3.5 × 106÷100)	3.710
Labour (₹ 1.25 × 108÷100)	1.350
Works overhead	3.1250
Sales overhead	0.200
Total	8.385
Contribution per unit	5.915
Total contribution (6,000 × ₹ 5.915)	35,490
Fixed costs	
Works OH ₹3.125	
Sales OH ₹ 0.600 3.725 (₹3.725 × 6,000 = ₹ 22,350 × 110/100)	24,585
Profit	10,905

Computation of selling price of the order	(₹)
Variable cost of order (2,000 × 8.385)	16,770
(+) required profit (16,730 – 10,905)	5,825
Sales required	22,595
Selling price of order = ₹ 22,595÷2,000 = 11.2975 (or)	11.30

(b) Computation of the Transfer Price per unit for the Product Alpha

	₹
Variable Cost per unit of Product	10.00
Annual Fixed Cost per unit (₹8,00,000 ÷ 4,00,000 units)	2.00
Desired Return (@ 28% on ₹10,00,000) ÷ 4,00,000 units)	0.70
Transfer price	12.70

4. (a) A company engages in three distinct lines of production. Their production cost per unit and selling prices are as under:

Production (Units)	X	Y	Z
	3,000	2,000	5,000
	₹	₹	₹
Material Cost	18	26	30
Wages	7	9	10
Variable overheads	2	3	3
Fixed Overheads	5	8	9
	32	46	52
Selling price	40	60	61
Profit	8	14	9

The management wants to discontinue one line and gives you the assurance that production in two other lines shall be raised by 50%.

They intend to discontinue the line which produces Article X as it is less profitable.

(i) Do you agree to the scheme in principle? Examine.

(ii) Analyze the decision of the management and show the necessary statements to support your decision. [7]

(b) A company is at present working at 90 per cent of its capacity and producing 13,500 units per annum. It operates a flexible budgetary control system. The following figures are obtained from its budget.

Particulars	90%	100%
Sales (₹)	15,00,000	16,00,000
Fixed expenses (₹)	3,00,500	3,00,600
Semi-fixed expenses (₹)	97,500	1,00,500
Variable expenses (₹)	1,45,000	1,49,500
Units made	13,500	15,000

Labour and material costs per unit are constant under present conditions. Profit margin is 10%.

(i) Examine the differential cost of producing 1,500 units by increasing capacity to 100%.

(ii) What would you recommend for an export price for these 1,500 units taking into account that overseas prices are much lower than indigenous prices? [7]

Answer:

(a) The decision should be taken on the relative profitability of various alternatives as ascertained below:

Total fixed Expenses	**₹**
X (3,000 × ₹ 5) =	15,000
Y (2,000 × ₹8) =	16,000
Z (5,000 × ₹9) =	45,000
Total Fixed Expenses =	76,000

Contribution per unit of different products: (S-V)

X ₹ (40-27) = ₹ 13 per unit

Y ₹ (60-38) = ₹ 22 per unit

Z ₹ (61-43) = ₹18 per unit

Profit from different production arrangements may be found as under:

i) If 'X' is given up, sale of 'Y' and 'Z' will increase by 50%. The sales of Y would be i.e., Y – 3,000 units, Z – 7,500 units.

Contribution Y = 3,000 × ₹22 = ₹66,000

Contribution Z = 7,500 × ₹ 18 = ₹1,35,000

Total = ₹2,01,000

Less: Fixed Cost = ₹76,000

Profit = ₹1,25,000

ii) If Y is discontinued, production of X and Z will be more by 50% i.e., X - 4,500 units, Z - 7,500 units.

Contribution X = 4500 × ₹ 13	= ₹58,500
Contribution Z = 7500 × ₹ 18	= ₹1,35,000
	₹1,93,500
Less: Fixed Cost	= ₹76,000
Profit	= ₹1,17,500

iii) If Z is given up, production of 'X' and 'Y' will be is X – 4500 units, Y – 3000 units.

Contribution X = 4500 × ₹ 13	= ₹ 58,500
Contribution Y = 3000 × ₹ 22	= ₹66,000
	₹1,24,500
Less: Fixed Cost	= ₹ 76,000
Profit	= ₹48,500

Under these three alternatives the profit is maximum (₹1,25,000) when 'X' is discontinued. Therefore, we may agree with the management's decision to discontinue product 'X'.

(b) Computation of material and labour cost

Particulars	₹	₹
Sales at present		15,00,000
(-) Profit @ 10%		1,50,000
Total cost		13,50,000
(-) All costs other than material & labour		
Fixed expenses	3,00,500	
Semi fixed expenses	97,500	
Variable expenses	1,45,000	5,43,000
Material & Labour cost		8,07,000

i. Statement showing differential cost of 1500 units:

Particulars	₹
Material & Labour (₹ 8,07,600 × 1500 ÷ 13,500)	89,667
Fixed expenses (₹ 3,00,600 – ₹ 3,00,500)	100
Semi fixed expenses (₹ 1,00,500 – ₹ 97,500)	3,000
Variable expenses (₹1,49,500 – ₹ 1,45,000)	4,500
Differential cost	97,267

ii. Differential cost per unit = ₹97,267 ÷1,500 = ₹64.84

The minimum price for these 1,500 units should not be less than ₹64.84.

5. (a) From the following data, calculate the Fixed Overhead Volume Variance:

Budget output for the year: 30,000 units.

Budget fixed overheads for the year: ₹30,000.

Standard production per hour: 15 units.

Actual output for the month: 2,550 units. Actual overheads for the month: ₹3,000.

The year is budgeted to 50 working weeks on a 40-hour week basis. Two hours in every week are lost due to abnormal idle time. The month consists of four working weeks.

The unit has to curtail its production operation to 4 days in a week instead of the usual 5 days as a result of power cut. **[7]**

(b) Calculate Sales-mix variance:

Budgeted Sales Product

Product	Units sold (units)	Sales Price/ Unit (₹)	Standard Margin (Profit Per Unit ₹)
A	**1,500**	**15**	**8**
B	**1,500**	**10**	**5**
C	**1,500**	**8**	**2**

	Actual Sales
A	**1,100 Units for ₹ 14,300**
B	**1,900 Units for ₹ 17,100**
C	**3,000 Units for ₹ 27,000**

[7]

Answer:

(a) Calculation of Volume Variance:

First, the budgeted units have to be computed as follows:

Budgeted units $\frac{\text{Budgeted units for the year} \times 4}{\text{No of working weeks in the year}} = = \frac{30000 \times 4}{50}$ = 2,400 units

Volume variance = Std rate (Actual units – Budgeted units)

= ₹ 1 × (2,250 – 2,400 units)

= ₹ 1 × (150 units) = ₹ 150 (F)

Fixed-Overhead Volume Variance = ₹150 (F).

Working Note:

(i) First, the standard rate has to be calculated.

Std. rate = $\frac{\text{Budgeted Fixed Overheads}}{\text{Budgeted Production}} = \frac{₹\,30{,}000}{30{,}000 \text{ units}}$ = ₹ 1.

Standard rate per unit = ₹1.

(b) Sales Mix Variance = Standard Price × (Revised Standard Quantity - Actual Quantity)

(i) Std. value of actual mix is to be calculated as follows:

Product A: 1,100 units × ₹15 =	₹16,500
Product B: 1,900 units × ₹10 =	₹19,000
Product C: 3,000 units × ₹ 8 =	₹24,000
	₹59,500

(ii) Revised std. mix is to be calculated as follows:

Product A: $\frac{6000\ units \times 1500\ units}{4500\ units}$ = 2,000 units

Product B: $\frac{6000\ units \times 1500\ units}{4500\ units}$ = 2,000 units

Product C: $\frac{6000\ units \times 1500\ units}{4500\ units}$ = 2,000 units

(iii) Std. value of revised std mix is calculated as:

Product A: 2,000 units × ₹15 =	₹30,000
Product B: 2,000 units × ₹10 =	₹20,000
Product C: 2,000 units × ₹ 8 =	₹16,000
	₹66,000

(iv) Now, substituting the values in the formula, we get sales-mix variance = (₹59,500 – ₹66,000) = ₹6,500 (A).

6. (a) You are required to prepare a selling overhead Budget from the estimates given below:

Particulars	(₹)
Advertisement	1,000
Salaries of the Sales dept.	1,000
Expenses of the Sales dept.(Fixed)	750
Salesmen's remuneration	3,000

Salesmen's and dearness Allowance - Commission @ 1% on sales excluding Agent's sales.
Carriage outwards: estimated @ 5% on sales.
Agents Commission: 7½ % on Agent's sales.
The sales during the period were estimated as follows:
(a) ₹80,000 including Agent's Sales ₹8,000
(b) ₹90,000 including Agent's Sales ₹10,000
(c) ₹1,00,000 including Agent's Sales ₹10,500 **[7]**

(b) Prepare a flexible budget for overhead expenses on the basis of the following data and determine the overhead rates at 70%, 80% and 90%.

Plant Capacity	At 80% capacity (₹)
VARIABLE OVERHEADS:	
Indirect labour	12,000
Stores including spares	4,000
SEMI VARIABLE:	
Power (30% - Fixed: 70% -Variable)	20,000
Repairs (60%- Fixed : 40% -Variable)	2,000
FIXED OVERHEADS:	
Depreciation	11,000
Insurance	3,000
Salaries	10,000
Total overheads	62,000
Estimated Direct Labour Hours	1,24,000

[7]

Answer:

(a) Selling Overhead Budget

Sales	₹ 80,000	₹ 90,000	₹1,00,000
(A) Fixed overhead:			
Advertisement	1,000	1,000	1,000
Salaries of the sales dept.	1,000	1,000	1,000
Expenses of the sales dept.	750	750	750
Salesmen remuneration	3,000	3,000	3,000
Total (A)	5,750	5,750	5,750

(B) Variable overhead:			
Salesmen's Commission & DA	(72,000×1%)= 720	(80,000 × 1%) = 800	(89,500 × 1 %) = 895
Carriage outwards	4,000	4,500	5,000
Agent's Commission	(8,000×7.5%)= 600	(10,000×7.5%)= 750	(10,500×7.5%)= 788
Total (B)	5,320	6,050	6,683
Grand Total (A + B)	11,070	11,800	12,433

(b) Flexible Budget at Different Capacities and Determination of Overhead Rates

Particulars	**70% (₹)**	**80% (₹)**	**90% (₹)**
(A) Variable overheads:			
Indirect labour	10,500	12,000	13,500
Stores including spares	3,500	4,000	4,500
Total (A)	14,000	16,000	18,000
(B) Semi Variable overheads:			
Power (Working Note)	18,250	20,000	21,750
Repairs (Working Note)	1,900	2,000	2,100
Total (B)	20,150	22,000	23,850
(C) Fixed overheads:			
Depreciation	11,000	11,000	11,000
Insurance	3,000	3,000	3,000
Salaries	10,000	10,000	10,000
Total (C)	24,000	24,000	24,000
Grand Total (A+B+C)	58,150	62,000	65,850
Labour Hours	$1,24,000 \times \frac{70\%}{80\%}$ = 1,08,500	1,24,000	$1,24,000 \times \frac{90\%}{80\%}$ = 1,39,500
Overhead rate per hour (₹)	$\frac{58150}{108500} = 0.536$	$\frac{62000}{124000} = 0.50$	$\frac{65,850}{1,39,500} = 0.472$

Working notes: Semi Variable overheads

	70%	**90%**
Power:		
Variable (70%)	$14,000 \times \frac{70\%}{80\%}$ =12,250	$14,000 \times \frac{90\%}{80\%}$ = 15,750
Fixed (30%)	6,000	6,000
Total	18,250	21,750
Repairs:		
Variable (40%)	$800 \times \frac{70\%}{80\%} = 700$	$800 \times \frac{90\%}{80\%} = 900$
Fixed (60%)	1,200	1,200
Total	1,900	2,100

7. (a) The following information is available of a concern. Calculate Economic Value Added (EVA).

12% Debt: ₹ 2,000 crores
Equity capital: ₹500 crores
Reserves and Surplus: ₹7,500 crores
Risk-free rate: 9%
Beta factor: 1.05
Market rate of return: 19%
Equity (market) risk premium: 10%
Operating profit after tax: ₹ 2,100 crores
Tax rate = 30% **[7]**

(b) Describe the four perspectives of the Balanced Scorecard. **[7]**

Answer:

(a) **Capital Employed** = 2000 + 500 +7500 = ₹10,000 Crores
Cost of Debt (K_d) = Interest × (1- Tax Rate) = 12% × (1- 0.3) = 8.40%

Cost of Equity (K_e) = Risk free rate + (Beta × Market Risk Premium) = 9% +1.05(19% - 9%) =19.5%

Debt equity ratio (as given in the question**) 20% & 80%**
WACC= [(K_d) × Debt % + (K_e) × Equity %] = (8.40% × 20%) + (19.5% × 80%) = 17.28%
Operating Profit after tax ₹2,100 crores.

EVA = NOPAT – Cost of Capital Employed
= [(₹2,100 crores) – (17.28%) × ₹10,000 crores]
= ₹2,100 crores – ₹1,728 crores
= ₹372 crores

(b) **<u>The four Perspectives of the Balanced Scorecard</u>:**

1. **Financial Perspective:**
This perspective evaluates the Profitability of the strategy. Because cost reduction relative to competitors, costs and sales growth are key strategic initiatives, the financial perspectives focuses on how much of operating income and return on capital results from reducing costs and selling more units.
2. **Customers Perspective:**
This perspective identifies the targeted market segments and measures the company's success in these segments. To monitor its growth objectives, number of new customers and customer's satisfaction.
3. **Internal business process Perspective:**
This perspective focuses on internal operations that further the customers' perspective by creating value for customers and further the financial perspective by increasing shareholder value. Chipset determines internal business process improvement targets after benchmarking against its main competitors.

The internal business process perspective comprises three sub processes:

1. The innovation process:
   Creating products, services and processes that will meet the needs of customers, aiming at lowering costs and promote growth by improving the technology of its manufacturing.
2. The operations process:
   Producing and delivering existing products and services that will meet the needs of customers. The strategic initiatives are (a) improving manufacturing quality reducing delivery time to customers and (b) Meeting specified delivery dates.
3. Post sales service providing service and support to the customer after the sale of a product of service. Although customers do not require much post sales service.

4. Learning & Growth Perspectives:

This perspective identifies the capabilities of the organization must excel at to achieve superior internal processes that create value for customers and shareholders.

A Company's learning and growth perspectives emphasize three capabilities:

1. Employee Capabilities measured using employee education and skill levels.
2. Information system capabilities, measured by percentage of manufacturing processes with real-time feedback and
3. Motivation measured by employee satisfaction and percentage of manufacturing and sales employees (line employees) empowered to manage processes.

8. (a) TT Newsagents stocks a weekly health magazine. The owner buys the magazines for ₹0.30 each and sells them at the retail price of ₹0.50 each.
At the end of the week unsold magazines are obsolete and have no value. The estimated probability distribution for weekly demand is shown below.

Weekly demand in units	Probability
20	0.20
30	0.55
40	0.25
	1.00

You are required to calculate the following:

(i) What is the expected value of demand?

(ii) If the owner is to order a fixed quantity of magazines per week how many should that be? Assume no seasonal variations in demand. [7]

(b) Explain the concept of performance reporting and identify the key requisites for implementing responsibility accounting in an organization. [7]

Answer:

(a) EV of demand (units per week) = (20 × 0.20) + (30 × 0.55) + (40 × 0.25) = 30.5 units per week
The next step is to set up a decision matrix of possible strategies (numbers bought) and possible demand. The 'pay-off' from each combination of action and outcome is then computed.

No sale = Cost of ₹ 0.30 per magazine
Sale = Profit of ₹ 0.20 per magazine (₹0.50 - ₹ 0.30)

Probability	**Outcome (Numbers demanded)**	**Decision (Profit) (Numbers bought)**		
		20	**30**	**40**
		₹	**₹**	**₹**
0.20	20	4.00	1.00*	(2.00)
0.55	30	4.00	6.00	3.00
0.25	40	4.00	6.00	8.00
	EV	**4.00**	**5.00****	**3.25**

* Buy 30 and sell only 20 gives a profit of (20 × ₹0.5) – (30 × ₹0.3) = ₹1
** (0.2 ×1) + (0.55 × 6) + (0.25 × 6) = 5
The strategy which gives the highest expected pay-off is to stock 30 magazines each week.

Conclusion:

Probability is a numerical measurement of uncertainty. When a probability is based on counting and observed frequencies, it is objective. When a probability is an expression of whether an event in business will or will not occur, it may be based on the relative frequency of similar events having occurred in the past, or it may be based on someone's judgment. Either way, the determination of probability has strong subjective elements.

Therefore, the concept of probability as it is used in business is a numerical measure of the belief of an individual in the occurrence or non-occurrence of an event. The probability assigned to an event depends upon the information and knowledge that the decision-maker has and uses in assessing the probability. As such, probability assessment is clearly subjective, individual, and dependent upon information. In fact, it has been said that probability does not exist in any absolute or objective sense.

Thus, these statistical methods of dealing with risk and uncertainty are only means of obtaining a recommended decision alternative or an optimal strategy for the purpose of planning, budgeting, and decision-making. The actual results from the implementation of the decision will probably be quite different from the calculated expected value. The decision-maker's judgment is the deciding factor.

(b) Performance Reporting:

- A control system to be effective should be such that deviations from the plans must be reported at the earliest so as to take corrective action for the future. The deviations can be known only when performance is reported.
- Responsibility accounting system is focused on performance reports also known as 'responsibility reports', prepared for each responsibility unit.

- Unlike authority which flows from top to bottom, reporting flows from bottom to top. These reports should be addressed to appropriate persons in respective responsibility centres.
- The reports should contain information in comparative form as to show plans (budgets) and the actual performance and should give details of variances which are related to that centre.
- The variances which are not controllable at a particular responsibility centre should also be mentioned separately in the report.

Pre-requisites of Responsibility Accounting

- It should be a big company with divisionalised organisation structure
- The organisation should have clearly set goals and targets
- Managers should actively participate in establishing budgets against which their performance is measured
- Managers are held responsible only for those activities over which they exercise significant degree of control
- Performance reporting should be timely and contain significant information relating to the responsibility centres