Paper – 8: Cost Accounting & Financial Management

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

Section A-Cost Accounting

(Answer Question No. 1 which is compulsory and any three from the rest in this section)
Working Notes should form part of the answer.

Question.1

(a) Standard time is 60 hours and guaranteed time rate is ₹50 per hour. Under Rowan plan, what is the amount of wages, if job is completed in 48 hours? [2]

Answer:

Earnings under Rowan Plan

=Hours worked × Rate per hour + (Time taken/Time allowed × Rate per hour)

=48 × 50 + (48/60 ×12 × 50)

=₹2,880

(b) If the overhead absorption rate is ₹130 per hour, the production hours are 300 and the under absorption being ₹ 3,000. What would be the actual expenses? [2]

Answer:

Actual Expenses = (300 hours x ₹130)+ ₹3,000

= ₹(39,000+3,000)

= ₹42,000

(c) For a particular item of store, the following information are available:
Re-order quantity=1,200
Maximum consumption per week=300 units
Normal consumption per week=200 units
Re-order period=2 to 4 weeks
What will be the re-order level? [2]

Answer:

Re-order level = Maximum Consumption × Maximum Reorder Period

= 300 × 4

= 1,200 units

(d) After inviting tenders for supply of raw materials, two quotations are received as follows- Supplier A ₹2.20 per unit, Supplier B ₹2.10 per unit plus ₹2,000 fixed charges irrespective of the units ordered.
What will be the ordered quantity for which the purchase price per unit will be same? [2]

Answer:

Let the no. of units to be ordered be x.

At x unit the cost of Supplier A is 2.20x and of Supplier B is 2.10x + 2,000

Now, if, 2.10x = 2.10x + 2,000

Or, 0.10x = 2,000

Or, x = 2,000/0.10 = 20,000

∴At 20,000 order quantity the purchase price will be same.

(e) Purchase of materials is $20,000 [Forward contract rate $44.30; but $44.50 on the date of importation]; Freight inward ₹50,000; Cash discount ₹15,000; CENVAT Credit refundable ₹17,000. Compute the landed cost of material as per CAS-6. [2]

Answer:

Computation of Landed Cost of Material

	Particulars	Amount (₹)
	Purchase price of material [20,000x 44.50]	8,90,000
Add	Freight inward during the procurement of material	50,000
	Total	9,40,000
Less	CENVAT Credit refundable	17,000
	Value of receipt of material	9,23,000

Note: Though the forward contract rate was 44.30, but the exchange rate on the date of importation is considered. Hence, included in the cost of materials. Accordingly the purchase cost is computed considering the $44.50.

(f) The annual demand of a certain product is 8,000 units, ordering cost per order is ₹40, carrying cost is 10% of average inventory value and purchase cost is ₹10 per unit. What will be the EOQ of the product? [2]

Answer:

Annual consumption (A) =8,000 units
Ordering cost per order (O) =₹40
Carrying cost =10% of ₹10=1

$$EOQ = \sqrt{\frac{2AO}{C}}$$

$$= \sqrt{\frac{2x8,000x40}{1}}$$

$$= \sqrt{6,40,000}$$

= 800 units

Question.2

(a) Both direct and indirect employees of a department in a factory are entitled to production bonus in accordance with a Group Incentive Scheme, the outlines of which are as follows:

(i) For any production in excess of standard rate fixed at 10,000 tonnes per month of 25 days, a general incentive of ₹10 per tonne is paid in aggregate. The total amount payable to each separate group is determined on the basis of an assumed percentage of such excess production being contributed by it, namely @ 70% by direct labour, @ 10% by inspection staff, @ 12% by maintenance staff and @ 8% by supervisory staff.

(ii) Moreover, if the excess production is more than 20% above the standard, direct labour also get a special bonus @ ₹7 per tonne for all production in excess of 120% of standard.

(iii) Inspection staff are penalised @ ₹20 per tonne for rejection by customers in excess of 1% of production (Actual).

(iv) Maintenance staff are penalised @ ₹20 per hour of breakdown.

From the following particulars for a month, workout the production bonus of each group:

(A) Production 13,000 tonnes (Actual)

(B) Rejection by customers - 200 tonnes

(C) Machine breakdown -50 hours [10]

Answer:
Statement showing Bonus earned by each category of staff

Category	General incentive @₹10 / tonne			Special incentive @₹ 7 / tonne		Penalty	Net Payable
	%	Tonnes	₹	Tonnes	₹	₹	₹
(a) Direct labour	70	3,500	35,000	3,400	23,800	—	58,800
(b) Inspection staff	10	500	5,000	-	-	(WN-2) 1,400	3,600
(c) Maintenance staff	12	600	6,000	-	-	(WN-3) 1,000	5,000
(d) Supervisory staff	8	400	4,000	-	-	-	4,000
Total	100	5,000	5,000	3,400	23,800	2,400	71,400

Working Notes:

1. Computation of Excess Production and Percentage

Particulars	Computation	
(a) Standard production for 20 days (at 10,000 tonnes per month of 25 days)	$\frac{10,000 \times 20}{25}$	8,000 tonnes
(b) Actual production during the month		13,000 tonnes
(c) Excess production during the month	(13,000- 8,000)	5,000 tonnes
(d) Excess production above 20% of standard	5,000 - 20% of 8,000 i.e. 5,000-1,600	3,400 tonnes

2. Penalty for rejection
= ₹ 20 per tonne x 70 (Actual 200 tonnes - 1 % of production of 13,000 i.e. 130) = 1,400

3. Penalty for machine breakdown = 50 hours at ₹ 20 per hour = 1,000

(b) "Costs may be classified in a variety of ways according to their nature and the information needs of the management'.-Discuss. [6]

Answer:

Classification of costs can be made in different ways, such as,-

(i) Classification according to the elements viz material, labour and expenses

(ii) Classification according to nature:
Direct and indirect material, direct and indirect labour, direct and indirect expenses

(iii) Classification according to behavior:
Fixed cost, variable cost, Semi-variable cost

(iv) Classification according to function:
Production cost, administrative cost, selling and distribution cost, and research and development cost.

(v) Classification according to time:
Historical cost, pre-determined cost, opportunity cost, relevant cost, replacement cost.

(vi) Classification of cost of decision making:
Marginal cost, differential cost, opportunity cost, relevant cost, replacement cost, abnormal cost, controllable coast, shut down cost, capacity cost etc.

Question.3

(a) JP Limited, manufacturer of a special product follows the policy of EOQ (Economic Order Quantity) for one of its components. The component's details are as follows:

Purchase Price per Component	**₹200**
Cost of an order	**100**
Annual Cost of Carrying one unit in Inventory	**10% of Purchase Price**
Total cost of Inventory and Ordering p.a.	**4,000**

The company has been offered a discount of 2% on the price of the component provided the lot size is 2,000 components at a time.

You are required to:

(i) Compute the EOQ

(ii) Advise whether the quantity discount offer can be accepted (Assume that the inventory carrying cost does not vary according to the discount policy)

(iii) Would your advice differ if the company is offered 5% discount on -a single order?

[4+3+3]

Answer:

(i) Formula for EOQ = $\sqrt{\frac{2 \times \text{Annual cosumption} \times \text{Buying cost per order}}{\text{Cost per unit} \times \text{Storage and carrying cost rate}}}$

Purchase price per component ₹200
Cost of an order ₹100
Annual cost of carrying one unit in inventory = 10% of purchase price or 10% of ₹200 = ₹20
Total cost of carrying inventory and ordering per annum= 200 × 20 = ₹4,000

Let Annual consumption = S

Therefore: $\sqrt{2S \times ₹100 \times (10\% \text{ of } ₹2{,}000)}$ = ₹4,000

Or $\sqrt{2S \times 100 \times 20}$ = ₹4,000; Squaring both sides

Or S = 4,000 units

$EOQ = \sqrt{\frac{2 \times 4{,}000 \text{ units} \times ₹100}{200 \times 10\%}}$ = 200 units

(ii) When order size is 2,000 units

No. of orders = 4,000 ÷ 2,000 = 2
Total cost = Ordering cost + Carrying cost = (2 x ₹ 100) + 1/2 x 2,000 units x ₹ 20 = 200 + 20,000 = ₹20,200
∴ Extra cost = ₹ 20,200 - ₹ 4,000 = ₹ 16,200
Quantity Discount = 2% x 4,000 x ₹ 200 = ₹ 16,000

Advice to Management = The quantity discount offered should not be accepted, as it results in an additional expenditure of ₹ 200 i.e. ₹ 16,200 - ₹ 16,000

(iii) When order size is 4,000 units
No. of order = 1
Total Cost =1 x ₹ 100 + 1/2 x 4,000 units x ₹ 20 = ₹ 40,100
Extra Cost = ₹ 40,100 - 4,000 = ₹ 36,100
Quantity discount received = 5% x 4,000 units x ₹ 200 = ₹ 40,000

Advice to Management: The quantity discount should be accepted. It will result in reducing the total cost of carrying and ordering inventory by ₹ 3,900 i.e. ₹ 40,000 - ₹ 36,100.
Note: It is presumed that, total cost of inventory is the total cost of carrying inventory and ordering per annum.

(b) Discuss the treatment of overtime wages in Cost Accounts. [4]

Answer:

Overtime wages and its Treatment:

Work done by a worker beyond his normal working hours is known as overtime. Payment made to the worker for working overtime is known as overtime premium. Normal working hours may be as specified in the Factories Act, 1948 or work agreement with the union. The overtime is paid at a higher rate than the normal rate - usually double - one for normal wages during extra time and the other for additional wages for overtime.

- **(i)** Overtime hours at normal rate are treated as labour cost and charged to production accordingly but premium paid during the overtime is recovered as production overhead through overhead recovery rate.
- **(ii)** If overtime is for a specific job to meet the deadlines or to carry out specific rush orders for which extra revenue is received, then the entire labour cost, should be charged to that job.
- **(iii)** If overtime wages are paid due to carelessness or negligence of a worker of a particular department, then the entire overtime cost is charged to that department.
- **(iv)** If overtime premium is paid due to abnormal causes such as floods, earthquakes, etc., it should be charged to Costing Profit and Loss A/c.

(c) State the treatment of Fringe Benefit in Costing? [2]

Answer:

Fringe benefits are those expenses which are spent by employer against the individual employees for their welfare. Normally such expenses do not form a part of their pay packet, e.g., ESI contribution made by an employer. Such expenses may be recovered separately as a percentage on labour cost or an hourly rate. Alternatively, those may be treated as overheads and apportioned to cost centres on the basis of wages/salary cost.

Question.4

(a) A and B are two workers working in a manufacturing Company and their output during a particular 40 hours week was 96 and 111units respectively. The guaranteed rate per hour is ₹ 12 per hour, low piece rate is ₹ 4 per unit, and high piece rate is ₹6 per unit. High task is 100 units per week. Compute the total earnings and labour cost per unit under Taylor and Gantt Task Bonus plan. [3+2=5]

Answer:

(a) Taylor Plan:

Worker A =Actual output is 96 units, which is less than the standard. This means he is inefficient and will get 80% of the normal piece rate i.e. @ ₹ 4.80 per unit. His wages will be = ₹ 4.80 × 96 units= ₹ 460.80.
Worker B = Actual output is 111 units which is more than the standard. This means he is efficient and will get 120% of the normal piece rate i.e. ₹ 7.20 per unit. His wages will be = ₹ 7.20 × 111 units = ₹ 799.20

(b) Gantt Task and Bonus Plan:
Worker A = ₹ 12 × 40 hours = ₹ 480 [A will get guaranteed time rate as his output is below the high task]
Worker B = ₹ 6 × 111 units = ₹ 666 [High piece rate as output is above standard]

(b) Stocks are issued at a standard price and the following transactions occurred for a specific material:

1st June	**Opening Stock**	**10 tonnes at ₹240 per ton**
4th June	**Purchased**	**5 tonnes at ₹260 per ton**
5th June	**Issued**	**3 tons**
12th June	**Issued**	**4 tons**
13thJune	**Purchased**	**3 tons at ₹250 per ton**
19thJune	**Issued**	**4 tons**
26thJune	**Issued**	**3 tons**
30thJune	**Purchased**	**4 tons at ₹280 per ton**
31stJune	**Issued**	**3 tons.**

The debit balance of price variation on 1st June was ₹20. Show the stock account for the material for the month of June, indicating how would you deal with the difference in material price variance, when preparing the Profit and Loss Account for the month. [8]

Answer:
Standard Price = (240x10) +20/10 = ₹ 242

Stores Ledger Account

Date	Receipts			Issue			Balance	
	Qty.	Price ₹	Value ₹	Qty.	Price ₹	Value ₹	Qty.	Price ₹
1st June	--	--	--	--	--	--	10	2,400
4th June	5	260	1,300	--	--	--	15	3,700
5th June	--	--	--	3	242	726	12	2,974
12th June	--	--	--	4	242	968	8	2,006
13th June	3	250	750	--	--	--	11	2,756
19th June	--	--	--	4	242	968	7	1,788
26th June	--	--	--	3	242	726	4	1,062
30th June	4	280	1,120	--	--	--	8	2,182
31st June	--	--	--	3	242	726	5	1,456

Material price variance is ₹ 246 which is to be transferred to debit of Costing P & L A/c.

Working:

Stock at standard price = 5 x 242= 1,210

Material Price Variance = 1,210 – 1,456 = 246 (A)

(c) The production department of a factory furnishes the fallowing information for the month of December 2013.

Material used	**₹54,000**
Direct wages	**₹45,000**
Overheads	**₹36,000**
Labour hours worked	**36,000**
Hours of machine operation	**30,000**

For an order executed by the department during a particulars period, the relevant information is as under:

Material used	**₹4,00,000**
Direct wages	**₹3,20,000**
Labour hours worked	**₹3,200**
Machine hours worked	**2,000**

Calculate the overhead charges chargeable to the job by the following methods:

(i) Direct materials cost percentage rate;

(ii) Labour hour rate; and

(iii) Machine hour rate. **[1+ +1 = 3]**

Answer:

(i) Direct material cost percentage=(Overheads/Direct Materials)x100
=₹36,000/₹54,000 x100
=66.67%
In this case, materials used on the order is ₹4,00,000
Hence, overhead will be ₹4,00,000 x 66.67%=₹2,66,680(approx)

(ii) Labour hour rate=Overheads/Direct Labour Hour
=36,000/36,000
=₹1
So, overhead will be 3,200 hrs @₹1=₹3,200

(iii) Machine hour rate=overheads/machine hours
=₹36,000/₹30,000
=₹1.20
So, overheads will be 2,000 hrs @₹1.20 per hour=₹2,400

Question.5

(a) A manufacturing unit produces two products A and B. The following information is furnished:

Particulars	Product A	Product B
Units produced (Qty)	**20,000**	**15,000**
Units sold (Qty)	**15,000**	**12,000**
Machine hours utilized	**10,000**	**5,000**
Design charges	**21,000**	**24,000**
Software development	**20,000**	**30,000**

Royalty paid on sales ₹54,000 [@ ₹2 per unit sold, for both the products]; Royalty paid on units produced ₹35,000 [@Re.1 per unit produced, for both the products], Hire charges of equipment used in manufacturing process of product A only ₹5,000, Compute the direct expenses as per CAS-10. [3]

Answer:

Computation of Direct expenses as per CAS-10

	Particulars	Product A	Product B
	Royalty paid on sales	30,000	24,000
Add	Royalty paid on units produced	20,000	15,000
Add	Hire charges of equipment used in manufacturing process of product A only	5,000	------
Add	Design charges	21,000	24,000
Add	Software development charges related to the production	20,000	30,000
	Direct Expenses	94,000	93,000

Note:

(i) Royalty on production and royalty on sales are allocated on the basis of units produced and units sold respectively. These are directly identifiable and traceable to the number of units produced and units sold. Hence, this is not apportionment.

(ii) No adjustment are made related to units held, i.e. closing stock.

(b) X Ltd. having fifteen types of automatic machines furnishes information as under for 2012-13:

(i) Overhead expenses: Factory rent ₹ 96,000 (Floor area 80,000 sq. ft.), Heat and gas ₹ 45,000 and supervision ₹ 1,20,000.

(ii) Wages of the operator are ₹ 48 per day of 8 hours. He attends to one machine when it is under set-up and two machines while they are under operation.

In respect of machine B (one of the above machines) the following particulars are furnished:

(i) Cost of machine ₹ 45,000, Life of machine—10 years and scrap value at the end of its life ₹5,000.

(ii) Annual expenses on special equipment attached to the machine are estimated at ₹ 3,000.

(iii) Estimated operation time of the machine is 3,600 hours while setup time 400 hours per annum.

(iv) The machine occupies 5,000 sq. ft. of. floor area.

(v) Power costs ₹ 2 per hour while machine is in-operation.

Find out the comprehensive machine hour rate of machine B. Also find out machine costs to be absorbed in respect of use of machine B on the following two work-orders:

	Work-order 31	Work-order 32
Machine set up time (Hours)	**10**	**20**
Machine operation time (Hours)	**90**	**180**

[5+2=7]

Answer:

X Ltd.

Statement showing comprehensive machine hour rate of machine B

Standing charges

Factory rent (₹ 96,000 ÷ 80,000 sq. ft.) x 5000 sq. ft	=	₹6,000
Heat and gas (₹ 45,000÷ 15)	=	3,000
Supervision (₹ 1,20,000÷15)	=	8,000
Depreciation {(₹ 45,000-5,000)/10}	=	4,000
Annual expenses on special equipment	=	3,000
		24,000

Fixed cost per hour ₹24,000 ÷ 4,000 = ₹6

	Set- up rate per hour	**Operating rate per hour**
Fixed cost	₹6	₹6
Power	-	2
Wages*	6	3
Comprehensive machine hour rate per hour	12	11

*He attends to one machine when it is under set- up and two machines while they are under operation.

Statement showing machine B costs to be absorbed on the two work orders

	Work order 31			Work order 32		
	Hours	Rate	Amount	Hours	Rate	Amount
Set- up time cost	10	₹12	₹120	20	₹12	₹240
Operating time cost	90	11	990	180	11	1,980
			1,110			2,220

(c) The particulars relating to 1,200 kgs. of a certain raw material purchased by a company during June, were as follows:-
Lot prices quoted by supplier and accepted by the Company for placing the purchase order:
Lot up to 1,000 kgs. @ ₹ 22 per kg.
Between 1,000- 1,500 kgs, @ ₹ 20 per kg.
Between 1,500-2,000 kgs. @ ₹ 18 per kg.
Trade discount – 20%.
Additional charge for containers @ ₹ 10 per drum of 25 kgs.
Credit allowed on return of containers, @ ₹ 8 per drum.
Sales tax at 10% on raw material and 5% on drums.
Total freight paid by the purchaser ₹ 340/-
Insurance at 2.5% (on net invoice value) paid by the purchaser.
Stores overhead applied at 5% on total purchase cost of material.
The entire quantity was received and issued to production.
The containers are returned in due course. Draw up a suitable statement to show:-
(a) Total cost of material purchased and
(b) Unit cost of material issued to production. [3+3]

Answer:
Statement showing computation of total cost of material purchased and unit cost of material issued for production.

Particulars	Unit Cost	Total Cost (₹) (1,200 kgs)
Basic price of material	20.00	24,000.00
(-) Trade discount	4.00	4,800.00
	16.00	19,200.00
(+) Drum charges (1,200/25 ×10)	0.40	480.00
(+) Sales tax on raw materials = 19,200 × 10% =1,920 On drums = 480 ×5% = 24 =1,944	1.62	1,944.00
Net invoice Value	18.02	21,624.00
(+) Insurance (21,624 ×2.5%)	0.4505	540.60
(+) Freight paid	0.2833	340.00
	18.7538	22,504.60
(-) Credit for drums returned (1,200/25 × 8)	0.3200	384.00
Total cost of material purchased	18.4338	22,120.60
(+) Stores overhead (22,120.60 × 5%)	0.9216	1,106.03
Cost of material issued to production	19.3551	23,226.63

Section B–Financial Management

(Answer Question no.6which is compulsory and any two from the rest in this section.)

Question.6.
Choose the most appropriate one from the stated options.

(a) A Company has paid ₹3 as current dividend, the growth rate of the dividend paid by the company is 8%. If the cost of equity is 12%, what will be the price of the company's share in nearest ₹ in three year? [2]

(A) ₹100
(B) ₹118
(C) ₹110
(D) ₹102

Answer:
(D)-102
The Price of the company's share=D_4/K_e-g
$=D_0(1+g)^4/k_e-g$
$=3(1+0.08)^4/0.12-0.08$
=₹102.04

(b) The following information is provided for XYZ Ltd.:

	Old Level	New Level
Net Profit (₹)	**1,70,000**	**2,20,000**
Number of Shares	**80,000**	**80,000**
Sales (Units)	**2,00,000**	**2,50,000**

What will be the percentage of changes in EPS of XYZ Ltd. for the two levels? [2]

(A) 29.4% increase
(B) 29.4% decrease
(C) 0.77% increase
(D) 27.7% increase

Answer:

(A)-29.4% increase

EPS=Net Profit/No. of shares
At old level - ₹1,70,000/80,000 = ₹ 2.125
At new level - ₹2,20,000/80,00 = ₹ 2.75
% increase in EPS = 2.75/2.125 x100
=129.4 or 29.4% increase

(c) 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.? [2]

(A) 23%
(B) 17%
(C) 16%
(D) Insufficient data

Answer:

(B)-17%

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 x 0.10
=0.17 i.e 17%

(d) The earning power of SYNTEX LTD. is 0.30. If the average of total assets and interest expenses are ₹2,00,000 and ₹15,000 respectively, what will be the interest coverage ratio? [2]

(A) 1.5
(B) 3.00
(C) 4.00
(D) None of (A), (B), (C)

Answer:

(C) - 4

EBIT = Total assets x Earning power
= 2,00,000 x 0.30
= ₹ 60,000

∴ Interest coverage ratio=60,000/15,000 =4

Question.7

(a) MINTEX LTD. gives you the following information for the year ended 31s' March, 2013:

(i) Sales for the year totalled ₹96,00,000. The company sells goods for cash only.

(ii) Cost of goods sold was 60% of sales. Closing inventory was higher than opening

inventory by ₹ 20,000.

(iii) Tax paid amounted to ₹ 7,00,000. Other expenses totaled ₹21,45,000. Outstanding expenses on 31st March, 2012 and 31s1 March, 2013 totalled ₹ 82,000 and ₹ 91,000 respectively.

(iv) New machinery and furniture costing ₹10,50,000 in all were purchased. One equipment was sold for ₹ 20,000.

(v) A right issue was made of 50,000 shares of ₹10 each at a premium of ₹3 per share. The entire money was received with application.

(vi) Dividends totalling ₹ 4,00,000 were distributed among the share holders.

(vii) Cash in hand and at Bank as at 31sl March, 2012 and 31st March, 2013 totalled ₹ 2,10,000 and ₹ 4,14,000 respectively.

You are required to prepare cash flow statement for the year ended 31sl March, 2013 using the direct method. [10]

Answer:

MINTEX LTD.

CASH FLOW STATEMENT FOR THE YEAR ENDED 31ST MARCH, 2013

(Under Direct Method) **(₹ In lakh)**

Cash Flow from Operating Activities:		
Cash receipts from customers	96.00	
Cash paid to suppliers and employees	(79.16)	
Cash inflow from operation	16.84	
Tax Paid	(7.00)	
Net Cash from Operating Activities		9.84
Cash Flow from Investing Activities:		
Purchase of Fixed Assets	(10.50)	
Proceeds from sale of Equipment	0.20	
Net cash from Investing Activities		(10.30)
Cash Flow from Financing Activities:		
Proceeds from issue of share capital	6.50	
Dividend paid	(4.00)	
Net Cash from Financing Activities		2.50
Net Increase in Cash and Cash equivalents		
Cash and Cash equivalents as at 31st March, 2012		2.04
Cash and Cash equivalents as at 31st March, 2013 (Closing Balance)		2.10
		4.14

Working Notes:

(i) Calculation of cash paid to suppliers and employees:

(₹ in Lakh)

Cost of sales, 60% of ₹96.00 lakh	57.60
Add: Expenses incurred	21.45
Outstanding expenses on 31.03.12	0.82
Excess of closing inventory over opening inventory	0.20
	80.07
Less: Outstanding Expenses on 31.03.2013	0.91
	79.16

(ii) Proceeds from issue of share Capital:

Issue price of one share = ₹10 + ₹3 = ₹13

Proceeds from issue of 50,000 x 13 = ₹6.50 lakh

(b) What are the determinants of Dividend policy? [6]

Answer:

Determinants of Dividend Policy:

Many factors determine the dividend policy of a company. The factors determining the dividend policy are as follows

(i) Dividend Payout Ratio:

A certain share of earnings to be distributed as dividend has to be worked out. This involves the decision to payout or to retain. The payment of dividends results in the reduction of cash and therefore depletion of assets. In order to maintain the desired level of assets as well as to enhance the investment opportunities, the company has to decide upon the payout ratio.

(ii) Stability of Dividend:

Generally investors favour a stable dividend policy. The policy should be consistent and there Should be a certain minimum dividend that should be paid regularly.

(iii) Legal, Contractual and Internal Constraints and restriction:

Legal and contractual requirements have to be followed. All requirements of the companies act, SEBI Guidelines, Capital impairment Guidelines, net profit and insolvency etc have to be kept in mind while declaring dividends. In addition, there may be certain internal constraints which are unique to the firm concerned. There may be growth prospects, financial requirements, availability of funds, earning stability and control etc.

(iv) Capital Market Conditions and inflation:

Capital market conditions and rate of inflation also play a dominant role in determining the Dividend payout. Good companies will try to compensate for rate of inflation by paying higher dividend. Replacement decisions of the companies also affect the dividend policy.

(v) Owner's Consideration:

This includes the tax status of shareholders, their opportunities for investments, dilution of ownership etc.

Question.8

(a) What are the criticisms of Capital Assets Pricing Model (CAPM)? [4]

Answer:

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.

(b) 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:

i. Debt/ equity mix 30%/70%
ii. Cost of debt upto ₹ 1,80,000 - 10% (before tax) beyond ₹ 1,80,000 - 16% (before tax)
iii. Earning per share ₹ 4
iv. Dividend payout 50% of earnings
v. Expected growth rate in dividend 10%
vi. Current market price per share ₹ 40
vii. 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]

Answer:

(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%

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

Answer:

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.

Question.9

(a) The financial highlights of Amtek Ltd. for the year 2012 – 2013 are as given under:

EBIT	**₹830 crore**
Depreciation	**₹6 core**
Effective Tax rate	**30%**
EPS	**₹4.00**
Book value	**₹30 per share**
Number of Outstanding shares	**33 crore**
D/E ratio	**1.5:1**

Required:

(i) Calculate degree of financial leverage.

(ii) What is the Financial Break- even Point of Amtek Ltd.

(iii) What should be the impact of EPS if the EBIT is increased by 5%. [3+2+1]

Answer:

(i)

AMTEK LTD.

	(Amount in ₹ Crore)
EBDIT	830.00
Less: Depreciation	6.00
EBIT	824.00
Less: Interest Charges (EBIT – EBT) : (824 – 188.57)	635.43
EBT	188.57
Less: Tax (30%)	56.57
EAT	132.00

Degree of Financial Leverage (DFL)= EBIT/EBT = (824/188.57) = 4.37

Working Notes:
EAT: EPS x No of Shares = 4 x 33 = ₹132 Crore,
EBT: EAT / (1 – t) = 132/(1 – 0.30) = ₹188.57 Crore.

(ii) Financial Break – even point is at that level of EBIT at which EPS = 0
∴EBIT – I = 0
Or, EBIT – 635.43 = 0
∴EBIT = ₹635.43 Crore.

(iii) DFL = Percentage change in EPS/ Percentage change in EBIT
4.37 = Percentage change in EPS/5%
∴ Percentage change in EPS = 21.85%
Hence, EPS will be increased by 21.85% if the EBIT is increased by 5%

(b) VEDIKA LTD. with a limited investment funds of ₹ 6,00,000 is evaluating the desirability of five investment proposals. Their profiles are summarized below:

Project	Investment (₹)	Annual cash flow (after tax) (₹)	Life (in Years)
M	**1,00,000**	**36,000**	**10**
N	**2,00,000**	**1,00,000**	**4**
O	**2,40,000**	**60,000**	**8**
P	**3,00,000**	**80,000**	**16**
Q	**4,00,000**	**60,000**	**25**

Project N and Q are mutually exclusive. The cost of funds is 10 per cent.
Required:
Find out the feasible combination of projects and rank them on the basis of Net Present value (NPV).
Note: Extracted from the table:

Year	10	4	8	16	25
PVIFA at 10%.	**6.145**	**3.170**	**5.335**	**7.824**	**9.077**

[8+2]

Answer:

VEDIKA LTD
COMPUTATION OF NET PRESENT VALUE (NPV) FOR 5 PROJECTS

Project (1)	Investment (₹) (2)	Cash Flow p.a.(after tax) (₹) (3)	Life (Yrs) (4)	PVIFA at 10% (5)	Present Value (PV) (₹) 6 = 3 x 5	Net Present Value (NPV) (₹) 7 = 6 - 2
M	1,00,000	36,000	10	6.145	2,21,220	1,21,220
N	2,00,000	1,00,000	4	3.170	3,17,000	1,17,000
0	2,40,000	60,000	8	5.335	3,20,100	80,100
P	3,00,000	80,000	16	7.824	6,25,920	3,25,920
Q	4,00,000	60,000	25	9.077	5,44,620	1,44,620

STATEMENT SHOWING FEASIBLE COMBINATION OF PROJECTS AND THEIR NPV.

Feasible Combination of projects	Investment (₹)	NPV(₹)	Rank
(i) M, N & P	6,00,000	5,64,140	1
(ii) M, N & O	5,40,000	3,18,320	4
(iii) O & P	5,40,000	4,06,020	3
(iv) M & Q	5,00,000	2,65,840	5
(v) N & P	5,00,000	4,42,920	2
(vi) N & Q	6,00,000	2,61,620	6

Comments:
The Feasible Combination of Projects, is projects M, N & P with total investments of ₹6,00,000 science it has highest NPV of ₹5,64,140.