Paper 10 – Cost & Management Accounting and Financial Management

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

Part-A (Cost and Management Accounting)

Section - I

1. Answer the following questions:

(a) Choose the correct answer from the given four alternatives. [1x 6 = 6]

(i) _____ establishes the objective of the firm and decides the course of action to achieve it.
- **(a) Organizing**
- **(b) Staffing**
- **(c) Controlling**
- **(d) Planning**

(ii) _____ provides the technique for interpretation of accounting data.
- **(a) Financial Accounting**
- **(b) Management Accounting**

(iii) Limiting factor is also known as _____.
- **(a) Contributing factor**
- **(b) Key factor**

(iv) Under this method the cost of product is determined after considering the total cost i.e., both fixed and variable costs. This technique is known as _____.
- **(a) Absorption Costing**
- **(b) Traditional Costing**
- **(c) Total Costing**
- **(d) All of the above**

(v) Cost data are presented to highlight the total contribution of each product.
- **(a) Standard Costing**
- **(b) Absorption Costing**
- **(c) Marginal Costing**
- **(d) None of the above**

(vi) _____ of budget is necessary.
- **(a) Modification**
- **(b) Changes**
- **(c) Revision**

(b) Match the statement in column I with the most appropriate statement in column II: [1 x 4 = 4]

	Column I		Column II
i	Responsibility Accounting	A	Inter Firm Comparison
ii	Difference between Standard and Actual Cost	B	Zero Based Budgeting
iii	Evaluation of Performance	C	Variance Analysis
iv	Budgeting starts from scratch	D	Activity Accounting

(c) State whether the following statements are true or false [1 x 4 = 4]

(i) Standard Costing system establishes yard stick against which the efficiency of actual performance is measured.

(ii) The learning curve is useful only for new operations where machines do not constitute a major part of the production process. It is not applicable to all productions. E.g. New and experienced workmen.
(iii) Performance budgeting is synonymous with Responsibility Accounting.
(iv) Differential cost is the change in the costs which results from the adoption of an alternative course of action.

Answer:

1. (a) (i) (d)
(ii) (b)
(iii) (b)
(iv) (d)
(v) (c)
(vi) (d)

(b)

	Column I		**Column II**
i	Responsibility Accounting	D	Activity Accounting
ii	Difference between Standard and Actual Cost	C	Variance Analysis
iii	Evaluation of Performance	A	Inter Firm Comparison
iv	Budgeting starts from scratch	B	Zero Based Budgeting

(c) (i) True
(ii) True
(iii) True
(iv) True

Section-II

Answer any Three Questions from Q. No 2, 3, 4 and 5. Each Question carries 12 Marks

2. (a) The PV Ratio of Pankaj Ltd is 50% and Margin of safety is 40%. The company sold 500 units for 5 Lakh.
Calculate for Pankaj Ltd the following:
(i) BEP and
(ii) Sales in units to earn a profit of 10% on sales [4 Marks]

(b) A single product company sells its product at ₹ 60 p.u. Last year the company operated at a margin of safety of 40%. The fixed costs amounted to ₹ 3.6 Lakh and the variable cost to sales was 80%. In the next year it is estimated that variable cost will go up by 10% and the fixed cost will increase by 5%. Find the selling price required to be fixed in the next year to earn the same PVR as in the last year assuming the same selling price of ₹ 60 p.u. in the next year also find the number of units required to be produced and sold to earn the same profit as in the last year. [8 Marks]

Answer:

2. (a) (i) Computation of BEP

- Sale Price per unit = $\frac{₹\ 5,00,000}{500\ \text{units}}$ = ₹ 1,000 per unit.
- Given MOS = 40%, So, BES =100%- 40%= 60% of Sales ₹ 5,00,000 = ₹ 3,00,000.

BEQ = $\frac{₹\ 3,00,000}{₹\ 1,000\ \text{p.u.}}$ = 300 units.

- So, Fixed Cost = Contribution out of BES = BES x PVR = ₹ 3,00,000 × 50% = ₹ 1,50,000

(ii) Required Sales Quantity to earn Profit of 10% of Sales

- Let Sale Quantity to earn Profit of 10% of Sales be "Q" units. So, Total Sales Value = Qtty x Price = Q x 1000 = 1000 Q.
- Contribution at 50% PVR = 1000 Q x 50% = 500 Q.
  Profit = 10% on Sales = 1000 Q x 10% = 100 Q
- The equation is Contribution - Fixed Cost = Profit.
- So, we have 500 Q - 1,50,000 = 100 Q.

On substitution, we get Q = $\frac{1,50,000}{400}$ = 375 units.

(b) **1. Computation of SP to earn the same PVR as in last year**

(a) PVR of last year = 100% - Variable Cost Ratio = 100% - 80%	= 20%
(b) Variable Cost per unit (for last year) = ₹ 60 x 80%	= ₹ 48 per unit
(c) Variable Cost per unit (for next year) = ₹ 48 + 10%	= ₹ 52.80 per unit
(d) Since PVR should be the same as last year, Variable Costs should be	= 80% of New Sale Price
(e) Hence, New Sale Price for next year = $\frac{₹\ 52.80}{80\%}$	= ₹ 66 per unit

2. Computation of Sale Quantity to earn the same profit as in last year

(a) BES of last year = $\frac{\text{Fixed Costs}}{\text{PV Ratio}} = \frac{₹\ 3,60,000}{20\%}$	= ₹ 18,00,000
(b) Since MOS = 40%, BES =	60% of Total Sales
(c) Hence, MOS of last year = $\frac{₹\ 18,00,000}{60\%}$ x 40%	= ₹ 12,00,000
(d) Profit for last year = MOS x PVR = ₹ 12,00,000 x 20% =	₹ 2,40,000
(e) Desired Contribution for next yr = Next Yr Fixed Cost + Profit = (₹ 3,60,000+5%) + ₹ 2,40,000	= ₹ 6,18,000
(f) Required Sale Quantity = $\frac{\text{Desired Contribution}}{\text{Contribution per Unit}} = \frac{₹\ 6,18,000}{₹\ 60.00 - ₹\ 52.80}$	= 85,833 units

3. (a) From the following data pertaining to March 2017, Please calculate the Overhead Variances.

Particulars	**Budgeted**	**Actual**
No of working days	**25**	**27**
Production in units	**40,000**	**44,000**
Fixed overhead in ₹	**60,000**	**62,000**
Budgeted fixed overhead is ₹ 1 per hour		
Actual hours worked in March is 63,000		

[8 Marks]

(b) Pankaj ltd presents the following data for Dec, 2017 . Calculate the cost variances.

Budgeted Production of Product P	**200 units**
Standard consumption of Raw Material	**2 Kg per unit of P**
Standard price of material A	**₹ 6 per kg**
Actually 250 units of P were produced. Material A was purchased at ₹ 8 per kg and	

consumed at 1.8 kg per unit of P.

[4 Marks]

Answer:

3. (a) (1) Basic Calculations

(a) FOH Standard Rate per hour = $\frac{\text{Budgeted FOH}}{\text{Budgeted Hours}} = \frac{₹\ 60,000}{60,000\ \text{hours}}$

= ₹ 1 per hour. (given)

Note: In the above calculation, BH = 60,000 hrs. in the balancing figure.

(b) FOH Standard Rate per hour = $\frac{\text{Budgeted FOH}}{\text{Budgeted Output}} = \frac{₹\ 60,000}{40,000\ \text{units}}$ = ₹ 1.50 per unit.

(2) Variance Computation Chart

Col (1): AO×SR	Col (2): AH×SR	(3):PFOH=BFOH× $\frac{AD}{BD}$	Col (4): BFOH	Col (5): AFOH
44,000 units × ₹ pu = ₹ 66,000	63,000 hrs × ₹ 1 ph = ₹ 63,000	₹ 60,000 × $\frac{27}{25}$ = ₹ 64,800	₹ 60,000	₹ 62,000

Efficiency Variance = ₹ 66,000 – ₹ 63,000 = ₹ 3,000 F + Capacity Variance = ₹ 63,000 – ₹ 64,800 = ₹ 1,800 A + Calendar Variance = ₹ 64,800 = ₹ 60,000 = ₹ 4,800 F + Expenditure Variance = ₹ 60,000 – ₹ 62,000 = ₹ 2,000 A

FOH Volume Variance = ₹ 66,000 – ₹ 60,000 = ₹ 6,000 F + FOH Expenditure Variance b/fd as above = ₹ 2,000 A

Total FOH Cost Variance = ₹ 66,000 – ₹ 62,000 = ₹ 4,000 F

(b)

Col (1): SQ × SP	Col (2): AQ × SP	Col (3) : AQ × AP
(250 × 2) × ₹ 6 = ₹ 3,000	(250 × 1.8) × ₹ 6 = ₹ 2,700	(250 × 1.8) × ₹ 8 = ₹ 3,600

Material Usage Variance = ₹ 3,000 – ₹ 2,700 = ₹ 300 F + Material Price Variance = ₹ 2,700 – ₹ 3,600 = ₹ 900 A

Total Material Cost Variance = ₹ 3,000 – ₹ 3,600 = ₹ 600 A

4. (a) An article passes through five hand operations which are enumerated below;

Operation Number	Time per article	Grade of worker	Wage rate per hour
1	**15 Minutes**	**A**	**₹ 65**
2	**25 Minutes**	**B**	**₹ 50**
3	**10 Minutes**	**C**	**₹ 40**
4	**30 Minutes**	**D**	**₹ 35**
5	**20 Minutes**	**E**	**₹ 30**

The factory works 40 hrs a week and the production target is 600 dozens per week. Prepare a statement for each operation and in total the number of operator required, labour cost per dozen and the total labour cost per week to produce the total targeted output. [6 Marks]

(b) A firm received an order to make and supply eight units of standard product which evolve intricate labour operations. The first unit was made in 10 hrs. It is understood that this type of operations is subject to 80% learning rate. The worker is getting a wages rate of 12 per hours.

(i) What is the total time and labor cost required to execute the above order?

(ii) If a repeat order of 24 units is also received from the same customer, what is the labour cost necessary for the second order? [6 Marks]

Answer:

4. (a)

Operation	Time required for production of 600 dozens, i.e., 7,200 units	Operators Required & Grade	Labour Cost of 600 dozens	Labour Cost per dozen
1	7,200 units × $\frac{15}{60}$ = 1,800 hours	$\frac{1,800}{40}$ = 45 persons (A)	45 × 40 × ₹ 65 = ₹ 1,17,000	$\frac{₹1,17,000}{600}$ = ₹ 195
2	7,200 units × $\frac{25}{60}$ = 3,000 hours	$\frac{3,000}{40}$ = 75 persons (B)	75 × 40 × ₹ 50 = ₹ 1,50,000	$\frac{₹1,50,000}{600}$ = ₹ 250
3	7,200 units × $\frac{10}{60}$ = 1,200 hours	$\frac{1,200}{40}$ = 30 persons (C)	30 × 40 × ₹ 40 = ₹ 48,000	$\frac{₹48,000}{600}$ = ₹ 80
4	7,200 units × $\frac{30}{60}$ = 3,600 hours	$\frac{3,600}{40}$ = 90 persons (D)	90 × 40 × ₹ 35 = ₹ 1,26,000	$\frac{₹1,26,000}{600}$ = ₹ 210
5	7,200 units × $\frac{20}{60}$ = 2,400 hours	$\frac{2,400}{40}$ = 60 persons (E)	60 × 40 × ₹ 30 = ₹ 72,000	$\frac{₹72,000}{600}$ = ₹ 120
			₹ 5,13,000	₹ 855

(b) 80% Learning Curve results are given below:

Production (Units)	Cumulative Average Time (hours)	Total Time (hours)
1	10	10
2	8	16
4	6.4	25.6
8	5.12	40.96
16	4.096	65.54
32	3.2768	104.86

Labour time required for first eight units = 40.96 hours
Labour cost required for 8 units = 40.96 hours × ₹ 12/hr = ₹ 491.52
Labour time for 32 units = 104.86 hours
Labour time for first eight units = 40.96 hours
Labour time required for 2nd order for 24 units = 63.90 hours
Labour cost for 24 units = 63.90 hours × ₹ 12/hr = ₹ 766.80.

5. Answer any three questions out four questions: [3x4=12 Marks]

(a) Uses of Learning Curve.

(b) Objective of Inter Company Transfer Pricing.

(c) Relationship between Management Accounting and Cost Accounting.

(d) Distinguish between Fixed and Flexible Budget.

Answer:

5. (a) Learning curve is now being widely issued in business. Some of the uses are enumerated below:

1. Where applicable the learning curve suggests great opportunities for cost reduction to be achieved by improving learning.
2. The learning curve concept suggests a basis for correct staffing in continuously expanding production. The curve shows that the work force need not be increased at the same rate as the prospective output. This also helps in proper production planning through proper scheduling of work; providing manpower at the right moment permitting more accurate forecast of delivery dates.
3. Learning curve concept provides a means of evaluating the effectiveness of training programs. What level of cumulative cost reduction do they accomplish? How does the learning curve for this group or shop compare with others? Whether any of the employees who lack the aptitude to meet normal learning curve should be eliminated.
4. Learning curve is frequently used in conjunction with establishing bid price for contracts. Usually, the bid price is based on the cumulative average unit cost for all the units to be produced for a given contract. If production is not interrupted. Additional units beyond this quantity should be costed at the increment costs incurred, and not at the previous cumulative average. If the contract agreement so provides, a contract may be cancelled and production stopped before the expected efficiency is reached. This would mean that the company having quoted on the basis of cumulative average unit cost is at a disadvantage because it cannot reap the benefit of leaning. The contractor must provide for these contingencies so that it will be reimbursed for such loss.
5. The use of learning curve, where applicable, is important in the working capital required. If the requirement is based on average cumulative unit cost, the revenues from the first few units may not cover the actual expenditures. For instance, if the price was based on the average cumulative unit cost of 328 hours the first unit when produced and sold will cause a deficit of 4.72 hours (8.00 - 3.28). Provision should therefore, be made to cover the deficit of working capital in the initial stages of production.
6. As employees become more efficient, the rate of production increases and so more materials are needed, the work-in-progress inventory turns over faster, and finished goods inventory grows at an accelerated rate. A knowledge of the learning curve assists in planning the inventories of materials. Work-in-progress, and finished goods.
7. Learning curve techniques are useful in exercising control, Variable norms can be established for each situation, and a comparison between these norms and actual expenses can be made. Specific or average incremental unit cost should be used for this purpose.

8. The learning curve may be used for make-or- buy decisions especially if the outside manufacturer has reached the maximum on the learning curve. Help to calculate the sensitive rates in wage bargaining.

(c) The following are the main objectives of intercompany transfer pricing scheme:

1. To evaluate the current performance and profitability of each individual unit: This is necessary in order to determine whether a particular unit is competitive and can stand on its working. When the goods are transferred from one department to another, the revenue of one department becomes the cost of another and such inter transfer price affects the reported profits.
2. To improve the profit position: Intercompany transfer price will make the unit competitive so that it may maximize its profits and contribute to the overall profits of the organisation.
3. To assist in decision making: Correct intercompany transfer price will make the costs of both the units realistic in order to take decisions relating to such problems as make or buy, sell or process further, choice between alternative methods of production.
4. For accurate estimation of earnings on proposed investment decisions: When finance is scarce and it is required to determine the allocation of scarce resources between various divisions of the concern taking into consideration their competing claims, then this technique is useful.

(c) Relationship between Management Accounting and Cost Accounting:

Management Accounting is primarily concerned with the requirements of the management. It involves application of appropriate techniques and concepts, which help management in establishing a plan for reasonable economic objective. It helps in making rational decisions for accomplishment of management objectives. Any workable concept or techniques whether it is drawn from Cost Accounting, Financial Accounting, Economics, Mathematics and statistics, can be used in Management Accountancy. The data used in Management Accountancy should satisfy only one broad test. It should serve the purpose that it is intended for. A management accountant accumulates, summarises and analysis the available data and presents it in relation to specific problems, decisions and day-to-day task of management. A management accountant reviews all the decisions and analysis from management's point of view to determine how these decisions and analysis contribute to overall organisational objectives. A management accountant judges the relevance and adequacy of available data from management's point of view.

The scope of Management Accounting is broader than the scope of Cost Accountancy. In Cost Accounting, primary emphasis is on cost and it deals with its collection, analysis, relevance interpretation and presentation for various problems of management. Management Accountancy utilizes the principles and practices of Financial Accounting and Cost Accounting in addition to other management techniques for efficient operations of a company. It widely uses different techniques from various branches of knowledge like Statistics, Mathematics, Economics, Laws and Psychology to assist the management in its task of maximising profits or minimizing losses. The main thrust in Management Accountancy is towards determining policy and formulating plans to achieve desired objective of management. Management Accountancy makes corporate planning and strategy effective.

From the above discussion we may conclude that the Cost Accounting and Management Accounting are interdependent, greatly related and inseparable.

(d) Difference between Fixed and Flexible Budgets:

	Fixed Budget	Flexible Budget
(i)	It does not change with actual volume of activity achieved. Thus it is known as rigid or inflexible budget.	It can be recasted on the basis of activity level to be achieved. Thus it is not rigid.
(ii)	It operates on one level of activity and under one set of conditions. It assumes that there will be no change in the prevailing conditions, which is unrealistic.	It consists of various budgets for different levels of activity.
(iii)	Here as all costs like - fixed, variable and semi-variable are related to only one level of activity so variance analysis does not give useful information.	Here analysis of variance provides useful information as each cost is analysed according to its behaviour.
(iv)	If the budgeted and actual activity levels differ significantly, then the aspects like cost ascertainment and price fixation do not give a correct picture.	Flexible budgeting at different levels of activity facilitates the ascertainment of cost, fixation of selling price and tendering of quotations.
(v)	Comparison of actual performance with budgeted targets will be meaningless specially when there is a difference between the two activity levels.	It provides a meaningful basis of comparison of the actual performance with the budgeted targets.

Part-B (Financial Management)
Section-III

6. Answer the following questions:

(a) Choose the correct answer from the given four alternatives. [1x6=6]

(i) _____ ratio is the indicator of the firm's commitment to meet its short term liabilities.
- **(a) Super quick ratio**
- **(b) Current ratio**
- **(c) Proprietary ratio**
- **(d) Quick ratio**

(ii) _____ of a company refers to the composition or make up of its capitalization and it includes long term capital resources.
- **(a) Capital Budgeting**
- **(b) Capital structure**

(iii) _____ statement reveals the causes of changes in cash position of business concern between two dates of balance sheets.
- **(a) Fund Flow Statement**
- **(b) Cash Flow Statement**
- **(c) Revenue Statement**

(d) Cost Statement

(iv) Flexible working capital is also known as _____.

(a) Rigid Working Capital

(b) Regular Working Capital

(c) Permanent Working Capital

(d) Seasonal Working Capital

(v) From the following select one factor which is not determinants of dividend policy of a company.

(a) Inflation

(b) Owner consideration

(c) Capital market conditions

(d) None of the above

(vi) Preference shares must be redeemed within a period of _____ from the date of issue.

(a) 10 yrs

(b) 20 yrs

(c) 30yrs

(d) 50 yrs

(b) Match the statement in Column I with the most appropriate statement in column II:

[1x4=4]

	Column I		Column II
i	**AS-3**	**A**	**Window Dressing**
ii	**The science of Money**	**B**	**Quick Ratio**
iii	**Acid test Ratio**	**C**	**Cash Flow Statement**
iv	**Manipulation of Accounts**	**D**	**Finance**

(c) State whether the following statements are True or False [1x4=4]

(i) Commercial paper is a secured short term promissory note.

(ii) Current ratios are used for measuring the short term solvency of an entity.

(iii) Operating leverage reflects the impact of change in sales on the level of operating profits of the firm.

(iv) A deposit made by one company to another company normally for a period upto 4 months is referred to as inter corporate deposit.

Answer:

6. (a) (i) (b)
(ii) (b)
(iii) (b)
(iv) (d)
(v) (d)
(vi) (b)

(b)

	Column I		Column II
i	AS-3	C	Cash Flow Statement
ii	The science of Money	D	Finance
iii	Acid test Ratio	B	Quick Ratio
iv	Manipulation of Accounts	A	Window Dressing

(c) (i) False
(ii) True
(iii) True
(iv) False

Section IV

Answer any three Question from Q. No 7, 8, 9 and 10. Each Question carries 12 Marks.

7. (a) With the help of enumerated details below please complete the balance sheet of Pankaj Ltd.

Equity share capital	**₹ 1,00,000**
The relevant ratios of the company are as follows:	
Current debt to Total Debt	**0.40**
Total debt to owners Equity	**0.60**
Fixed assets to Owners equity	**0.60**
Total Assets Turnover	**2 times**
Inventory Turnover	**8 times**

8 Marks

(b) The following are the Balance sheet of Amit Ltd as on 31st March, 16 and 31st Mar, 17.

Liabilities	31.3.16	31.3.17	Assets	31.3.16	31.3.17
Share Capital	**44,00,000**	**66,00,000**	**Land**	**33,00,000**	**44,00,000**
Reserve and surplus	**27,50,000**	**38,50,000**	**Plant and Machinery**	**50,60,000**	**69,30,000**
Depreciation	**8,80,000**	**13,20,000**	**Inventories**	**19,80,000**	**22,00,000**
Bank Loan	**17,60,000**	**8,80,000**	**Sundry Debtors**	**11,00,000**	**17,05,000**
Sundry Creditor	**13,20,000**	**14,85,000**	**Cash and Bank Balance**	**4,70,000**	**50,000**
Proposed Dividend	**4,00,000**	**6,00,000**			
Provision for Taxation	**4,00,000**	**5,50,000**			
Total	**1,19,10,000**	**1,52,85,000**		**1,19,10,000**	**1,52,85,000**

Calculate from the above statement the schedule for changes in working capital.

[4 Marks]

Answer:

7. (a) With the various supporting calculations, the Balance Sheet of Pankaj Ltd is compiled as under –

Liabilities	₹	Assets	₹
Equity Share Capital – given	1,00,000	Fixed Assets – WN 1	60,000
Long Term Debt – WN 4	36,000	Current Assets – Inventory – WN 7	40,000
Current Liabilities – WN 3	24,000	Other current Assets (Bal. Fig.)	60,000
Total (WN 5)	1,60,000	Total (WN 5)	1,60,000

Working Notes and Calculations

1 $\frac{\text{Fixed Assets}}{\text{Equity}} = 0.6$ So, $\frac{\text{Fixed Assets}}{₹1,00,000} = 0.60.$ Hence, Fixed Assets = ₹ 1,00,000 × 0.60 = ₹ 60,000

2 $\frac{\text{Total Debt}}{\text{Equity}} = 0.6$ So, $\frac{\text{Total Debt}}{₹1,00,000} = 0.60.$ Hence, Total Debt = ₹ 1,00,000 × 0.60 = ₹ 60,000

3 $\frac{\text{Current Debt}}{\text{Total Debt}} = 0.4$ So, $\frac{\text{Current Debt}}{₹60,000} = 0.40.$ Hence, Current Liabilities = ₹ 60,000 × 0.4 = ₹ 24,000

4 Long Term Debt = Total Debt – Current Debt = ₹ 60,000 (WN 2) – ₹ 24,000 (WN 3) = ₹ 36,000

5 Total Liabilities = Equity + total Debt = ₹ 1,00,000 (given) + ₹ 60,000 (WN 2) = ₹ 1,60,000 = Total Assets.

6 $\frac{\text{Turnover}}{\text{Total Assets}} = 0.6$ So, $\frac{\text{Turnover}}{₹1,60,000} = 2$ Hence, Turnover = ₹ 1,60,000 × 2 = ₹ 3,20,000

7 $\frac{\text{Turnover}}{\text{Inventory}} = 0.6$ So, $\frac{₹3,20,000}{\text{Inventory}} = 8$ Hence, Inventory = $\frac{₹3,20,000}{8}$ = ₹ 40,000

(b)

Schedule of Changes in Working Capital

Particulars	31.03.2016	31.03.2017	Increase	Decrease
A. Current Assets: Inventories	19,80,000	2,20,000	2,20,000	
Sundry debtors	11,00,000	17,05,000	6,05,000	
Cash and bank Balances	4,70,000	50,000		4,20,000
Sub-Total Current Assets	35,50,000	39,55,000	8,25,000	4,20,000
B. Current Liabilities: Sundry Creditors	13,20,000	14,85,000	1,65,000	
C. Net Working Capital	22,30,000	24,70,000	6,60,000	4,20,000
Adjustment: Increase in Working Capital	2,40,000			2,40,000
Total	24,70,000	24,70,000	6,60,000	6,60,000

8. (a) The following information is provided by Rajat ltd for the year ended 31st March.

[6 Marks]

Raw material storage period	**55 Days**
WIP conversion period	**18 Days**
Finished goods storage period	**22 Days**

Debt collection period	**45 Days**
Creditor collection period	**60 Days**
Annual Operating Cost (including depreciation of ₹ 2.1 Lakh)	**21,00,000**
1 year	**360 Days**

You are required to calculate

1. **Operating cycle period**
2. **Number of operating cycle in a year**
3. **Amount of working capital required for the company on a cash cost basis.**
4. **The company is a market leader in its product, there is virtually no competitor in the market. Based on a market research, it is planning to discontinue sales on credit and deliver product based pre payments. Thereby, it can reduce its working capital requirement substantially. What would be the reduction in working capital requirement due to such decision?**

(b) Calculate the degree of operating leverage, Degree of financial Leverage and Degree of combined leverage for the following firm and interpret the results. [6 Marks]

Firm	M	N	C
Output (in units)	**250000**	**125000**	**750000**
Fixed Cost (₹)	**500000**	**250000**	**1000000**
Unit Variable Costs (₹)	**5.00**	**2.00**	**7.50**
Unit Selling Price (₹)	**7.50**	**7.00**	**10.00**
Interest Expenses (₹)	**75,000**	**25,000**	**-**

Answer:

8. (a) (i) Operating Cycle (days) = (RM Stock Holding Period + WIP Conversion Period + Finished Goods Storage Period + Debtors Collection Period) Less: Creditors Collection Period) (all in days) = (55 + 18 + 22 + 45- 60) = 80 days.

(ii) No of Operating Cycles in a year = $\frac{360}{80} = 4.5$

(iii) Cash Operating Expenses p.a. = 21,00,000 - 2,10,000 = ₹ 18,90,000

So, Working Capital required = ₹ 18,90,000 × $\frac{80}{360}$ = ₹ 4,20,000

(iv) If Debtors Collection Period is Nil, the Operating Cycle will be = 80 - 45 = 35 days.

Hence, revised Working Capital requirement = ₹ 18,90,000 × $\frac{35}{360}$ = ₹ 1,83,750.

So, reduction in Working Capital requirement = ₹ 4,20,000 – ₹ 1,83,750 = ₹ 2,36,250.

(b)

Firm	M	N	C
Sale Quantity (Unit)	2,50,000	1,25,000	7,50,000
Sale Price per unit	₹ 7.50	₹7.00	₹ 10.00
Less: Variable Costs per unit	₹5.00	₹2.00	₹7.50
Contribution per unit	₹2.50	₹5.00	₹2.50
Total Contribution (Qtty X Cn pu)	₹6,25,000	₹ 6,25,000	₹18,75,000
Less: Fixed Costs	₹5,00,000	₹ 2,50,000	₹10,00,000
EBIT	₹1,25,000	₹ 3,75,000	₹ 8,75,000
Less: Interest	₹ 75,000	₹ 25,000	---
EBT	₹ 50,000	₹3,50,000	₹ 8,75,000

Degree of Operating Leverage = $\frac{\text{Contribution}}{\text{EBIT}}$	5.00	1.67	2.14
Degree of Financial Leverage = $\frac{\text{EBIT}}{\text{EBT}}$	2.50	1.07	1.00
Degree of Combined Leverage = DOL x DFL	12.50	1.79	2.14

Inference: Overall Risk of Firm M is the highest while that of Firm N is the least.

9. (a) The following is an extract from the financial statement of Sagar Limited: [6 Marks]

	₹
Operating Profit	**105.0**
Less: Interest on Debenture	**33.0**
Earning before Taxes	**72.0**
Less: Income Tax (35%)	**25.2**
Earnings after taxes	**46.8**
Equity Share Capital (share of ₹ 10 each)	**200.0**
Reserve and surplus	**100.0**
15 % Non convertible debenture (of ₹ 100 each)	**220.0**
Total capital employed	**520.0**

The market price per equity shares is ₹ 12 and per Debenture is ₹ 93.75.

Calculate

1. **Earning per shares**
2. **Percentage cost of capital to the company for debenture and equity.**

(b) Compute Average rate of return if cost of assets is ₹ 2,00,000, useful life is 5 years, cash flow after taxes is ₹ 86,000 p.a.

Project M requires an investment of ₹ 10 Lakh and yield profit after taxes and depreciation as follows- [6 Marks]

Year	Profit after taxes and depreciation
1	**50,000**
2	**75,000**
3	**1,25,000**
4	**1,30,000**
5	**80,000**

Answer:

9. (a) (i) $\text{EPS} = \frac{\text{Earnings After Tax}}{\text{No. of Equity Shares}} = \frac{₹\ 46.8\ \text{Lakhs}}{20\ \text{Lakh Shares}} = ₹\ 2.34.$

(ii) $K_e = \frac{\text{EPS}}{\text{MPS}} = \frac{₹\ 2.34}{₹\ 12.00} = 19.50\%$ (Reserves & Surplus not relevant)

(iii) Cost of Debt K_d may be computed as under –

Particulars	Book Value Basis	Market Value Basis
(a) Interest × (100% - Tax Rate 50%)	₹ 15 × 65% = ₹ 9.75 Lakhs	₹15 × 65% = ₹9.75 Lakhs
(b) Value of Debentures	Book Value = ₹ 100.00 Lakhs	Market Price = ₹ 93.75
(c) $K_d = \frac{\text{Interest} \times (100\% - \text{Tax})}{\text{Value of Debt}} = \frac{(b)}{(a)}$	9.75%	10.40%

Note: Cost of Debentures based on Market Value is more appropriate.

(b) (i) $ARR = \frac{\text{Average PAT p.a.}}{\text{Net Initial Investment}} = \frac{\text{CFAT - Depreciation}}{\text{Net Initial Investment}} = \frac{₹\,86,000 - ₹\,40,000}{(₹\,2,00,000 - \text{Nil})} = 23\%$

Note: ARR is based on PAT (and not CFAT). Depreciation p.a. = $\frac{\text{Asset Cost}}{\text{Useful Life}} = \frac{₹\,2,00,000}{5\text{ years}} = ₹\,40,000.$

(ii) Total PAT for 5 years = 50,000 + 75,000 + 1,25,000 + 1,30,000 + 80,000 = ₹ 4,60,000.

Average PAT p.a. = $\frac{₹\,4,60,000}{5\text{ years}} = ₹\,92,000.$

Net Initial Investment = Initial Investment – Salvage Value = ₹ 10,00,000 – ₹ 80,000 = ₹ 9,20,000.

$ARR = \frac{\text{Average PAT p.a.}}{\text{Net Initial Investment}} = \frac{₹\,92,000}{₹\,9,20,000} = 10\%.$

10. Write a short note on any three **[3x4=12 Marks]**

(a) Scope of Financial Management
(b) Factoring
(c) Limitation of Fund Flow Statement
(d) Distinguish between Factoring vs. Bill Discounting

Answer:

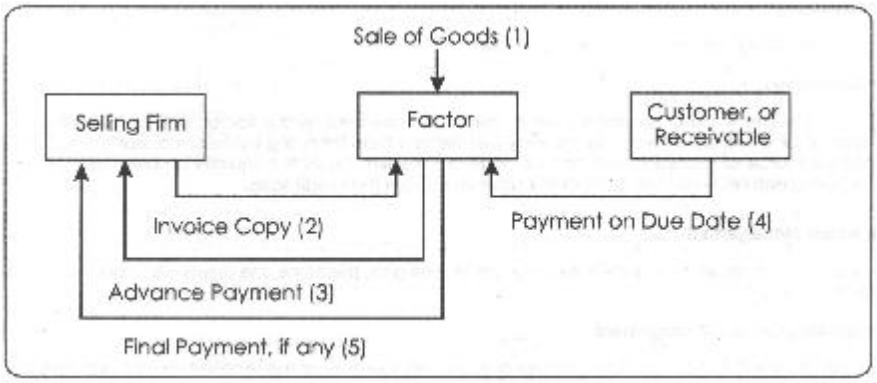
10. (a) Financial Management today covers the entire gamut of activities and functions given below. The head of finance is considered to be importantally of the CEO in most organizations and performs a strategic role. His responsibilities include:

(i) Estimating the total requirements of funds for a given period;
(ii) Raising funds through various sources, both national and international, keeping in mind the cost effectiveness;
(iii) Investing the funds in both long term as well as short term capital needs;
(iv) Funding day-to-day working capital requirements of business;
(v) Collecting on time from debtors and paying to creditors on time;
(vi) Ensuring a satisfactory return to all the stake holders;
(vii) Managing funds and treasury operations;
(viii) Paying interest on borrowings;
(ix) Repaying lenders on due dates;
(x) Maximizing the wealth of the shareholders over the long term;
(xi) Interfacing with the capital markets;
(xii) Awareness to all the latest developments in the financial markets;
(xiii) Increasing the firm's competitive financial strength in the market &
(xiv) Adhering to the requirements of corporate governance.

The above aspects of Financial Management are covered in greater details under different chapters. A priori definitions of the scope of Financial Management fall into three groups. One view is that finance is concerned with cash. At the other extreme is the relatively narrow definition that Financial Management is concerned with raising and administering funds for an enterprise. The third approach is that it is an integral part of overall management rather than a staff specially concerned with fund raising operations. In this connection, Ezra Solomon says that in this broader view, the central issue of financial policy is the wise use of funds. One apparently straight forward approach is to define the scope of Financial Management as something which

embraces those areas in which the finance officer or treasurer operates. The trouble with this empirical definition is that the responsibilities carried out by company treasurers vary I quite widely from one organization to another.

(b) Factoring may be defined as the relationship between the seller of goods and a financial firm, called the factor, whereby the latter purchases the receivables of the former and also administer the receivable of the former. Factoring involves sale of receivable of a firm to another firm under an already existing agreement between the firm and the factor.



Graphical representation of factoring

(c) Limitations of Funds Flow Statement

The following are the important limitations of Funds Flow Statement

(i) Funds Flow Statement is not a substitute of Income Statement or a Balance Sheet. It furnished only some additional information as regards changes in Working Capital.

(ii) This statement lacks originality. It is simply rearrangement of data appearing in account books.

(iii) It indicates only the past changes. It can not reveal continuous changes.

(iv) When both the aspects of the transaction are current, they are not considered.

(v) When both the aspects of the transaction are non-current, even then they are not included in funds flow statement.

(vi) Some Management Accountants are of the opinion that this statement is not ideal tool for financial analysis.

(vii) Funds Flow Statement is historic in nature. Hence this projected funds flow statement cannot be prepared with much accuracy.

(d) Factoring vs. Bill Discounting

Factoring differs from discounting in many respects. They are:

(i) Factoring is a broader term covering the entire trade debts of a client whereas discounting covers only those trade debts which are backed by Account Receivables.

(ii) Under factoring, the factor purchases the trade debt and thus becomes a holder for value. But, under discounting the financier acts simply as an agent of his customer and he does not become the owner. In other words, discounting is a kind of advance against bills whereas factoring is an outright purchase of trade debts.

(iii) The factors may extend credit without any recourse to the client in the event of

non-payment by customers. But, discounting is always made with recourse to the client.

(iv) Account Receivables under discount are subject to rediscounting whereas it is not possible under factoring.

(v) Factoring involves purchase and collection of debts, management of sales ledger, assumption of credit risk, provision of finance and rendering of consultancy services. But, discounting involves simply the provision of finance alone.

(vi) Bill discounting finance is a specific one in the sense that it is based on an individual bill arising out of an individual transaction only. On the other hand, factoring is based on the 'whole turnover' i.e., a bulk finance is provided against a number of unpaid invoices.