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) Define Cost Apportionment.

Answer:

When items of cost cannot directly charge to or accurately identifiable with any cost centres, they are prorated or distributed amongst the cost centres on some predetermined basis. This method is known as cost apportionment. Thus we see that items of indirect costs residual to the process of cost allocation are covered by cost apportionment.

(b) List the two objective of CAS-4.

Answer:

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

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

(c) In a workshop the normal working hours is 8 hours for which ₹450 is paid as wages. However, calculation of wages payable is made on piece rate basis that 30 pieces will be produced per hour. When a worker produces below standard, 90% of the piece rate is paid but when he produces above standard, 110% of piece rate is paid. On a particular day, a worker produces 260 pieces in the allotted time of 8 hours. What will be his earning?

Answer:

Normal price rate = 450/240 = 1.875.
Standard Production= 8hrs x 30 pieces = 240 pieces
260 pieces in 8 hours is above standard of 240 pieces.
Hence, wages = 110 % x 1.875 x 260 = 536.25 or 536.

(d) State the treatment of Bad Debts in Cost record.

Answer:

We know bad debt refer to customers who do not pay money after having purchased the product. This situation arises after the sale is done. Many experts say that bad debt is not an item of expense but it's a financial loss and thus should be excluded for the purpose of costing. However normal bad debts may be considered as selling expense and included in the cost. An exceptional case like bankruptcy of a big institution may be excluded from the cost.

(e) A concern producing a single product estimates the following expenses for a production period.

Particulars	**₹**
Direct Material	**25,000**
Direct Labour	**25,000**
Direct Expenses	**2,500**
Overhead Expenses	**1,05,000**

What will be the overhead recovery rate based on prime cost?

Answer:

Prime cost = Direct Material + Direct Labour + Direct Expenses = ₹52,500
Overhead Expenses =₹ 2,10,000

Overhead recovery rate based on prime cost = ₹1,05,000/₹52,500 = 2 times or 200 % of prime cost.

(f) State the cost units applicable to the following industries:
Cement, Goods Transport, Education, BPO

Answer:

Cost units for the following industries

Industry	**Cost unit**	
Cement	Tonnes	Any unit of weight is acceptable (like quintals, kg, etc)
Goods Transport	Tonnes-Kilometer	Any unit that is a product of weight and length(distance) (like ton-miles, quintal-miles, etc)
Education	Student year	Any unit that is a product of no. of students and the duration -days/months or years
BPO	Accounts handled	Any unit in terms of number of transactions, or a product of number and value of transactions

(g) Calculate the future value of ₹1,000 invested in State Bank Cash Certificate scheme for 2 years @5.5% p.a., compounded semi-annually.

Answer:

$$= FV_n = PV\left(1+\frac{c}{m}\right)^{m\times n}$$

$$=1{,}000\left(1+\frac{0.055}{2}\right)^{2\times 2}$$

$=1{,}000(1.0275)^4$
$= 1{,}114.62$

(h) The capital of PQR Limited is as follows :
9% preference shares of ₹10 each ₹3,00,000
Equity shares of ₹10 each ₹8,00,000
Following further information is available:
Profit after Tax ₹2,70,000
Equity Dividend paid 20%

The market price of equity shares ₹40 each
Then the EPS and PE ratio are:

Answer:

$$EPS = \frac{\text{PAT - Preference dividend}}{\text{No. of Equity share}}$$

$$= \frac{2,70,000 - 27,000}{80,000} = 3.04$$

$$\text{PE ratio} = \frac{\text{Market price}}{\text{EPS}}$$

$$= \frac{₹40}{3.04}$$

=13.16

(i) Cactus Limited paid a dividend of ₹5 per share for 2013-14. The company follows a fixed dividend payout ratio of 60%. The company earns a return of 20% on its investment. The cost of capital to the company is 14%. What would be the expected market price of its share, using the Walter Model?

Answer:

$$EPS = \frac{\text{Dividend}}{\text{payout ratio}} = \frac{₹5}{0.6} = 8.33$$

According to Walter Model = $P = \dfrac{D + (E - D) \times \frac{r}{k}}{k}$

$$= \frac{5 - (8.33 - 5) \times \frac{0.20}{0.14}}{0.14}$$

= 69.69

(j) X owns a stock portfolio equally invested in a risk free asset and two stocks. If one of the stocks has a beta of 0.8 and the portfolio is as risky as the market what must be the beta of the other stocks in the portfolio?

Answer:

Beta of market =βm = βp=1
Bp = 1/3(0.8) +1/3(x) + 1/3(0) =1
Solving, we get beta of other stock = 2.2

2. Answer any three questions from a, b, c and d. [3×16=48]

(a)

(i) The following details are available in respect of a Consignment of 1,250 kgs. of materials 'X':

- **Invoice price-₹20 per kg.**
- **Excise duty-25% of invoice price.**
- **Sales Tax-8% on Invoice price including Excise Duty**

- **Trade discount-10% on Invoice price**
- **Insurance-1% of aggregate net price**
- **Delivery charges-₹250**
- **Cost of containers @₹60 per container for 50 kg. of material. Rebate is allowed @ ₹40 per container if returned within six weeks, which is a normal feature.**
- **One container load of material was rejected on inspection and not accepted.**
- **Cost of unloading and handling @ 0.25% of the cost of materials ultimately accepted.**

On the basis of above you are required to find out the landed cost per kg. of material 'X'.

[8]

Answer:

Computation of landed cost of Material 'X'

		Total cost for 1,250 kg in ₹	Cost per kg. in ₹
	Invoice price	25,000.00	20.00
Add:	Excise Duty (25,000×25%)	6,250.00	5.00
		31,250.00	25.00
Add:	Sales Tax (31,250×8%)	2,500.00	2.00
		33,750.00	27.00
Less:	Trade Discount @ 10% on invoice price	2,500.00	2.00
		31,250.00	25.00
Add:	Insurance @ 1% on above	312.50	0.25
		31,562.50	25.25
Add:	Delivery Charges	250.00	0.20
	Cost of container @ ₹60 for 50Kg.	1,500.00	1.20
		33,312.50	26.65
Less:	Cost of material returned*	1,332.50	--------
		31,980.00	26.65#
Add:	Cost of handling @0.25%	79.95	0.07#
		32,059.95	26.72#
Less:	Credit for container returnable @	960.00	0.80#
	Total landed cost	31,099.95	25.92#

*1Container of 50kg. rejected. (33,312÷1,250)×50	=₹1,332.50
@Total consignment 1,250 kg. less 50 kg. (1 container returned)	=1,200 kg.
Credit (₹40÷50)×1,200kg	=₹960
#Per unit cost is determined by dividing 1,200kg. and not by 1,250 kg. as 1 container of 50kg. was returned.	

(ii) The following details have been obtained from the cost records of Comet Paints Limited:

	(₹)
Stock of raw materials on 1st Sept. 2014	**75,500**
Stock of raw materials on 30th Sept. 2014	**91,500**
Direct Wages	**52,500**
Indirect wages	**2,750**
Sales	**2,11,000**
Work-in-progress on 1st Sept. 2014	**28,000**
Work-in-progress on 30th Sept. 2014	**35,000**
Purchase of raw materials	**66,000**
Factory rent rates and power	**15,000**
Depreciation of plant and machinery	**3,500**
Expenses on purchases	**1,500**

Carriage outwards	**2,500**
Advertising	**3,500**
Office rent and taxes	**2,500**
Travelers wages and commission	**6,500**
Stock of finished goods on 1st Sept. 2014	**54,000**
Stock of finished goods on 30th Sept. 2014	**31,000**

Prepare a Cost Sheet giving the maximum possible break up of costs and profits. [8]

Answer:

Cost Sheet

Particulars	**Amount (₹)**
Opening stock of Raw Material	75,500
Add: Purchase of Raw Materials	66,000
Add: Expenses on purchases	1,500
Less: Closing Stock of raw Material	(91,500)
Raw Material Consumed	51,500
Add: Direct Wages	52,500
Prime Cost	1,04,000
Add: Factory Overheads	
Indirect Wages	2,750
Factory rent, rates & power	15,000
Depreciation on Plant & Machinery	3,500
Gross Factory Cost	1,25,250
Add: Opening stock of work-in-progress	28,000
Less: Closing Stock of work-in-progress	(35,000)
Net factory cost	1,18,250
Add: Office & Administration overheads	
Office rent & taxes	2,500
Cost of Production	1,20,750
Add: Opening Stock of finished goods	54,000
Less: Closing stock of finished goods	(31,000)
Cost of goods sold	1,43,750
Add: Selling & Distribution Overheads:	
Carriage outwards	2,500
Advertising	3,500
Traveler's wages & Commission	6,500
Cost of sales	1,56,250
Profit	54,750
Sales	2,11,000

(b)

(i) Distinguish between "Incentives to indirect workers" and "Indirect incentives to direct workers". [6]

Answer:

Incentive schemes for workers are made to motivate workers for increasing output and quality production, saving time, reducing labour turnover and building sense of belonging. Obviously, these schemes focus on performance of workers. While performance of direct workers is easy to measure, that of auxiliary or indirect staff is not. Accordingly, incentive schemes differ between direct workers and indirect workers.

Incentive schemes for indirect workers include:

- Bonus to foremen and supervisors based on output, saving in time, quality improvement, reduction in scrap, etc.
- Bonus to repairs and maintenance staff for routine and repetitive jobs, based on reduction in number of complaints or breakdown.
- Bonus to stores staff, based on the value of materials handled or the number of requisitions per period.

Indirect Incentives to direct workers include:

- Monetary schemes like profit sharing, co-partnership, co-ownership;
- Non-monetary schemes like education and training facilities, health and safety devices, facilities for sports and housing, subsidized canteen and purchase coupon, pension, creation of sick and benevolent funds, arrangement of tour programs etc.

(ii) The following is an extract of stores ledger of a particular item of stock with incomplete information for September 2014. You are required to fill in the rate column of issues correct to two decimal places. Also fill in the values under the 'Balance column' wherever indicated with a "?". Identify the method of stock issue followed by the company. How would you treat the value of the shortages on 30th September in Cost Accounts?

Date	Receipts		Issues		Balance	
September 2014	Quantity (Kg)	Rate (₹/Kg)	Quantity (Kg)	Rate (₹/Kg)	Quantity (Kg)	Value (₹)
1					50,000	1,25,000
7	5,000	2.4				
10			30,000			62,000
15			20,000			
20	15,000	2.6				
25	10,000	2.5				
29			20,000			
30 shortage-abnormal loss			200			?
30 shortage-abnormal loss			400			?
31					9,400	?

[10]

Answer:

Statement showing the value of closing stock

Date	Receipts		Issues		Balance	
September 14	Quantity (kg)	Rate (₹/kg)	Quantity (kg)	Rate (₹/kg)	Quantity (kg)	Value ₹
1					50,000	1,25,000
7	5,000	2.4			55,000	1,37,000
10			30,000	2.50	25,000	62,000
15			20,000	2.50	5,000	12,000
20	15,000	2.6			20,000	51,000
25	10,000	2.5			30,000	76,000
29			20,000	2.55	10,000	25,000

30 (Shortage-Normal loss)			200	2.50	9,800	24,500
30 (shortage -abnormal loss)			400	2.50	9,400	23,500
31					9,400	23,500

Working Note:

- The store ledger shows the value of the stock on 10.09.14 is ₹62,000 which show that the store ledger is maintained in FIFO method.

- On 29.09.14 the issue price is :

Quantity	Rate	Value (₹)
5,000	2.40	12,000
15,000	2.60	39,000
20,000	-	51,000

Therefore, rate of the issue : 51,000/20,000 = 2.55 **[1 mark]**

Therefore, rate of the issue: 51,000 / 20,000 = 2.55

- Normal Shortage is charged to production as a % of direct material consumed.
  The value of normal loss to be included in material cost = 200 x 2.5 = ₹500

- Abnormal Loss is to be written off to costing P& L A/c
  Value of Abnormal Loss = 400 x 2.5 = ₹1,000

(c)

(i) Distinguish between Financial Accounting and Cost Accounting. [8]

Answer:

The main differences between Financial and Cost Accounting are as follows:

	Financial Accounting	Cost Accounting
a.	It provides the information about the business in a general way. i.e Profit and Loss Account , Balance Sheet of the business to owners and other outside partners.	It provides information to the management for proper planning, operation, control and decision making.
b.	It classifies records and analyses the transactions in a subjective manner, i.e according to the nature of expense.	It records the expenditure in an objective manner, i.e according to the purpose for which the costs are incurred.
c.	It lays emphasis on recording aspect without attaching any importance to control.	It provides a detailed system of control for materials, labour and overhead costs with the help of standard costing and budgetary control.
d.	It reports operating results and financial position usually at the end of the year.	It gives information through cost reports to management as and when desired.
e.	Financial Accounts are accounts of the whole business. They are independent in nature.	Cost Accounting is only a part of the financial accounts and discloses profit or loss of each product, job or service.
f.	Financial Accounts records all the commercial transactions of the	Cost Accounting relates to transactions connected with Manufacturing of

	business and include all expenses i.e Manufacturing, Office, Selling etc.	goods and services, means expenses which enter into production.
g.	Financial Accounts are concerned with external transactions i.e transactions between business concern and third party.	Cost Accounts are concerned with internal transactions, which do not involve any cash payment or receipt.
h.	Only transactions which can be measured in monetary terms are recorded.	Non-Monetary information like No of of units/ hours etc are used.

(ii) ABC Ltd. company having 25 different types of automatic machine, furnishes you the following data for 2013-2014 in respect of machine B:

I.	**Cost of machine**	**₹50,000**
	Life-10 years	**Scrap value is nil**
II.	**Overhead expenses are:**	
	Factory rent	**₹50,00 p.a**
	Heating & lighting	**₹40,000**
	Supervision	**₹1,50,000 p.a**
	Reserve equipment of machine B	**₹6,000 p.a**
	Area of the factory	**80,000 sq.ft.**
	Area occupied by machine B	**3,000 sq.ft.**
III.	**Wages of operator is ₹24 per day of 8 hours including all fringe benefits. He attends to one machine when it is under set up and two machines while under operation.**	
IV.	**Estimated production hours**	**3,600 p.a.**
	Estimated set up time	**400 hrs. p.a.**
	Power 0.5 per hour	

Prepare a schedule of comprehensive machine hour rate and find the cost of the following jobs:

	Job 1002	**Job 1008**
Set up time (hrs.)	**80**	**40**
Operation time (hrs.)	**130**	**160**

[6+2]

Answer:

Computation of machine hour rate when machine is in operation

Particulars		**Amount (₹)**
Standing charges:		
Rent	50,000×3/80	=1,875
Heating & Lighting	40,000×3/80	=1,500
Supervision	1,50,000×1/25	=6,000
Reserve equipment		=6,000
		15,375
Cost per hour	15,375/4,000	3.84
Machine Expenses:		
Depreciation	[50,000÷(10×3,600)]=1.39	
Wages	[24/8×1/2]=1.50	
Power	=0.50	3.39
Machine hour rate		7.23

Computation of machine hour rate when machine is under set up

Particulars		**Amount (₹)**
Standing charges:		
Rent	50,000×3/80	=1,875
Heating & lighting	40,000×3/80	=1,500
Supervision	1,50,000×1/25	=6,000
Reserve equipment		=6,000
		15,375
Cost per hour	15,375/4,000	3.84
Machine expenses:		
Depreciation	[50,000 ÷ (10×3,600)]	=1.39
Wages	[24/8]	=3.00
Power		-------
Machine Hour Rate		=8.23

Computation of cost of the jobs

Particulars	**Job 1002**	**Job 1008**
Set up cost		
Job 1002: 80×8.23	658.40	
Job 1008: 40×8.23		329.2
Operation Cost		
Job 1002: 130×7.23	939.9	
Job 1008: 160×7.23		1,156.8
Total Cost of the Job	**1,598.30**	**1,486.00**

(d)

(i) The details of present output of a manufacturing department are given below:

Average output per week from 160 employees	**48,000 units**
Saleable value of output	**₹6,00,000**
Contribution made by output towards fixed expenses and profit	**₹2,40,000**

The Board of Directors plans to introduce more mechanization into the department at a capital cost of ₹1,60,000. The effect of this will be to reduce the number of employees to 120, and increasing the output per individual employees by 60%.

To provide the necessary incentive to achieve the increased output, the Board intends to offer a 1% increase on the piece work rate of ₹1 per unit for every 2% increase in average individual output achieved.

To sell the increased output, it will be necessary to decrease the selling price by 2%.

Calculate the extra weekly contribution resulting from the proposed change and evaluate for the Board's information, the desirability of introducing the change. [10]

Answer:

Average output per employee $= \dfrac{48{,}000\text{units}}{160\text{employees}} = 300\text{units}$

Planned output per employee = 300 units × 160% = 480 units

Total output per week as per plan = 480 units × 120 employee = 57,600 units

Existing piece work rate = ₹1 per unit

New piece work rate = $₹1 + \dfrac{60\%}{2} \times ₹1$ = ₹1.30

Existing selling piece per unit = $= \dfrac{₹6{,}00{,}000}{48{,}000\text{units}} = ₹12.50$

New selling price per unit = ₹12.50 × 98% = ₹12.25

Existing total variable cost = Sales –Contribution
= ₹6,00,000 - ₹2,40,000
= ₹3,60,000
Existing material cost = Total variable cost – Labour cost
= ₹3,60,000 – (₹1 per unit × 48,000 units)
= ₹3,12,000

Existing, material cost per unit = $= \frac{₹\ 3,12,000}{48,000\text{units}} = ₹6.50$

New variable cost per unit = Material cost per unit + New labour cost per unit
= ₹6.50 + ₹1.30 = ₹7.80
New total variable cost = ₹7.80 per unit × 57,600 units
= ₹4,49,280
New saleable value of the output = ₹12.25 per unit × 57,600 units
= ₹7,05,600
New contribution of the output = ₹7,05,600 - ₹4,49,280
= ₹2,56,320
Increase in contribution = ₹2,56,320 - ₹2,40,000
= ₹16,320

Comments: The proposal should be accepted since the contribution per week has increased.
Note: Capital cost of mechanization has been ignored because the useful life and salvage value of the machine have not been given.

(ii) How do you treat Idle Time in Cost Accounting? [6]

Answer:

Treatment of Idle Time

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

- 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.
- 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.
- 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.
- 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 necessary for finding out long-term idleness among the workers.

3. Answer any two questions from a, b and c [2×16=32]

(a)

(i) Indicate the important accounting ratios that would be used by each of the following:

I. A long–term creditor interested in determining whether his claim is adequately secured.
II. A bank that has been approached by a company for short-term loan / overdraft.
III. A Shareholder who is examining his portfolio and who is to decide whether he should hold or sell his shares in a company. [3]

Answer:

I. Debt-Service Coverage Ratio and Interest Coverage Ratio.
II. Current Ratio and Quick Ratio.
III. Return on Equity, Earning per share, Dividend per share.

(ii) What do you understand by 'Trading on Equity'? State the limitations of Trading on Equity? [1+4]

Answer:

The use of long-term fixed interest bearing debt and preference share capital along with equity share capital is called Trading on Equity 'or Financial Leverage.

Trading on Equity suffers from the following limitations:

- It is a double-edged weapon.
- It is beneficial only to companies having stability in earnings, such as an electricity company;
- It increases risk and rate of interest;
- It is liable to restrictions from financial institutions.

(iii) A firm's sales, variable costs and fixed cost amount to ₹75,00,000, ₹42,00,000 and ₹6,00,000 respectively. It has borrowed ₹45,00,000 at 9 per cent and its equity capital totals ₹55,00,000.

I. What is the firm's ROI?
II. Does it have favourable financial leverage?
III. If the firm belongs to an industry whose asset turnover is 3, does it have high or low asset leverage?
IV. What are the operating, financial and combined leverages of the firm?
V. If the sales drop to ₹50,00,000, and variable cost is ₹28,000, what will the new EBIT be?
VI. At what level will the EBT of the firm equal to zero? [1+1+1+3+1+1]

Answer:

I. ROI = EBIT / Investment
EBIT = Sales – VC – FC = ₹75 lakh - ₹42 lakh - ₹6 lakh = ₹27 lakh
ROI = ₹27 lakh / ₹100 lakh = 27%

II. Yes, the firm has favourable financial leverage as its ROI is higher than the interest on debt.

III. Asset turnover = Sales / Total assets or Total investments
= ₹75 / ₹100 lakh = 0.75. It is lower than the industry average.

IV. Operating Leverage = (Sales – Variable Cost) / EBIT
= (₹75 - ₹42) lakh / ₹27 lakh
= 1.22

Financial Leverage = EBIT / (EBIT – Interset)
= ₹ 27 lakh / (₹27 lakh - ₹4.05 lakh)
= 1.18

Combined Leverage = (Sales – Variable Cost) / (EBIT – Interest)

= ₹33 lakh / ₹22,95,000 = 1.44

Alternatively = OL × FL = 1.22 × 1.18
=1.44

V. EBIT at sales level of ₹50 lakh:

Sales revenue	₹50,00,000
Less: Variable Cost	₹28,00,000
Less: Fixed Costs	₹6,00,000
EBIT ₹	16,00,000

VI. Zero EBIT implies break-even sales ratio (BESR)
Break-even sales ratio = C / PV ratio,
PV ratio= ₹33 lakh /₹75 lakh = 44%
BESR = (₹6 lakh + ₹4.05 lakh) / 0.44 =₹22,84,091.

(b)
(i) AMRITAM Ltd. has a total saleof ₹3.2 crores and its average collection period is 90 days. The past experience indicates that bad debts losses are 1.5% on sales. The expenditure incurred by the firm in administering its receivable collection efforts is ₹5,00,000. A factor is prepared to buy the firm's receivables by charging 2% commission. The factor will pay advance on receivables to the firm at an Interest rate of 18% per annum after withholding 10% as reserve. Assume 360 days in a year. Calculate the effective cost of factoring to the firm. [8]

Answer:

Average level of receivables = ₹3.2 crores × 90 /360	₹80,00,000
Factoring Commission = ₹80 lakhs × 2 /100	₹1,60,000
Factoring reserve = ₹80 lakhs × 10%	₹8,00,000
Amount available for the advance = ₹[80 – (1.6 + 8)] lakhs	₹70,40,000
Factor will deduct his interest @18% (70.4 lakhs × 18 × 90) / 100 × 360 = 3,16,800 Therefore, Advance to be paid = ₹(70,40,000 – 3,16,800)	₹67,23,200
Annual cost of factoring to the firm: Factoring commission = [1,60,000 × (360 / 90)] Interest charges = [₹3,16,800 × (360 /90)]	₹6,40,000 ₹12,67,200
Total	₹19,07,200
Firm's saving on taking factoring service: Cost of credit administration saved Cost of Bad debts =[₹3.20 Cr. × (1.5 /100)]	₹5,00,000 4,80,000
Total	₹9,80,000

Net cost to the firm = ₹(19,07,200 – 9,80,000) = ₹9,27,200
Effective rate of interest to the firm = Net Cost / Advance to pay = 9,27,200 / 67,23,200 ×100 = 13.79%

(ii) A company is considering, purchase of a new machinery which costs ₹8,00,000 and which has an estimated life of 10 years. This machine will generate additional sales of ₹4,00,000 per year, while increased cost of maintenance will be ₹1,00,000 per year. The cost of the machine is depreciated on a straight line and has no salvage value at the end of its 10 year life. The company has a cost of capital of 12 per cent and a corporate tax rate of 40 per cent.

You are required to calculate:

I. **Annual Cash Flow**
II. **Net Present Value (NPV)**
III. **Payback period**
IV. **Internal Rate of Return. Should the Company purchase the new machine?**

Note: The present value Factors are as follows:

	At the end of 10 years
Present value of annuity of Re.1@ 12%	**5.651**
Present value of annuity of Re. 1 @ 23%	**3.799**
Present value of annuity of Re. 1 @ 24%	**3.682**

[8]

Answer:

Particulars	₹
I. Annual Cash Flow Sales (-) Cost of maintenance	 4,00,000 1,00,000
EBDT	3,00,000
(-) Depreciation (800000 ÷ 10)	80,000
EBT	2,20,000
(-) Taxes	88,000
EAT	1,32,000
(+) Depreciation	80,000
Annual cash flow	2,12,000
II. NPV: PV of cash inflow (2,12,000 × 5.651) = PV of cash outflow = NPV =	 11,98,012 8,00,000 3,98,012
III. Pay-back period PBP = Original investment / annual cash flow = 8,00,000 / 2,12,000= 3..77 years	

IV. Internal rate of return (IRR)

Fake payable period = 3.77 (lies between 23% and 24%)

PV of cash inflow @23% = 2,12,000 × 3.799 = 8,05,388

PV of cash inflow @24% = 2,12,000 × 3.682 = 7,80,584

Therefore, IRR = $23 + \frac{8{,}05{,}388 - 8{,}00{,}000}{8{,}05{,}388 - 7{,}80{,}584}(24 - 23)$

$= 23 + \left[\frac{5{,}388}{24{,}804} \times 1\right] = 23 + 0.22 = 23.22\%$

Since NPV is +ve, the co. should purchase the machine.

(c)

(i) Describe the features of Venture Capital. **[6]**

Answer:

The main features of venture can be summarized as follows:

- High Degree of risk: Venture capital financing is, invariably, an investment in a highly risky project with the objective of earning a high rate of return.

- Equity Participation: Venture capital financing is, invariably, an actual or potential equity participation wherein the object of venture capital is to make capital gain by selling the share once the project become profitable.
- Long term Investment: Venture capital financing is a long term investment. It generally takes a long period to encash the investment in securities made by the venture capitalists.
- Participation in Management: In addition to provide capital, venture capital funds take an active interest in the management of the form that of a traditional lender or banker.
- Achieve Social Objectives: It is different from the development capital provided by several central and state level government bodies in that the profit objective is the motive behind the financing. But venture capital profits generate employment, and balanced regional growth indirectly due to setting up successful new business.
- Investment is Illiquid: A venture capital is not subject to repayment on demand as with an overdraft or following a loan repayment schedule.

(ii) The Balance – Sheet of XYZ Ltd. for the year ended 31.03.2014 is given below:

Balance Sheet as at 31.03.2014

Liabilities	₹	Assets	₹
Equity Share Capital	5,00,000	Land & Building	1,00,000
Preference Share Capital	2,00,000	Machinery	4,00,000
General Reserve	1,00,000	Furniture	50,000
Secured Loans	3,00,000	Inventory	3,00,000
Sundry Creditors	1,00,000	Sundry Debtors	3,00,000
		Cash/Bank Balances	50,000
Total	12,00,000		12,00,000

Calculate the following ratios from the given Balance Sheet

I. Current Ratio
II. Proprietory Ratio
III. Debt-Equity Ratio
IV. Capital Gearing Ratio **[10]**

Answer:

I. Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{6,50,000}{1,00,000}$

$= 6.5 : 1$ or simply 6.5

II. Propriety ratio = $\frac{\text{Shareholders' funds}}{\text{TotalTangible Assets}} = \frac{8,00,000}{12,00,000}$

$= 2 : 3$

III. Debt Equity ratio = $\frac{\text{TotalLong TermDebt}}{\text{Shareholders' funds}} = \frac{3,00,000}{8,00,000}$

$= 3 : 8$

Or,

Debt Equity ratio = $\frac{\text{Total Long Term Debt}}{\text{Debt + Equity}} = \frac{3,00,000}{11,00,000}$

$= 3 : 11$

IV. Capital gearing ratio = $\frac{\text{Long term Debt (incl. Pref. capital)}}{\text{Equity Shareholders' funds}} = \frac{5,00,000}{6,00,000}$

$= 5 : 6$