PAPER – 3 : COST ACCOUNTING AND FINANCIAL MANAGEMENT

*Question No. **1** is compulsory.*

*Attempt any **five** questions out of the remaining **six** questions.*

In case, any candidate answers extra question(s)/ sub-question(s) over and above the required number, then only the requisite number of questions first answered in the answer book shall be valued and subsequent extra question(s) answered shall be ignored.

Working notes should form part of the answer.

Question 1

Answer the following:

(a) The following information of a work is given:

Weekly working hours	*45*
Wage Rate per hour (₹)	*8.00*
Piece Rate per Unit (₹)	*4.00*
Normal time taken per piece	*20 Minutes*
Normal Output Per Week	*100 Pieces*
Actual Output for the week	*120 Pieces*
Differential Piece Rate	*80% of Piece Rate when actual output is below normal output that is 100 pieces and 120% of Piece Rate when actual output is above normal output.*

You are required to calculate the earnings of a worker for a week under following plans:

(i) Differential Piece Rate and

(ii) Halsey Premium Scheme (50% sharing)

(b) A manufacturing concern was operating at margin of safety of 40% in the year 2018 and was selling its product at ₹ 75 per unit. Variable cost ratio to sales was 80% and fixed costs amounted to ₹ 5,40,000.

In the year 2019, the concern anticipates an increase in the variable costs and fixed costs by 15% and 5% respectively.

You are required to:

Find out the selling price to be fixed in the year 2019 keeping in view that concern is willing to maintain the same P/V ratio as it was in the year 2018.

(c) A Limited Company's books reveal following information: Net Income

Net Income	*₹ 3,60,000*
Shareholders' Equity	*₹ 4,00,000*
Assets Turnover	*2.5 times*
Net profit margin	*12%*

You are required to calculate ROE (Return on Equity) of the company based on the 'DuPont Model'.

(d) A Company has Sales of ₹ 1,00,00,000; Variable Cost is 55% of Sales and fixed Cost is ₹ 6,00,000. The Capital Structure of the company is: Equity ₹ 1,20,00,000 and 8% Debt ₹ 80,00,000.

Required:

(i) Calculate Company's Operating, Financial and Combined Leverages.

(ii) If the Sales amount is increased by 12%, by what percentage EBIT will increase?

(4 x 5 = 20 Marks)

Answer

(a) Calculation of earnings

(i) Differential piece rate system

= Actual Output × Piece rate per unit × 120%

= 120 Pieces × ₹ 4.00 × ₹ 120%

= 120 × ₹ 4.80 = ₹ 576

*Efficiency = $\frac{120}{100} \times 100 = 120\%$ i.e. above normal output, so 120% of piece rate is applicable.

(ii) Halsey Premium Scheme

= Time taken × Rate + $\frac{1}{2}$ (Time Allowed - Time Taken) × Rate

= 45 hours X ₹ 8 + ½ {(45/100 X 120) - 45hours} X ₹ 8

= ₹ 360 + Rs. $\frac{1}{2}$ (54 - 45) × Rs. 8.00

= ₹ 360 + ₹ 36 = ₹ 396

(b) P/V Ratio = $\frac{(75 - 60)}{75} \times 100 = 20\%$

OR

= 1- Variable cost ratio

= 1- 80%

= **20%**

Margin of Safety - 40%

Calculation of Break Even Point (BEP)

$$\text{Break even sales} = \frac{\text{Fixed Cost}}{\text{P/V ratio}} = \frac{5,40,000}{20\%} = ₹\ 27,00,000$$

$$\text{Margin of Safety Ratio} = \frac{\text{Sales} - \text{BEP}}{\text{Sales}} \times 100$$

$$40 = \frac{\text{Sales} - \text{BEP}}{\text{Sales}} \times 100$$

40 % of Sales = Sales -₹ 27,00,000

$$\text{Sales} = \frac{Rs27,00,000}{60\%} = \textbf{₹ 45,00,000}$$

OR

Sales = Break-even sales/ Margin of safety

= 27,00,000/60%

= ₹ **45,00,000**

No of Units Sold is ₹ 45,00,000÷75=60000 units

So, Contribution=₹ 9,00.000

Profit = Contribution-Fixed Cost = ₹ 9,00,000-₹ 5,40,000 = **₹ 3,60,000**

In the year 2019:

Fixed Cost = 5,40,000 x 105% = ₹5,67,000

Variable Cost = 60 × 115% = ₹ 69

Let Selling Price 'P'

$$\frac{P - 69}{P} = \frac{20}{100}$$

Or, (P – 69) × 100 = 20P

Or 100P – 20P = 6900

80P = 6900

$$P = \frac{6900}{80} = ₹\textbf{86.25}$$

So, selling price to be fixed in the year 2019 is 86.25 to keep the same P/V ratio

(c) (i) Net Profit Margin = Net Income (₹ 3,60,000) ÷ Revenue = 0.12

So, Revenue is ₹**30,00,000**

(ii) Asset Turnover = Revenue (₹30,00,000) ÷ Assets = 2.5 times

So, Assets is ₹ **12,00,000**

(iii) Equity Multiplier = Assets (₹12,00,000) ÷ Shareholders' Equity (₹ 4,00,000) = 3

Return on Equity = Net Profit Margin × Asset Turnover × Equity Multiplier

= (0.12) × (2.5) × (3) = 0.9, or 90%

(d) Calculation of Leverages

Particulars	**(₹)**
Sales	1,00,00,000
Less: Variable Cost (55%)	55,00,000
Contribution	45,00,000
Less: Fixed Cost	6,00,000
EBIT	39,00,000
Less: Interest on Debentures	6,40,000
EBT	32,60,000

(i) $\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{₹\,45,00,000}{₹\,39,00,000} =$ **1.154**

$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{₹\,39,00,000}{₹\,32,60,000} =$ **1.196**

$\text{Combined Leverage} = \text{OL} \times \text{FL or } \frac{\text{Contribution}}{\text{EBT}}$

$= 1.154 \times 1.196 = 1.38 \text{ or } \frac{45,00,000}{32,60,000} = 1.38$

(ii) If Sales amount is increased by 12% then EBIT will increase by 12 × 1.154% (% increase in sales × operating leverage) = **13.85%**

Question 2

(a) MKS Ltd. is engaged in construction sector. It took a contract to build a house for ₹ 45 lakhs. The contract commenced on 1st April, 2018. Following information, relating to contract, for the year ending on 31st March, 2019 are as under:

	₹
Materials purchased	*8,52,000*

Wages	*10,48,000*
Indirect expenses	*92,000*
Administrative charges	*1,18,000*
Materials at site at the end of the year	*38,000*

A plant was purchased for the contract on 1st April, 2018 which, after charging depreciation @ 15% p.a. on the cost, appeared at ₹ 6,12,000 at the end of the year.

A supervisor who is paid ₹ 10,000 per month has devoted two-third of his time to this contract.

Two-third of the contract was completed. The architect issued certificate covering 50% of the contract price and contractor has been paid 90% of the work certified on account. The books of accounts are closed on 31st March every year.

Prepare contract account showing following:

(i) Works cost of the contract

(ii) Value of works uncertified

(iii) Notional profit and

(iv) Amount to be carried to profit and loss account. ***(8 Marks)***

(b) A Doctor is considering purchasing a machine at a cost of ₹ 1,20,000. The projected life of the machine is 5 years and has an expected salvage value of ₹ 10,000 at the end of 5 years. The annual operating cost of the machine is ₹ 2,000. It is expected to generate revenues of ₹ 60,000 per year for five years. At present the Doctor is outsourcing his work related to this machine and earns commission income of ₹ 15,000 per annum; net of taxes. Tax Rate is 30%.

You are required to find as to whether it would be profitable for the Doctor to purchase the machine? Give your advice based on:

(i) Net Present Value Method

(ii) Profitability Index Method

Take PV Factors at 9% as given below:

Year	*1*	*2*	*3*	*4*	*5*	***Total***
	0.917	*0.842*	*0.772*	*0.708*	*0.650*	*3.889*

(8 Marks)

Answer

(a) **Contract Account**

Particulars	(₹)	Particulars	(₹)
To Material purchased	8,52,000	By Material (at site)	38,000

"	Wages	10,48,000			
"	Indirect expenses	92,000			
"	Administrative charges	1,18,000			
"	Depreciation on machine (WN-1)	1,08,000			
"	Supervisor's salary (₹ 10,000 × 12 × 2/3)	80,000	"	Works cost c/f (balancing figure)	**22,60,000**
		22,98,000			22,98,000
"	Works cost b/f	22,60,000	"	Value of work certified (50% of 45,00,000)	22,50,000
"	Notional profit c/f	**5,55,000**	"	Cost of work uncertified (Working Note 2)	**5,65,000**
		28,15,000			28,15,000
"	Costing P&L A/c (Working Note 3)	**3,33,000**	"	Notional profit b/f	5,55,000
"	Work-in-progress (Reserve)	2,22,000			
		5,55,000			5,55,000

Working notes:

1. Depreciation = $\frac{₹\ 6,12,000}{85\%} \times 15\%$ = ₹1,08,000,

   Opening value of plant = ₹ 6,12,000+1,08,000 = ₹ 7,20,000

2. The cost of 2/3rd of the contract is ₹ 22,60,000

   ∴ Cost of 100% of the contract is $\frac{₹\ 22,60,000}{2} \times 3$ = ₹ 33,90,000

   ∴ Cost of 50% of the contract which has been certified by the architect is ₹ 16,95,000. Also, the cost of 1/3rd of the contract, which has been completed but not certified by the architect is ₹ 5,65,000 (22,60,000-16,95,000 = 56,5000)

3. $\frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$

   or, $\frac{2}{3} \times 5,55,000 \times \frac{90\% \times 22,50,000}{22,50,000}$ = ₹ 3,33,000

(b) Advise to the Doctor

Determination of Cash inflows	
Sales Revenue	60,000
Less: Operating Cost	2,000
	58,000
Less: Depreciation (1,20,000 – 10,000)/5	22,000
Net Income	36,000
Tax @ 30%	10,800
Earnings after Tax (EAT)	25,200
Add: Depreciation	22,000
Cash inflow after tax per annum	**47,200**
Less: Loss of Commission Income	15,000
Net Cash inflow after tax per annum	**32,200**
In 5th Year :	
Salvage Value of Machine	10,000

(i) Calculation of Net Present Value (NPV)

Year	*CFAT*	*PV Factor @9%*	*Present Value of Cash inflows*
1 to 5	32,200	3.889	1,25,225.8
5	10,000	0.650	6,500.0
			1,31,725.8
Less: Cash Outflows			1,20,000
NPV			**11,725.8**

OR

Year	*CFAT*	*PV Factor @9%*	*Present Value of Cash inflows*
1 to 4	32,200	3.239	1,04,295.8
5	42,200	0.650	27,430.0
			1,31,725.8
Less: Cash Outflows			1,20,000
NPV			**11,725.8**

(ii) Calculation of Profitability Index:

$$\text{Profitability Index} = \frac{\text{Sum of discounted cash inflows}}{\text{Present value of cash outflows}} = \frac{1,31,725.8}{1,20,000} = 1.098$$

Advise: Since the net present value is positive and profitability index is also more than 1, therefore, the Doctor should purchase the machine.

Question 3

(a) A Company manufacturing chemical solution that passes through a number of processes uses FIFO method to value Work-in-Process and Finished Goods. At the end of month of September, a fire occurred in the factory and some papers containing records of the process 'operations for the month were destroyed. The Company desires to prepare process accounts for the month during which the fire occurred. Some information could be gathered as to operating activities as under:

- *Opening Work-in-Process at the beginning of the month of 1,100 litres - 40% complete for labour and 60% complete for Overheads. Opening Work-in-Process was valued at ₹ 48,260.*
- *Closing Work-in-Process at the end of the month was 220 litres, 40% complete for Labour and 30% complete for Overheads.*
- *Normal loss is 10% of input and total losses during the month were 2,200 litres partly due to firm, damage. Assume degree of completion of abnormal losses is 100%.*
- *Output sent to Finished Goods Warehouse was 5,900 litres.*
- *Losses have a scrap value of ₹ 20 per litre.*
- *All Raw Materials are added at the commencement of the process.*
- *The Cost per equivalent Unit (litre) is ₹ 53 for the month consisting :*

	₹
Raw Material	*35*
Labour	*8*
Overheads	*10*
Total	***53***

You are required to :

(i) Calculate the quantity (in litres) of Raw Material input during the month.

(ii) Calculate the quantity (in litres) of Normal Loss and Abnormal loss/Gain experienced in the month.

(iii) Calculate the values of Raw Materials, Labour and Overheads added to the process during the month.

(iv) Prepare the Process Account for the month. ***(8 Marks)***

(b) The following information has been extracted from the books of ABS Limited:

	1st April, 2017	*31st March, 2018*
	(₹)	*(₹)*
Raw Material	*1,00,000*	*70,000*
Works-in-progress	*1,40,000*	*2,00,000*
Finished goods	*2,30,000*	*2,70,000*

Other information for the year:

	₹
Average receivables	*2,10,000*
Average payables	*3,14,000*
Purchases	*15,70,000*
Wages and overheads	*17,50,000*
Selling expenses	*3,20,000*
Sales	*42,00,000*

All purchases and sales are on credit basis. Company is willing to know:

(i) Net operating cycle period

(ii) Amount of working capital requirements (Assume 360 days in a year) ***(8 Marks)***

Answer

(a) (i) Calculation of Raw Material inputs during the month:

Quantities Entering Process	Litres	Quantities Leaving Process	Litres
Opening WIP	1,100	Transfer to Finished Goods	5,900
Raw material input (balancing figure)	**7,220**	Process Losses	2,200
		Closing WIP	220
	8,320		8,320

(ii) Calculation of Normal Loss and Abnormal Loss/Gain

	Litres
Total process losses for month	2,200

Normal Loss (10% input)	**722**
Abnormal Loss (balancing figure)	**1,478**

(iii) Calculation of values of Raw Material, Labour and Overheads added to the process:

	Material	Labour	Overheads
Cost per equivalent unit	₹ 35	₹ 8	₹ 10
Equivalent units (litre) (refer the working note)	6,498	7,026	6,784
Cost of equivalent units	₹ 2,27,430	₹ 56,208	₹ 67,840
Add: Scrap value of normal loss (722 units × ₹ 20)	₹ 14,440	--	--
Total value added	**₹ 2,41,870**	**₹ 56,208**	**₹ 67,840**

Workings:

Statement of Equivalent Units (litre):

Input Details	Units	Output details	Units	Equivalent Production					
				Material		Labour		Overheads	
				Units	(%)	Units	(%)	Units	(%)
Opening WIP	1,100	Units completed:							
Units introduced	7,220	- Opening WIP	1100	--	--	660	60	440	40
		- Fresh inputs (balancing figure)	4,800	4,800	100	4,800	100	4,800	100
		Normal loss	722	--	--	--	--	--	--
		Abnormal loss	1,478	1,478	100	1,478	100	1,478	100
		Closing WIP	220	220	100	88	40	66	30
	8,320		8,320	6,498		7,026		6,784	

Calculation of Closing WIP :

Material - 220 x 35 =	₹ 7700
Labour - 220 x 40% x 8 =	₹ 704
Overheads - 220 x 30% x 10 =	₹ 660
Total --	**₹ 9064**

(iv) Process Account

	Litres	Amount (₹)		Litres	Amount (₹)
To Opening WIP	1,100	48,260	By Finished goods	5900	3,12,700
To Raw Materials	7,220	2,41,870	By Normal loss	722	14,440
To Wages	--	56,208	By Abnormal loss	1478	78,334
To Overheads	--	67,840	By Closing WIP	220	9064
To other Expenses (balancing figure)		360			
	8,320	4,14,538		8320	4,14,538

(b) Working Calculation

Statement of Cost & Profit

	Amount (₹)
Opening stock of raw materials	1,00,000
Add: Purchase of raw materials	15,70,000
Less: Closing stock of raw materials	(70,000)
Raw materials consumed	16,00,000
Direct wages and overheads	17,50,000
Work cost	33,50,000
Add: Opening work-in-process	1,40,000
Less: Closing work-in-process	(2,00,000)
Cost of Production	32,90,000
Add: Opening stock of finished goods	2,30,000
Less: Closing stock of finished goods	(2,70,000)
Cost of goods sold	32,50,000
Add: Selling Expenses	3,20,000
Cost of sales	35,70,000
Profit (balancing figure)	6,30,000
Sales	42,00,000

Working Notes:

1. **Raw Material Storage Period (R)**

$$= \frac{\text{Average Stock of Raw Material}}{\text{Annual Consumption of Raw Material}} \times 360$$

$$= \frac{₹1,00,000 + ₹70,000}{\frac{2}{16,00,000}} \times 360 = \textbf{19.125} \text{ days or } \textbf{19} \text{ days}$$

2. **Work – in - Progress (WIP) Conversion Period (W)**

$$\text{WIP Conversion Period} = \frac{\text{Average Stock of WIP}}{\text{Annual Cost of Production}} \times 360$$

$$= \frac{₹1,40,000 + ₹2,00,000}{\frac{2}{₹32,90,000}} \times 360 = 18.60 \text{ or } 19 \text{ days}.$$

3. **Finished Stock Storage Period (F)**

$$\frac{\text{Average Stock of Finished goods}}{\text{Annual Cost of Goods Sold}} \times 360$$

$$= \frac{₹2,30,000 + ₹2,70,000}{\frac{2}{₹32,50,000}} \times 360 = \textbf{27.69} \text{ days or } \textbf{28 days}$$

4. **Receivables (Debtors) Collection Period (D)**

$$\frac{\text{Average Receivables}}{\text{Annual Credit Sales}} \times 360$$

$$= \frac{2,10,000}{42,00,000} \times 360 = \textbf{18 days}$$

5. **Payables (Creditors) Payment Period (C)**

$$= \frac{\text{Average Payables for materials}}{\text{Annual Credit purchases}} \times 360$$

$$\frac{3,14,000}{15,70,000} \times 360 = \textbf{72 days}$$

(i) Net Operating Cycle Period

= R + W + F + D - C

= 19 + 19 + 28 + 18 – 72

= **12 days**

(ii) Number of Operating Cycles in the Year

$$= \frac{360}{\text{Operating Cycle Period}} = \frac{360}{12} = \textbf{30 times}$$

Amount of Working Capital Required:

$$= \frac{\text{Cost of Sales}}{\text{Number of Operating Cycles}} = \frac{₹35,70,000}{30} = ₹\ \textbf{1,19,000}$$

Question 4

(a) AB manufacturing Company manufactures two products A and B. Both Products use a common Raw Material "C". The Raw Material "C" is purchased at the rate of ₹ 45 per kg. from the Market. The Company has made estimates for the year ended 31st March ,2018 (the budget period) as under:

	Products	
	A	***B***
Sales in Units	*36,000*	*16,700*
Finished Goods Stock Increase by year-end (in Units)	*860*	*400*
Post-production Rejection Rate (%)	*3*	*5*
Material "C" per completed Unit, net of wastage	*4 kg*	*5 kg*
Material "C" wastage in %	*5*	*4*

Additional information available is as under:

- *Usage of Raw Material "C" is expected to be at a constant rate over the period.*
- *Annual cost of holding one unit of Raw Material "C" in Stock is 9% of the Material Cost.*
- *The cost of placing an order is ₹ 250 per order.*

You are required to:

(i) Prepare Functional Budgets for the year ended 31st March, 2018 under the following categories:

(A) Production Budget for Products A and B in Units.

(B) Purchase Budget for Raw Material "C" in kg and value.

*(ii) Calculate the Economic Order Quantity (EOQ) in kg for Raw Material "C". (**8 Marks**)*

(b) YZ Ltd. has the following balances as on 1st April, 2018:

Particulars	***(₹)***
Plant and Equipment	*13,60,000*

Accumulated Depreciation	*4,76,000*
Inventories and Bills Receivable	*6,24,000*
Cash and Cash Equivalent	*94,500*
Bills Payable	*1,14,000*
Equity Share Capital (Face Value ₹100 each)	*7,00,000*

The Company has made the following estimates for the Financial Year 2018-2019:

(i) The Company will pay tax-free Dividend of 12%, the rate of dividend distribution tax being 20%.

(ii) The Company will acquire Plant at a cost of ₹2,40,000 after selling one machine for ₹ 46,000 costing ₹ 1,06,000 and on which depreciation provided amounted to ₹74,200.

(iii) At the financial year-end. Inventories and Bills Receivable are expected to be ₹6,70,000: and Bills Payable are expected to be ₹1,52,000.

(iv) The Profit would be ₹1,20,600 after charging depreciation of ₹1,25,000

You are required to prepare the Projected Cash Flow Statement (as per AS 3) and ascertain the Cash and Cash Equivalent at the end of the year as on 31st March, 2019.

(Ignore Corporate Tax.) ***(8 Marks)***

Answer

(a) (i) (A) Production Budget (in units) for the year ended 31st March 2018

	Product A	Product B
Budgeted sales (units)	36,000	16,700
Add: Increase in closing stock	860	400
No. of good units to be produced	**36,860**	**17,100**
Post production rejection rate	3%	5%
No. of units to be produced	**38,000** $\left(\frac{36,860}{0.97}\right)$	**18,000** $\left(\frac{17,100}{0.95}\right)$

(B) Purchase budget (in kgs and value) for Material C

	Product A	Product B
No. of units to be produced	38000	18000
Usage of Material C per unit of production	4 kg.	5 kg.
Material needed for production	1,52,000 kg.	90,000 kg.

Materials to be purchased	**1,60,000 kg.** $\left(\frac{1,52,000}{0.95}\right)$	**93,750 kg.** $\left(\frac{90,000}{0.96}\right)$
Total quantity to be purchased	2,53,750 kg.	
Rate per kg. of Material C	₹45	
Total purchase price	**₹1,14,18,750**	

(ii) Calculation of Economic Order Quantity for Material C

$$EOQ = \sqrt{\frac{2 \times 2,53,750 \times Rs.250}{45 \times 9\%}} = \sqrt{\frac{12,68,75,000}{4.05}} = \textbf{5,597 kg}. \text{ (Approx.)}$$

(b) Projected Statement of Cash Flow for the year ended 31st March 20X8

	(₹)
Cash flow from Operating Activities	
Profit before taxation	1,20,600
Adjustments:	
Less: Profit on sale of machine {₹ 46,000 – (₹ 1,06,000 – ₹ 74,200)}	**(14,200)**
Add: Depreciation	1,25,000
Operating profit before working capital changes	**2,31,400**
Increase in Inventories & Bills receivable (₹ 6,70,000– ₹6,24,000)	(46,000)
Increase in Bills payables (₹ 1,52,000 – ₹ 1,14,000)	38,000
Cash generated from operations	2,23,400
Less: Income tax paid (tax ignored)	Nil
Net Cash from Operating activities (A)	**2,23,400**
Cash flow from Investing Activities	
Purchase of plant	(2,40,000)
Sale of machine	46,000
Net cash from Investing activities (B)	**(1,94,000)**
Cash Flow from Financing Activities	
Dividend paid	(84,000)
Dividend distribution tax (Working note)	**(21,000)**
Net cash from Financing activities (C)	**(1,05,000)**
Net Increase/(Decrease) in cash and cash equivalents (A+B+C)	(75,600)

Cash and cash equivalent at the beginning of the year	94,500
Cash and cash equivalent at the end of the year	**18,900**

Working note:

Dividend distribution tax is paid on the gross amount of dividend paid. The gross dividend is calculated as: $\frac{\text{Dividend Payable}}{(1-\text{tax rate})}$

Gross Amount of Dividend = $\frac{₹\ 84,000}{(1-0.20)}$ = ₹ 1,05,000

Dividend Distribution Tax = ₹ 1,05,000 × 20% = ₹ **21,000**

Question 5

*Answer all **four:***

(a) How will you treat following items associated with purchase of materials?

(i) Custom duty

(ii) Penalty

(iii) Subsidy received from the government

(iv) Insurance charges

(b) Why is standard costing system preferred by an 'organisation? State the reasons.

(c) Explain the relationship between cost of capital, capital structure and value of the firm according to Net Income (NI) approach and Net Operating Income (NOI) approach.

(d) Write a short note on seed capital assistance. ***(4 x 4 = 16 Marks)***

Answer

(a)

	Item	Treatment
(i)	Custom Duty	Custom duty is paid on import of goods from outside India. It is added with the purchase cost.
(ii)	Penalty	Penalty of any type is not included with the cost of purchase
(iii)	Subsidy received from the government	Any subsidy/ grant/ incentive received from the Government or from other sources deducted from the cost of purchase.
(iv)	Insurance charges	Insurance charges are paid for protecting goods during transit. It is added with the cost of purchase.

(b) Reason for Preference of Standard Costing.

Standard costing system is widely accepted as it serves the different needs of an organisation. The standard costing is preferred for the following reasons:

(a) **Prediction of future cost for decision making:** Standard costs are set after taking into account all the future possibilities and can be termed as future cost. Standard cost is used for calculating profitability from a project/ order/ activity proposed to be undertaken. Hence, standard cost is very useful for decision making purpose.

(b) **Provide target to be achieved:** Standard costs are the target cost which should be no be crossed.

(c) **Used in budgeting and performance evaluation:** Standard costs are used to set budgets and based on these budgets managerial performance is evaluated.

(d) **Interim profit measurement and inventory valuation** Few organisations used to prepare profitability statement for some interim periods as per the requirement of the management. To arrive at the profitability figure standard costs are deducted from the revenue.

(c) Net Income Approach: According to Net Income (NI) approach, capital structure decision is relevant to the value of the firm. An increase in financial leverage will lead to decline in the weighted average cost of capital (WACC), while the value of the firm as well as market price of ordinary share will increase. Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a consequent decline in the value as well as market price of equity shares.

The value of the firm on the basis of Net Income Approach can be ascertained as follows:

$$V = S + D$$

Where,

V = Value of the firm

S = Market value of equity

D = Market value of debt

Market value of equity (S) = $\frac{NI}{K_e}$ Where, NI= Earnings available for equity shareholders

K_e = Equity Capitalisation rate

Overall cost of capital = $\frac{EBIT}{\text{Value of the firm}}$

Net Operating Income (NOI) **Approach**: NOI means earnings before interest and tax (EBIT). According to this approach, capital structure decisions of the firm are irrelevant.

Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage. As a result, the division between debt and equity is irrelevant.

As per this approach, an increase in the use of debt which is apparently cheaper is offset by an increase in the equity capitalisation rate. This happens because equity investors seek higher compensation as they are opposed to greater risk due to the existence of fixed return securities in the capital structure.

(d) Seed Capital Assistance: The seed capital assistance has been designed by IDBI for professionally or technically qualified entrepreneurs. All the projects eligible for financial assistance from IDBI, directly or indirectly through refinance are eligible under the scheme. The project cost should not exceed ₹ 2 crores and the maximum assistance under the project will be restricted to 50% of the required promoter's contribution or ₹ 15 lacs whichever is lower.

The seed capital assistance is interest free but carries a security charge of one percent per annum for the first five years and an increasing rate thereafter.

Question 6

(a) RSJ produces a single product and absorbs production overheads at a pre-determined rate. Information relating to a period is as under:

Production overheads actually incurred	*₹ 4,84,250*
Overhead recovery rate at production	*₹ 1.45 per hour*
Actual hours worked	*2,65,000 hours*
Production :	
Finished goods	*17,500 units*
Works-in-progress (50% complete in all respect)	*5,000 units*
Sales of finished goods	*12,500 units*

At the end of the period, it was discovered that the actual production overheads incurred included ₹ 40,000 on account of 'written off obsolete stores' and wages paid for the strike period under an award.

It was also found that 30% of the under absorption of production overheads was due to factory inefficiency and the rest was attributable to normal increase in costs.

Required to calculate:

(i) The amount of under absorbed production overheads during the period.

(ii) Show the accounting treatment of under absorption of production overheads and pass journal entry. ***(8 Marks)***

(b) PQR Ltd. has the following capital structure at book value:

	(₹)
Equity Share Capital (₹ 10 each)	*1,50,00,000*
10% Preference share capital (₹ 100 each)	*50,00,000*
9% Debentures (₹ 1,000 each)	*1,50,00,000*
9.5% Term Loan	*2,00,00,000*

Debentures are redeemable after 3 years and are being currently quoted at ₹ 980 per debenture in the market.

Preference shares are also redeemable after 5 years and currently selling at ₹ 98.50 per share.

The current market price of one equity share is ₹ 75. The risk free interest rate is 6.25%. The market portfolio return is 15.25%. The beta of the company is 1.93.

The applicable income tax rate for the company is 35%.

You are required to calculate the cost of the following using market value as weight:

(i) Equity share

(ii) Preference share

(iii) 9% Debenture

(iv) 9.5% Term loan

(v) Weighted average cost of capital ***(8 Marks)***

Answer

(a) (i) Amount of under absorption of production overheads during the period :

	Amount (₹)	**Amount (₹)**
Total production overheads actually incurred during the period		4,84,250
Less: Expenses on account w/o obsolete store and wages paid for the strike period	40,000	
Net production overheads actually incurred		**4,44,250**
Less: Production overheads absorbed as per machine hour rate (2,65,000 hours × ₹1.45)		3,84,250
Amount of under absorbed production overheads		**60,000**

(ii) Accounting treatment of under absorbed production overheads: As, 30% of the under absorbed overheads were due to factory inefficiency, this being abnormal, hence should be debited to Costing Profit and Loss Account.

Amount to be debited to Costing Profit and Loss Account = (60,000 × 30%)

= ₹ 18,000.

Balance of under absorbed production overheads should be distributed over Works in progress, Finished goods and Cost of sales by applying supplementary rate*.

Amount to be distributed = (60,000 × 70%) = **₹ 42,000.**

$$\textbf{Supplementary rate} = \frac{₹\ 42,000}{20,000\ \text{units}^*} = \textbf{2.10}$$

Apportionment of under absorbed production overheads over WIP, Finished goods and Cost of sales:

	Equivalent completed units	Amount (₹)
Work-in-Progress (5,000 units × 50% × 2.10)	2,500	5,250
Finished goods (5,000 units × 2.10)	5,000	10,500
Cost of sales (12,500 units × 2.10)	12,500	26,250
Total	**20,000**	42,000

*(17,500 units + $\frac{1}{2}$ of 5000 units)

Journal Entry:

Particulars		Dr. (₹)	Cr. (₹)
WIP control A/C	Dr.	5,250	
Finished goods control A/C	Dr.	10,500	
Cost of Sales A/C	Dr.	26,250	
Costing P/L A/C		18,000	
To Overhead Control A/c			60,000

(b) Working Notes:

(i) Computation of cost of equity (K_e) :

$= R_f + ß(R_m - R_f)$

= ₹ 6.25 + 1.93 (15.25 – 6.25)

= 6.25 + 17.37

= **23.62%**

(ii) Computation of cost of preference capital (K_P) :

$$K_p = \frac{\text{Preference Dividend} + (RV - NP)/n}{(RV + NP)/2}$$

$$= \frac{10 + (100 - 98.5)/5}{(100 + 98.5)/2} = 10.38\%$$

(iii) Computation of cost of debentures (K_d) :

$K_d = \frac{90(1-.35) + (1000-980)/3}{(1{,}000 + 980)}$

= 0.06582

= **6.58%**

(iv) Computation of cost of term loans (K_T) :

= r (1 – t)

= .095 (1 – 0.35) **= 6.175%**

(v) Calculation of Weighted Average cost of capital Using market value weights

Source of Capital	Market value of capital structure (₹)	Weights	After tax cost of capital (%)	4B**WACC (%)**
Equity share capital (15 lakhs × ₹ 75)	11,25,00,000	0.740	23.62	**17.48**
10% Preference share capital (50,000 shares × ₹ 98.50)	49,25,000	0.032	10.38	**0.33**
9 % Debentures (15,000 × ₹980)	1,47,00,000	0.097	6.58	**0.638**
9.5% Term loans	0B2,00,00,000	1B0.131	2B6.175	**3B0.809**
	15,21,25,000			19.257

Question 7

*Answer any **four** of the following:*

(a) State the types of Cost in the following cases:

(i) Interest paid on own Capital not involving any Cash Outflow.

(ii) Withdrawing money from Bank Deposit for the purpose of purchasing new machine.

(iii) Rent paid for the factory building which is temporarily closed.

(iv) Cost associated with the acquisition and conversion of raw material into finished product.

(b) List the Financial Expenses which are not included in Cost.

(c) (i) Explain angle of incidence.

(ii) Write any two limitations of profit maximisation objectives of financial management.

(d) What are common methods of venture capital financing?

(e) Explain ageing schedule in context of monitoring of receivables. ***(4 x 4 = 16 Marks)***

Answer

(a)

Sl. No.	Cases	Type of Cost
(i)	Interest paid on own capital not involving any Cash Outflow.	Imputed Cost /Notional Cost
(ii)	Withdrawing money from Bank Deposit for the purpose of purchasing new machine.	Opportunity Cost
(iii)	Rent paid for the factory building which is temporarily closed	Shut Down Cost
(iv)	Cost associated with the acquisition and conversion of raw material into finished product.	Product Cost

(b) Financial expenses which are not included in cost accounting are as follows:

- Interest on debentures and deposits
- Gratuity
- Pension
- Bonus of Employee,
- Income Tax,
- Preliminary Expenses
- Discount on issue of Share
- Underwriting commissions.

(c) (i) This angle is formed by the intersection of sales line and total cost line at the break-even point. This angle shows the rate at which profits are being earned once the break-even point has been reached. The wider the angle the greater is the rate of earning profits. A large angle of incidence with a high margin of safety indicates extremely favourable position.

(ii) Limitations of Profit Maximisation objective of financial management.

(a) Time factor is ignored.

(b) It is vague because it is not clear whether the term relates to economic profit, accounting profit, profit after tax or before tax.

(c) The term maximisation is also ambiguous

(d) It ignore, the risk factor.

(d) Methods of Venture Capital Financing: The venture capital financing refers to financing and funding of the small-scale enterprises, high technology and risky ventures. Some common methods of venture capital financing are as follows:

(i) *Equity financing:* The venture capital undertakings generally require funds for a longer period but may not be able to provide returns to the investors during the initial stages. Therefore, the venture capital finance is generally provided by way of equity share capital.

(ii) *Conditional Loan:* A conditional loan is repayable in the form of a royalty after the venture is able to generate sales. No interest is paid on such loans. In India Venture Capital Financers charge royalty ranging between 2 to 15 per cent; actual rate depends on other factors of the venture such as gestation period, cash flow patterns, riskiness and other factors of the enterprise.

(iii) *Income Note:* It is a hybrid security which combines the features of both conventional loan and conditional loan. The entrepreneur has to pay both interest and royalty on sales but at substantially low rates.

(iv) *Participating Debenture:* Such security carries charges in three phases- in the start-up phase, no interest is charged, next stage a low rate of interest is charged upto a particular level of operations, after that, a high rate of interest is required to be paid

(e) An important means to get an insight into collection pattern of debtors is the preparation of their 'Ageing Schedule'. Receivables are classified according to their age from the date of invoicing e.g. 0 – 30 days, 31 – 60 days, 61 – 90 days, 91 – 120 days and more. The ageing schedule can be compared with earlier month's figures or the corresponding month of the earlier year.

This classification helps the firm in its collection efforts and enables management to have a close control over the quality of individual accounts. The ageing schedule can be compared with other firms also.