PAPER – 8: COST ACCUNTING & FINANCIAL MANAGEMENT

The following table lists the learning objectives and the verbs that appear in the syllabus learning aims and examination questions:

	Learning objectives	Verbs used	Definition
LEVEL B	KNOWLEDGE What you are expected to know	List	Make a list of
		State	Express, fully or clearly, the details/facts
		Define	Give the exact meaning of
	COMPREHENSION What you are expected to understand	Describe	Communicate the key features of
		Distinguish	Highlight the differences between
		Explain	Make clear or intelligible/ state the meaning or purpose of
		Identity	Recognize, establish or select after consideration
		Illustrate	Use an example to describe or explain something
	APPLICATION How you are expected to apply your knowledge	Apply	Put to practical use
		Calculate	Ascertain or reckon mathematically
		Demonstrate	Prove with certainty or exhibit by practical means
		Prepare	Make or get ready for use
		Reconcile	Make or prove consistent/ compatible
		Solve	Find an answer to
		Tabulate	Arrange in a table
	ANALYSIS How you are expected to analyse the detail of what you have learned	Analyse	Examine in detail the structure of
		Categorise	Place into a defined class or division
		Compare and contrast	Show the similarities and/or differences between
		Construct	Build up or compile
		Prioritise	Place in order of priority or sequence for action
		Produce	Create or bring into existence

Paper – 8: Cost Accounting & Financial Management

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

This paper contains 3 questions. All questions are compulsory, subject to instruction provided against each question. All workings must form part of your answer.
Assumptions, if any, must be clearly indicated.

1. Answer all questions: **[2×10=20]**

(a) List the objective of CAS-4.

Solution :

Objectives of CAS-4: Cost Accounting Standard on Cost of Production for Captive Consumption are:

(i) The purpose of this standard is to bring uniformity in the principles and methods used for determining the cost of production of excisable goods used for captive consumption.

(ii) The cost statement prepared based on standard will be used for determination of assessable value of excisable goods used for captive consumption.

(iii) The standard and its disclosure requirement will provide better transparency in the valuation of excisable goods used for captive consumption.

(b) The following data is available in respect of a machine:

Cost of machine	**₹ 10,000**
Estimated scrap value	**₹ 1,000**
Working life of the machine	**6 years**

The machine is discarded because of obsolescence after 4 years of service and sold for ₹ 2,000. What is the resultant loss and how would you treat the same in Cost Accounts?

Solution:

₹ 2,000, Entire loss may be charged to Costing Profit & Loss A/c in the year of sale or may be spread over the balance period of life of the machine

(c) X Ltd. which absorbs overheads at a pre-determined rate, provides the following information: overheads actually incurred ₹4,50,000; overhead absorbed ₹1,00,000. It was found that 60% of the unabsorbed overheads were due to defective planning. How would unabsorbed overheads due to defective planning be treated in cost accounts?

Solution :

	₹
Overhead incurred	4,50,000
Overhead absorbed	1,00,000
Under absorption	3,50,000

60 percent of under absorbed overhead is due to defective planning. This being abnormal, should be debited to Profit and Loss A/c (60% of ₹ 3,50,000) = ₹ 2,10,000

(d) Average lead time - 10 days; maximum lead time - 15 days, minimum lead time - 6 days and for emergency purchases - 4 days. Average consumption - 15 units per day and maximum consumption - 20 units per day. Calculate Danger Level.

Solution :

Danger Level = Normal Rate of Consumption × Maximum Re-Order Period for emergency purchases

= (15 x 2) – 20] x 15 = 150 units

(e) "The more kilometers you travel with your own vehicle, the cheaper it becomes." Comment briefly on this statement.

Solution :

The cost per kilometre, (if one travels in his own vehicle) will decline when he travels more kilometers. This is because the majority of costs for running and maintaining vehicles are of fixed nature and the component of fixed cost per kilometre goes on decreasing with an increase in kilometre travel. Hence, the given statement is true.

(f) Distinguish between cost allocation and cost absorption.

Solution :

Cost allocation is the allotment of whole item of cost to a cost centre or a cost unit. It is the process of identifying, assigning or allowing cost to a cost centre or a cost unit

Whereas Cost absorption Is the process of absorbing all indirect costs or overhead costs allocated to or apportioned over particular cost centre or production department by the number of units produced

(g) The capital structure of a company is as under :

3,00,000 Equity Shares of ₹ 10 each,
32,000, 12% Preference Shares of ₹100 each,
General Reserve ₹15, 00,000,
Securities Premium Account ₹ 5,00,000,
25,000, 14% Fully Secured Debentures of ₹100 each,
Term Loan of ₹13,00,000.

Based on these calculate the leverage of the company.

Solution :

Fixed Income Funds = ₹ (32, 00,000 + 25, 00,000 + 13, 00,000)……. (A)

Equity Funds = ₹ (30, 00,000 + 15, 00,000 + 5, 00,000)……. (B)

$$\text{Leverage} = \frac{A}{A+B} = \frac{₹70}{₹120} = 58.33\%$$

(h) The total market value of the equity shares of ANITA LTD. is ₹ 60 lakh and the total value of debt is ₹ 40 lakh. The treasurer estimates that the beta of the stock is currently 1.5. Assume that the beta of debt is zero. If the expected risk premium of the market is 10% and the Treasury bill rate is 8%, what will be the cost of capital of ANITA LTD.?

Solution :

Beta of the Company's existing portfolio of assets

β_A $=[\beta_E \times E/(D+E)] + [\beta_D \times D/(D+E)]$

$=\{1.5 \times 0.6/(0.6+0.4)\} + \{0 \times 0.4/(0.4+0.6)\}$

$=0.90$

Cost of Capital=Risk free rate + beta x Risk premium

$=0.08 + 0.90 \times 0.10$

$=0.17$ i.e 17%

2. (Answer any three questions) [3×16=48]

(a) [4+4=8]

(i) "A' an employee of XYZ Co. gets the following emoluments and benefits.

Salary	**₹ 250 per month**
Dearness allowance	
On 1st ₹100 of Salary	**₹400**
On next ₹100 of Salary	**₹100**
On balance every ₹100	**₹50 or part thereof**
Employers Contributions to Provident Fund	**8% of Salary and D. A.**
E. S. I.	**4% of Salary and D. A.**
Bonus	**20% of Salary and D. A**
Other Allowances	**₹2,725 per annum.**

A works for 2,400 hours per annum, out of which 400 hours are non- productive but treated as normal idle time. A worker for 18 effective hours in Job No. 15, where the cost of direct materials equals 'A's earnings and the overhead applied is 100% of Prime Cost. The sale value of the job is quoted to earn a profit of 10% on such value.

You are requested to find out:

I. Effective hourly cost of A and

II. The expected sale value of job No.15.

Solution:

I. Calculation of effective hourly cost of A

Salary		₹250 per month
D. A On first ₹100 of salary	₹400	
On next ₹100 of salary	₹100	
On balance ₹50 of salary	₹25	525 per month
Total (salary + D.A.)		775 per month
Annual salary + D. A.		9,300 p. a.
Employer's contribution to P. F. (8% of salary + D.A.)		744
Employer's contribution to ESI (4% of Salary + D.A.)		372
Bonus @ 20% of Salary + D.A.		1,860
Other allowances		2,725
Total yearly earnings		15,001
Annual working hours		2,400
Less: Normal idle time		400
Effective annual working hours		2,000

Effective hourly cost of employee "A" (15,000 ÷ 2,000) = ₹7.50 p.h.

II. Statement showing effective sale value of Job No. 15

Direct labour cost (₹7.50 × 18 hrs.)	₹135
Direct materials	135
Prime cost	270
Overheads (100% of prime cost)	270
Total cost	540
Profit (10% of sale value or 1/9th of cost)	60
Sale value	600

(ii) A cast iron foundry is importing forged steel moulds for making its castings. The moulds are of four different sizes A, B, C and D and the CIF values are US $ 4,140, 4,760, 6,340 and 7,875, respectively. Customs duty may be assumed at 45% and clearing charges 5% of CIF value. The number of castings that can be made out of each mould is: A 2,000, B 2,000, C 1,800, and D 1,500.

The weight of each casting out of A is 300 kg., B 400 kg., C 500 kg., and D 700 kg. The casting suffer a normal rejection of 10%. You are required to calculate the average cost of mould per tonne of saleable casting.

(For conversion assume US $1 = ₹ 8.) **[8]**

Solution:

STATEMENT SHOWING AVERAGE COST OF MOULD

		A	B	C	D	TOTAL
(1)	CIF Values (US $)	4,140	4,760	6,340	7,875	23,115
(2)	Customs duty & clearing charges (50%)	2,070	2,380	3,170	3,937.50	11,557.50
(3)	Total Cost (US $)	6,210	7,140	9,510	11,812.50	34,672.50
(4)	Cost in Rupees (1$ = ₹ 8)	49,680	57,120	76,080	94,500	2,77,380
(5)	Number of castings	2,000	2,000	1,800	1,500	-
(6)	Less 10% normal rejections	200	200	180	150	-
(7)	Number of saleable castings	1,800	1,800	1,620	1,350	-
(8)	Weight of each casting (Kg)	300	400	500	700	-
(9)	Weight of saleable castings (in tones) $\frac{(7)\times(8)}{1,000}$	540	720	810	945	3,015
(10)	Cost per tonne (₹) (4) ÷(9)	92	79.3	93.9	100	91.3

The average cost of mould per tonne of saleable casting is, therefore, ₹91.3 approx.

2. (b)

(i) The pipe company manufactures two products A and B during the first year of its operations. For purposes of product costing, an overhead rate of application of ₹1.70 per direct labour hour was used, based on budgetary factory overhead of ₹3,40,000 and budgeted direct labour hours of 2,00,000 as follows:

Budgeted overhead	Budgeted Hours	Product A	Product B

Department 1	₹	**2,40,000**	**1,00,000**	**Dept I**	**4**	**4**
Department 2	₹	**1,00,000**	**1,00,000**	**Dept II**	**1**	**1**
		3,40,000	**2,00,000**		**5 hours**	**5 hours**

At the end of the year, there was no work on process. There were, however, 2,000 and 6,000 finished units, respectively of products A and B on hand. Assume that budgeted activity was attained.

(I) What was the effect on the company's income of using a plant wise overhead rate instead of departmental overhead rates?

(II) Assume that material and labour costs per unit of product A were ₹ 10 and that the selling price was established by adding 40% to cover profit and selling and administrative expenses. What difference in selling price would result from the use of departmental against plant wise overhead rates?

(III) Explain why departmental overhead rates were generally preferable to plant wise rates.

[4+4+2=10]

Solution:

(I) Computation of effect on income of company by using Plant wise over head rate instead of Departmental Overhead Rates:

Particulars	**A**	**B**
Overheads using plant wise OH rate A = (1.7 x 5) B = (1.7 x 5)	8.5	8.5
(-) Overhead using Dept OH rate A = [(4x2.4) + (1x1)] = 10.60 B = [(1x2.4) + (4x1)] = 6.40	10.6	6.4
Difference	(-)2.1	2.1
No. of units of stock	2,000	6,000
Increase or decrease in value of stock	(-)4,200	12,600

Effect on the company : By using plantwise overhead rate closing stock of A will decrease by ₹ 4200 and that of B will increase by ₹ 12,600. As a result of this, company's profit was shown in excess by ₹ 8,400.

(II) Computation of selling price of Product A by using plant wise Overhead Rate:

Particulars	**Amount** (₹)
Materials & Labour @ 10 p.u. Overheads	10.00 8.50
Works cost	18.50
(+) 40% towards Selling & Distribution OH's and profit	7.40
Selling Price	25.90

Computation of Selling Price of Product 'A' by using dept. OH rates:

Particulars	**Amount**
Materials & Labour Overheads	10.00 10.60
	20.60
(+) 40% towards Selling & Distribution OH's and profit	8.24

Selling Price	28.84

Difference in Selling Price = 28.84 – 25.90 = 2.94

(III) When there are departments, departments OH rate should be used for absorbing factory overheads and not by using plant wise/general/blanket/single overhead rate. The reason being in different departments, nature of working differs. In one department, machine play dominant role. In some other department, material play dominant role. Depending upon dominance of each factor, OH rate should be used for absorbing overheads.

Therefore, it is always advisable, preferable and appropriate to use departmental overhead rate instead of blanket overhead rate.

(ii) Discuss the treatment of idle time and overtime wages in cost records. [3+3=6]

Solution :
Treatment of Idle Time

As per CAS-7, Idle Time Cost shall be assigned direct to the cost object or treated as overheads depending on the economic feasibility and specific circumstances causing such idle time.

Treatment of different categories of Idle Time are as below:-

(i) Unavoidable idle time above would be for insignificant periods. In Cost Accounts, this is allowed to remain merged in the Production Order or Standing Order Number on which the worker was otherwise employed.

(ii) Normal Idle Time is booked to factory or works overhead. For the pur-pose of effective control, each type of idle time, i.e., idle time classi-fied according to the causes is allocated to a separate Standing Order Number.

(iii) Abnormal Idle Time would usually be heavy in amount involves longer periods and would mostly be beyond the control of the management. Payment for such idle time is not included in cost and is adjusted through the Costing Profit and Loss Account or included in Profit and Loss Account, when the accounts are integrated.

(iv) Tendency to conceal Idle Time should be discouraged. It is a non-effective time and the resultant loss of profit due to reduced production activity but also increases the cost per unit of production as the fixed costs continue to be incurred, irrespective of the reduced quantum of production due to loss of labour time. Idle Time should, therefore, be highlighted prominently so that action can be taken to remove the causes thereof. Although for obvious reasons, it is not possible to record minor details, vigilance is neces-sary for finding out long-term idleness among the workers.

Treatment of Overtime in Cost Records

As per CAS-7, Overtime Premium shall be assigned directly to the cost object or treated as overheads depending on the economic feasibility and specific circumstances requiring such overtime.

When overtime is worked due to exigencies or urgencies of the work, the basic / normal payment is treated as Direct Labour Cost and charged to Production or cost unit on which the worker is employed. Whereas the amount of premium (extra amount) is treated as overhead.

If overtime is spent at the request of the customer, then the entire amount (including overtime premium) is treated as direct wages and should be charged to the job.

When the overtime is worked due to lack of capacity as general policy of the company, then the total amount paid is treated as direct wages which is computed at the estimated rate based on the figures of the previous years.

Overtime worked on account of the abnormal conditions such as flood, earth-quake, etc., should not be charged to cost, but to costing Profit and Loss Account if integrated accounts are maintained.

2. (c)

(i) Mr. X purchased an asset costing ₹ 50,000, and a spare part costing ₹ 4,000. This spare part is specific to the asset purchased. Also given that the life of the equipment is 4 years, whereas the life of the spare part is 5 years. State the treatment of this spare part as per CAS-6. [3]

Solution :

Spares which are specific to an item of equipment shall not be taken to inventory, but shall be capitalized with the cost of the specific equipment. Cost of capital spares and/or insurance spares, whether procured with the equipment or subsequently, shall be amortised over a period, not exceeding the useful life of the equipment.

In the given case, the spare parts should be amortised over the useful life of the equipment i.e. 4 years.

(ii) The capacity usage ratio and the capacity utilization ratio in respect of machine for a particular month is 80% and 90% respectively. The available working hours in a month is 200 hours. The break-up of idle time is as follows:

Waiting time for job - 5 hours; breakdown - 4 hours; waiting time for tools - 3 hours. Calculate the cost and present the same in a tabular form when the hourly fixed cost of running the machine is ₹ 8.00. [5]

Solution :

	Hours
Available working hours in a month	200
Capacity usage @ 80%	160
Idle time unavoidable	40

Capacity utilization ratio = 90%

Actual hours worked	= 160 hrs. x 90/100	= 144 hrs.
Idle time	= 160 hrs. – 144 hrs.	= 16 hrs.

Breakup of Idle Time	Hrs.
Waiting for job	5
Breakdown	4
Waiting for tools	3
Miscellaneous causes	4
Total idle time	16

Calculation of Idle Time Cost

Particulars	Hours	Rate per hr. (₹)	Amount (₹)
Cost of unavoidable idle time	40	8	320

Cost of avoidable idle time:			
Waiting for job	5	8	40
Breakdown	4	8	32
Waiting for tools	3	8	24
Other reasons	4	8	32
Total cost of idle time	16		128
	56		448

(iii) The annual demand for raw material R is 4,000 units and the purchase price is expected to be ₹ 90 per unit. The incremental cost of processing an order is ₹ 135 and the cost of storage is estimated to be ₹ 12 per unit.

I. What is the optimal order quantity and the total relevant cost of this order quantity?

II. Suppose that the ₹ 135 estimate of the incremental cost of processing an order is incorrect and should have been ₹ 80. Assume that all the other estimates are correct. What is the cost of this prediction error assuming that the solution to part (a) is implemented for one year?

III. Assume at the start of the period, a supplier offers 4,000 units at a price of ₹ 86. The materials will be delivered immediately and placed in the stores. Assume that the incremental cost of placing this order is zero and the original estimate of ₹ 135 for placing an order for the economic batch size is correct. Should the order be accepted? [2+4+2=8]

Solution:

I. EOQ = $\sqrt{\frac{2ab}{cs}} = \sqrt{\frac{2\times4,000\times135}{12}}$ = 300 units

Where a = Annual consumption; b = Buying cost per order cs = Cost of storage

The relevant cost in this case is the sum total of holding cost and ordering cost.

Holding cost = (300 × ₹ 12)/2	₹ 1,800
Ordering cost = (4,000 × 135)/300	1,800
	3,600

II. Revised incremental cost of processing an order = ₹ 80

Revised EOQ = $\sqrt{\frac{2\times4,000\times80}{12}}$ = 231 units

Relevant Cost:

Holding cost = (231 × ₹ 12)/2	₹ 1,386
Ordering cost = (4,000 × 80)/231	1,386

	2,772	(i)

Cost of predictive error assuming that the solution to part (a) is implemented for one year. EOQ in part (a) is 300 units and therefore, relevant cost based on 300 units and incremental cost of processing an order will be:

Holding cost = (300 × ₹ 12)/2	₹ 1,800	
Ordering cost = (4,000 × 80)/300	1,067	
	2,867	(ii)

Cost of predictive error = (ii) – (i) = ₹ 95

III. Special price = ₹ 86

Total cost = Holding cost + Ordering cost + Purchase cost = (4,000 × ₹ 12)/2 + 0 + (4,000 × ₹ 86) =	₹ 3,68,000
Total cost at normal price of ₹ 90 (300 × ₹ 12)/2 + (4,000 × ₹ 135)/300 + (4,000 × ₹ 90) =	₹ 3,63,600
Additional cost of special order	4,400

The order, therefore, is not recommended.

2. (d)

(i) In a certain factory Type A and Type B machines have been designed to produce the same product but Type A is less automatic than Type B and requires somewhat more labour to operate. Pertinent costs are as follows:

	Type A	**Type B**
Set up cost	**₹400**	**₹600**
Variable cost per unit	**4.90**	**4.40**

Which type of machine should be used for processing various sized orders? [6]

Solution:

Difference in set up (fixed) cost = ₹(600 – 400) = ₹200
Difference in variable cost per unit = ₹(4.90 – 4.40) = ₹ 0.50

$$\text{B. E. P.} = \frac{\text{Difference in set up cost}}{\text{Difference in variable cost}} = \frac{200}{₹0.50} = 400 \text{ units}$$

	Type A	Type B
Set up cost	₹400	₹600
Variable cost for 400 units	1960	1760
	2,360	2,360

Hence Machine A should be used for less than 400 units as its set up cost is, lower. Machine B should be used for order of more than 400 units as its variable cost per unit is lower, which will offset the higher set-up costs. These points are made clear by verification of total costs at production levels of 399 units and 401 units.

Details	399 units		401 units	
	A	B	A	B
Set up cost	₹400.00	₹600.00	₹400.00	₹600.00
Variable cost per unit	1955.10	1755.60	1964.90	1764.40
	2355.10	2355.60	2364.90	2364.40
Preference	Type A		Type B	

(ii) Meera Industries Limited is a single product organisation having a manufacturing capacity of 6,000 units per week of 48 hours. The output data vis-a-vis different elements of cost for three consecutive weeks are given below:

Units produced	Direct Material	Direct Labour	Total Factory overheads (Variable and Fixed)
2,400	**₹4,800**	**₹6,000**	**₹37,200**
2,800	**5,600**	**7,000**	**38,400**
3,600	**7,200**	**9,000**	**40,800**

As a Cost Accountant, you are asked by the Company management to work out the selling price assuming an activity level of 4,000 units per week and a profit of 20% on selling price. [10]

Solution:

A. Variable Overheads per unit $= \frac{\text{Change in expense}}{\text{change in output}} = \frac{38,400 - 37,200}{2,800 - 2,400}$

$= \frac{₹1,200}{400}$ $= ₹3.00$

This result can also be verified from the figures given for third week.

B. Calculation on Fixed Overheads:

Total Factory Overheads for 2,400 units	₹37,200
Less: Total Variable Overheads for 2,400 units (2,400 units × ₹ 3.00)	7,200
Total Fixed Overheads for the company	30,000

This result can also be verified from the figures of next two weeks.

C. STATEMENT SHOWING COST OF 4,000 UNITS

Direct Material	4,000 units × ₹4,800/2,400	8,000
Direct Labour	4,000 units × 6,000/2,400	10,000
Variable Overheads:	4,000 Units ×₹3.00	12,000
Fixed Overheads		30,000
Total Cost		60,000

D. Profit for 4,000 units:
Profit required is 20% on selling price or 25% of cost.
Cost will be = (100 – 20) = ₹80.
Profit desired will amount to ₹60,000 × 25/100 = ₹15,000.

This selling price for 4,000 units can now be ascertained as under:

Cost of 4,000 units	₹60,000
Profit	15,000
Total sales	75,000

Selling price per unit = 75,000 ÷ 4,000 = ₹18.75

3. (Answer any two questions) **[2×16=32]**

(a) (i) Discuss the changing scenario of Financial Management in India. **[6]**

Solution :

Modern Financial Management has come a long way from the traditional corporate finance. As the economy is opening up and global resources are being tapped, the opportunities available to finance managers virtually have no limits. The finance manager is now responsible for shaping the fortunes of the enterprise, and is involved in the most vital decision of the allocation of capital.

Due to the changes in the global environment the finance manager needs to have a broader and far-sighted outlook, and must realize that his actions would have far-reaching consequences for the firm because they influence the size, profitability, growth, risk and survival of the firm, and as a consequence, affect the overall value of the firm.

Some of the important changes in the environment are:

(a) Interest rates have been freed from regulation.
(b) The rupee has become fully convertible on current account.
(c) Optimum debt-equity mix is possible. The firms have to take advantage of financial leverage to increase shareholders' wealth.
(d) Free pricing and book building for IPOs, seasoned equity offerings.
(e) Share buybacks and reverse book building.
(f) Raising resources globally through ADRs/GDRs.
(g) Treasury management.
(h) Risk Management due to introduction of options and futures trading.

(ii) Shri Devdas asks you to prepare his Balance Sheet from the particulars furnished hereunder:

Stock velocity	**6**
Gross profit margin	**20%**
Capital turnover ratio	**2**
Fixed assets turnover ratio	**4**
Debt collection period	**2 months**
Creditors payment period	**73 days**
Gross profit	**₹60,000**

Excess of closing stock over opening stock was	**₹5,000**

Difference in balance Sheet represents bank balance. **[10]**

Solution :

Working Notes:

1. Sales

Gross Profit Margin = 20%

$\Rightarrow \frac{\text{Gross Profit}}{\text{Sales}}$ = 20%

$\Rightarrow \frac{₹60,000}{\text{Sales}}$ = 20%

$\Rightarrow$ Sales $= \frac{₹60,000}{20\%} = ₹3,00,000$

2. Closing Stock

Stock velocity = 6

$\Rightarrow \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$ = 6

$\Rightarrow \frac{\text{Sales} - \text{Gross Profit}}{\text{Average Inventory}}$ = 6

$\Rightarrow \frac{₹3,00,000 - ₹60,000}{\text{Average Inventory}}$ = 6

$\Rightarrow$ Average Inventory $= \frac{₹2,40,000}{6} = ₹40,000$

3. Capital

Capital turnover Ratio = 2

$\Rightarrow \frac{\text{Sales}}{\text{Capital}}$ = 2

$\Rightarrow \frac{₹3,00,000}{\text{Capital}}$ = 2

$\Rightarrow$ Capital $= \frac{₹3,00,000}{2} = ₹1,50,000$

4. Fixed Assets

Fixed Assets Turnover Ratio = 4

$\Rightarrow \frac{\text{Sales}}{\text{Fixed Assets}}$ = 4

$\Rightarrow$ Fixed Assets $= \frac{₹3,00,000}{4} = ₹\ 75,000$

5. Debtors

Debt Collection Period = 2 months

$\Rightarrow \frac{\text{Debtors}}{\text{Sales}} \times 12$ = 2 months

$\Rightarrow \frac{\text{Debtors}}{₹3,00,000} \times 12$ = 2 months

$\Rightarrow$ Debtors $= \frac{₹3,00,000 \times 2}{12}$ = ₹50,000

6. Purchase

Cost of Goods Sold = Opening Stock + Purchases - Closing Stock

$\Rightarrow$ Purchases = Cost of Goods Sold + (Closing Stock - Opening Stock)

= ₹2,40,000 + ₹5,000

= ₹2,45,000

7. Creditors

Credit payment Period = 73 days

$\Rightarrow \frac{\text{Creditors}}{\text{Purchases}} \times 365$ = 73 days

$\Rightarrow \frac{\text{Creditors}}{₹2,45,000} \times 365$ = 73 days

$\Rightarrow$ Creditors $= \frac{₹2,45,000 \times 73}{365}$ = ₹49,000

Balance Sheet of Shri Devdas as on …….

Liabilities	₹	Assets	₹
Capital	1,50,000	Fixed assets	75,000
Creditors	49,000	Current assets	
		Stock	42,500
		Debtors	50,000
		Cash at bank (balancing figure)	31,500
	1,99,000		1,99,000

(b) (i) From the following figures, prepare a statement showing the changes in the working capital and fund flow statement during the year 2014:-

Assets	Dec.31,2013	Dec.31,2014
Fixed Assets (net) ₹	**5,10,000**	**6,20,000**
Investment	**30,000**	**80,000**
Current Assets	**2,40,000**	**3,75,000**
Discount on debentures	**10,000**	**5,000**
	7,90,000	**10,80,000**
Liabilities		
Equity share capital	**3,00,000**	**3,50,000**
Preference share capital	**2,00,000**	**1,00,000**
Debentures	**1,00,000**	**2,00,000**
Reserves	**1,10,000**	**2,70,000**
Provision for doubtful debts	**10,000**	**15,000**
Current liabilities	**70,000**	**1,45,000**
	7,90,000	**10,80,000**

You are informed that during the year:

I. A machine costing ₹70,000 book value and WDV of ₹40,000 was disposed of for ₹ 25,000.

II. Preference share redemption was carried out at a premium of 5% and

III. Dividend at 10% was paid on equity share for the year 2013.

Further:

(i) The provision for depreciation stood at ₹1,50,000 on 31.12.13 and at ₹1,90,000 on 31.12.14; and

(ii) Stock which was valued at ₹90,000 as on 31.12.13; was written up to its cost, ₹ 1,00,000 for preparing Profit and Loss account for the year 2014. [4+4=8]

Solution :

Change in working capital:

	2013	2014
Current Assets	2,40,000	3,75,000
(+) Stock under valued	10,000	
(-) Current liabilities	70,000	1,45,000
Net working capital	1,80,000	2,30,000
Increase in working capital	50,000	

Fund flow Statement

Sources	Amount (₹)	Applications	Amount (₹)
Sale of fixed assets	25,000	Increase in working capital	50,000
Fund from operation	2,80,000	Purchase of fixed assets	2,20,000
Issue of shares	50,000	Purchase of investment	50,000
Debentures	1,00,000	Redemption of preference shares	1,05,000
		Dividend paid	30,000
	4,55,000		4,55,000

Working Note

1. Depreciation

	(₹)
Opening provision	1,50,000
(-) Provided on sale of asset	30,000
	1,20,000
(+) Provided during the year (b /f)	70,000
Closing provision	1,90,000

2. Purchase & Sale of Fixed Assets

	(₹)
Opening (2014)	5,10,000
(-) WDV of asset sold	40,000
	4,70,000
(-) Depreciation provided	70,000
	4,00,000
(+) Purchases (b /f)	2,20,000
Closing 2014	6,20,000

3. P & L Adjustment A/c

Particulars	Amount	Particulars	Amount

	(₹)		(₹)
To depreciation	70,000	By balance b/d (1,10,000+10,000)	1,20,000
To loss on sale of fixed assets	15,000	By fund from operations (Bal. figure)	2,80,000
To premium on redemption of shares	5,000		
To discount written off	5,000		
To provision for doubtful debt	5,000		
To dividend	30,000		
To balance c/d	2,70,000		
	4,00,000		4,00,000

(ii) A Company provide the following data:

	Cost per unit (₹)
Raw materials	**52.00**
Direct labour	**19.50**
Overheads	**39.00**
Total cost	**110.50**
Profit	**19.50**
Selling price	**130.00**

The following additional information is available:-

1) **Average raw materials in stock: one month.**
2) **Average materials in process: half-a-month**
3) **Average finished goods in stock: one month**
4) **Credit allowed by suppliers: one month**
5) **Credit allowed to debtors: two month**
6) **Time lag in payment of wages: one and a half weeks.**
7) **Overheads: one month**
8) **One-fourth of sales are on cash basis.**
9) **Cash balance is expected to be ₹1,30,000**

You are required to prepare a statement showing the working capital needed to finance a level of activity of 70,000 units of annual output. The production is carried throughout the year on even basis and wages and overheads accrue similarly. (Calculation is made on the basis of 30 days a month and 52 weeks a year.) [8]

Solution :

Statement showing estimate of Working Capital

Particulars	**Amount (₹)**	**Amount (₹)**
Current Assets:		
Stock of Raw material (70,000 units × 52 ×30/ 360)		3,03,333
Work in progress:		
Raw materials (70,000 units × 52 × 15/ 360)	1,51,667	
Direct labour (70,000 units × 19.50 × 30/ 360 ×1/2 × 50%)	28,437	
Overheads (70,000 units × 39 × 30/ 360 x ½ × 50%)	56,875	2,36,979
Stock of finished goods (70,000 units × 110.50 × 30/ 360)		6,44,583
Debtors (70,000 units × 130 ×60/ 360)		15,16,667
Cash balance		1,30,000

(a)		28,31,562
Current Liabilities:		
Creditors for raw material (70,000 units × 52 × 30/ 360)		3,03,333
Creditor for wages (70,000 units ×19.50 × 1.5/ 52)		39,375
Creditors for overheads (70,000 units × 39 × 30/ 360)		2,27,500
(b)		5,70,208
Net working Capital (a) – (b)		**22,61,354**

(c) (i) What are the criticisms of capital Assets Pricing Model (CAPM)? [4]

Solution:

The criticisms of Capital Assets Pricing Model (CAPM) are enumerated below:

(i) CAPM makes a number of assumptions that weaken its usefulness.

(ii) The assumptions that there are no imperfections in the markets, there are no transaction costs and the Betas of shares do not change, are not realistic.

(iii) It does not take into account that over a period of time, the market rate of return and the risk-free return can change.

(iv) CAPM always considers a high level of diversification of portfolios, which may not be always possible.

(ii) XYZ Limited wishes to raise additional finance of ₹10 lacs for meeting its investment plans. It has ₹2,10,000 in the form of retained earnings available for investment purposes. The following are the further details:

1) **Debt/ equity mix 30%/70%**
2) **Cost of debt upto ₹1,80,000 - 10% (before tax) beyond ₹ 1,80,000 - 16% (before tax)**
3) **Earning per share ₹4**
4) **Dividend payout 50% of earnings**
5) **Expected growth rate in dividend 10%**
6) **Current market price per share ₹ 40**
7) **Tax rate 50%**

You are required to:

I. **Determine the pattern for raising the additional finance.**
II. **Determine the post-tax average cost of additional debt.**
III. **Determine the cost of retained earnings and cost of equity , and**
IV. **Compute the overall weighted average after tax cost of additional finance.**

[2+2+2+3=9]

Solution:

I. Determination of pattern for raising additional finance:

Total additional finance required= ₹ 10,00,000

Debt Equity mix= 30:70

Therefore

Additional Debt= 10,00,000 × 30% = 3,00,000

Additional Equity= 10,00,000 × 70% = 7,00,000

Total Additional finance

Total Equity:	₹	₹
Retained earnings	2,10,000	
Equity Share Capital	4,90,000	7,00,000
Debt:		
10% debt	1,80,000	

16% debt	1,20,000	3,00,000
Total additional finance		10,00,000

II. Calculation of Average cost of additional debt:
Post Tax Cost of 10% debt = 10% (1- 0.5) = 5%
Post Tax cost of 16% debt = 16% (1 – 0.5) = 8%
Average Cost (after tax) of total debt = 5 × (1,80,000/3,00,000) + 8 × (1,20,000/3,00,000)
= 6.2%

III. Computation of Cost of Equity and Cost of Retained Earnings:
Cost of Equity (K_e) = [D (1 + g)/ P_o] + g
Where,
D = Dividend,
P_o = Current market price per share
G = Expected growth rate in dividend
Cost of Equity = (2 × 1.10/40) + 0.10
= 0.155 or 15.5%
Cost of Retained Earnings (K_r)
$K_r = K_e$ (as there is no flotation cost)
K_r = 15.5%

IV. Calculation of Weighted average Cost of Capital

Element	Amount (₹)	Weight	Specific Cost	Overall Cost
Equity Share capital	4,90,000	0.49	0.155	0.0759
Reserves	2,10,000	0.21	0.155	0.0325
10% Debt	1,80,000	0.18	0.050	0.0090
16% Debt	1,20,000	0.12	0.080	0.0096
Total	10,00,000	1.00		0.1270

WACC = 12.7%

(iii) What are the assumptions of Walter Model? [3]

Solution :
Assumptions of Walter Model:

(a) All financing is done through retained earnings; external sources of funds like debt or new equity capital are not used.
(b) With additional investment undertaken, the firm's business risk does not change. It implies that internal rate of return on investment and the cost of capital are constant.
(c) There is no change in the key variable namely Earning per share and dividend per share. The values (D) or Dividend per share and (E) or Earning per share may be changed in the model to determine results, but, any given value of E and D are assumed to remain constant in determining a given value.
(d) The firm has a perpetual (very long) life.