

PAPER – 3 : COST ACCOUNTING AND FINANCIAL MANAGEMENT

Question No. 1 is compulsory.

Attempt any **five** questions from the remaining **six** questions.

Working Notes should form part of the answer.

Question 1

- (a) You are given two financial plans of a company which has two financial situations. The detailed information are as under:

Installed capacity	10,000 units
Actual production and sales	60% of installed capacity
Selling price per unit	₹ 30
Variable cost per unit	₹ 20
Fixed cost:	

Situation 'A' = ₹ 20,000

Situation 'B' = ₹ 25,000

Capital structure of the company is as follows:

	Financial Plans	
	XY	XM
	₹	₹
Equity	12,000	35,000
Debt (cost of debt 12%)	<u>40,000</u>	<u>10,000</u>
	<u>52,000</u>	<u>45,000</u>

You are required to calculate operating leverage and financial leverage of both the plans.

- (b) You are given the following information of a worker:

(i) Name of worker	:	'X'
(ii) Ticket No.	:	002
(iii) Work started	:	1-4-11 at 8 a.m.
(iv) Work finished	:	5-4-11 at 12 noon
(v) Work allotted	:	Production of 2,160 units
(vi) Work done and approved	:	2000 units
(vii) Time and units allowed	:	40 units per hour
(viii) Wage rate	:	₹ 25 per hour

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(ix) Bonus : 40% of time saved

(x) Worker X worked 9 hours a day.

You are required to calculate the remuneration of the worker on the following basis:

(i) Halsey plan and

(ii) Rowan plan

(c) Prepare a Store Ledger Account from the following transactions of XY Company Ltd.

April, 2011

1 Opening balance 200 units @ ₹ 10 per unit.

5 Receipt 250 units costing ₹ 2,000

8 Receipt 150 units costing ₹ 1,275

10 Issue 100 units

15 Receipt 50 units costing ₹ 500

20 Shortage 10 units

21 Receipt 60 units costing ₹ 540

22 Issue 400 units

The issues upto 10-4-11 will be priced at LIFO and from 11-4-11 issues will be priced at FIFO.

Shortage will be charged as overhead.

(d) What is factoring? Enumerate the main advantages of factoring. (4 x 5 = 20 Marks)

Answer

(a) Computation of Operating and Financial Leverage

Actual Production and Sales: 60% of 10,000 = 6,000 units

Contribution per unit: ₹ 30 – ₹ 20 = ₹ 10

Total Contribution: 6,000 × ₹ 10 = ₹ 60,000

Financial Plan	XY		XM	
Situation	A	B	A	B
	₹	₹	₹	₹
Contribution (C)	60,000	60,000	60,000	60,000
Less: Fixed Cost	<u>20,000</u>	<u>25,000</u>	<u>20,000</u>	<u>25,000</u>
Operating Profit or EBIT	40,000	35,000	40,000	35,000
Less: Interest	<u>4,800</u>	<u>4,800</u>	<u>1,200</u>	<u>1,200</u>

INTEGRATED PROFESSIONAL COMPETENCE EXAMINATION : MAY, 2011

Earnings before tax (EBT)	35,200	30,200	38,800	33,800
Operating Leverage	$\frac{60,000}{40,000}$	$\frac{60,000}{35,000}$	$\frac{60,000}{40,000}$	$\frac{60,000}{35,000}$
$= \frac{C}{EBIT}$	$= 1.5$	$= 1.71$	$= 1.5$	$= 1.71$
Financial Leverage = $\frac{EBIT}{EBT}$	$\frac{40,000}{35,200}$	$\frac{35,000}{30,200}$	$\frac{40,000}{38,800}$	$\frac{35,000}{33,800}$
	$= 1.14$	$= 1.16$	$= 1.03$	$= 1.04$

(b) No. of units produced and approved = 2,000

Standard time = 40 units per hour

Hourly Wage Rate = ₹ 25

Time allowed = 40 units per hour

Time allowed for 2,000 units $\frac{2,000}{40} = 50$ hours

(i) Calculation of Remuneration under Halsey Plan:

Standard time allowed for 2,000 units : 50 hours

Actual time taken for 2,000 units : 40 hours

Time saved 10 hours

Basic wages for time taken 40 hours @ ₹ 25 = ₹ 1,000

Bonus: 40% of time saved $\frac{40}{100} \times 10 \times 25 = ₹ \underline{100}$

Total ₹ 1,100

(ii) Calculation of Remuneration Under Rowan Plan:

Wages for time taken 40 hours @ ₹ 25 = ₹ 1,000

Bonus = $\frac{\text{Time saved}}{\text{Time allowed}} \times (\text{Time Taken} \times \text{Hourly Rate})$

$= \frac{40 \times 10 \times 25}{50} = ₹ \underline{200}$

Total ₹ 1,200

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(c)

Store Ledger Account									
Name :-			Max. Stock Level -			Bin No.-			
Code No. :-			Min. Stock Level -			Location Code-			
Description:-			Re-order level –						
			Re-order quantity-						
Date	Receipts			Issues			Balance		
	Qty. Units	Rate	Amount	Qty. Units	Rate	Amount	Qty.	Rate	Amount
		₹	₹		₹	₹		₹	₹
April 1							200	10	2,000
" 5	250	8	2,000				200	10	4,000
							250	8	
" 8	150	8.50	1,275				200	10	5,275
							250	8	
							150	8.50	
" 10				100	8.50	8.50	200	10	4,425
							250	8	
							50	8.50	
" 15	50	10	500				200	10	4,925
							250	8	
							50	8.50	
							50	10	
" 20				10 (shortage)	10	100	190	10	4,825
							250	8	
							50	8.50	
							50	10	
" 21	60	9	540				190	10	5,365
							250	8	
							50	8.50	
							50	10	
							60	9	
" 22				190	10	3,580	40	8	1,785 (Closing Stock)
				210	8		50	8.50	
							50	10	
							60	9	

- (d) **Concept of Factoring and its Main Advantages:** Factoring involves provision of specialized services relating to credit investigation, sales ledger management purchase and collection of debts, credit protection as well as provision of finance against receivables and risk bearing. In factoring, accounts receivables are generally sold to a financial institution (a subsidiary of commercial bank – called “factor”), who charges commission and bears the credit risks associated with the accounts receivables purchased by it.

Advantages of Factoring

The main advantages of factoring are:

- (i) The firm can convert accounts receivables into cash without bothering about repayment.
- (ii) Factoring ensures a definite pattern of cash inflows.
- (iii) Continuous factoring virtually eliminates the need for the credit department. Factoring is gaining popularity as useful source of financing short-term funds requirement of business enterprises because of the inherent advantage of flexibility it affords to the borrowing firm. The seller firm may continue to finance its receivables on a more or less automatic basis. If sales expand or contract it can vary the financing proportionally.
- (iv) Unlike an unsecured loan, compensating balances are not required in this case. Another advantage consists of relieving the borrowing firm of substantially credit and collection costs and from a considerable part of cash management.

Question 2

- (a) You are given the following information of the three machines of a manufacturing department of X Ltd.:

	Preliminary estimates of expenses			
	Total	(per annum)		
		Machines		
		A	B	C
	(₹)	(₹)	(₹)	(₹)
Depreciation	20,000	7,500	7,500	5,000
Spare parts	10,000	4,000	4,000	2,000
Power	40,000			
Consumable stores	8,000	3,000	2,500	2,500
Insurance of machinery	8,000			
Indirect labour	20,000			
Building maintenance expenses	20,000			

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Annual interest on capital outlay	50,000	20,000	20,000	10,000
Monthly charge for rent and rates	10,000			
Salary of foreman (per month)	20,000			
Salary of Attendant (per month)	5,000			

(The foreman and the attendant control all the three machines and spend equal time on them.)

The following additional information is also available:

	Machines		
	A	B	C
Estimated Direct Labour Hours	1,00,000	1,50,000	1,50,000
Ratio of K.W. Rating	3	2	3
Floor space (sq. ft.)	40,000	40,000	20,000

There are 12 holidays besides Sundays in the year, of which two were on Saturdays. The manufacturing department works 8 hours in a day but Saturdays are half days. All machines work at 90% capacity throughout the year and 2% is reasonable for breakdown.

You are required to :

Calculate predetermined machine hour rates for the above machines after taking into consideration the following factors:

- An increase of 15% in the price of spare parts.
 - An increase of 25% in the consumption of spare parts for machine 'B' & 'C' only.
 - 20% general increase in wages rates.
- (b) The Marketing Manager of XY Ltd. is giving a proposal to the Board of Directors of the company that an increase in credit period allowed to customers from the present one month to two months will bring a 25% increase in sales volume in the next year.

The following operational data of the company for the current year are taken from the records of the company:

	₹
Selling price	21 p.u.
Variable cost	14 p.u.
Total cost	18 p.u.
Sales value	18,90,000

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The Board, by forwarding the above proposal and data requests you to give your expert opinion on the adoption of the new credit policy in next year subject to a condition that the company's required rate of return on investments is 40%. (8 + 8 = 16 Marks)

Answer

(a) Computation of Machine Hour Rate

		Basis of apportionment	Total	Machines		
				A	B	C
			₹	₹	₹	₹
(A)	Standing Charges					
	Insurance	Depreciation Basis	8,000	3,000	3,000	2,000
	Indirect Labour	Direct Labour	24,000	6,000	9,000	9,000
	Building Maintenance expenses	Floor Space	20,000	8,000	8,000	4,000
	Rent and Rates	Floor Space	1,20,000	48,000	48,000	24,000
	Salary of foreman	Equal	2,40,000	80,000	80,000	80,000
	Salary of attendant	Equal	<u>60,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>
	Total standing charges		<u>4,72,000</u>	<u>1,65,000</u>	<u>1,68,000</u>	<u>1,39,000</u>
	Hourly rate for standing charges			<u>84.75</u>	<u>86.29</u>	<u>71.40</u>
(B)	Machine Expenses:					
	Depreciation	Direct	20,000	7,500	7,500	5,000
	Spare parts	Final estimates	13,225	4,600	5,750	2,875
	Power	K.W. rating	40,000	15,000	10,000	15,000
	Consumable Stores	Direct	<u>8,000</u>	<u>3,000</u>	<u>2,500</u>	<u>2,500</u>

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	Total Machine expenses		<u>81,225</u>	<u>30,100</u>	<u>25,750</u>	<u>25,375</u>
	Hourly Rate for Machine expenses			<u>15.46</u>	<u>13.23</u>	<u>13.03</u>
	Total (A + B)		<u>553,225</u>	<u>1,95,100</u>	<u>1,93,750</u>	<u>1,64,375</u>
	Machine Hour rate			<u>100.21</u>	<u>99.52</u>	<u>84.43</u>

Working Notes:

- (i) Calculation of effective working hours:

No. of holidays 52 (Sundays) + 12 (other holidays) = 64

Saturday (52 – 2) = 50

No. of days (Work full time) = 365 – 64 – 50 = 251

Hours

Full days work 251 × 8 = 2,008

Half days work 50 × 4 = 200

2,208

Hours

Effective capacity 90% of 2,208 1,987 (Rounded off)

Less: Normal loss of time (Breakdown) 2% 40 (Rounded off)

Effective running hour 1,947

- (ii) Amount of spare parts is calculated as under:

	A	B	C
	₹	₹	₹
Preliminary estimates	4,000	4,000	2,000
Add: Increase in price @ 15%	<u>600</u>	<u>600</u>	<u>300</u>
	4,600	4,600	2,300
Add: Increase in consumption @ 25%	<u>—</u>	<u>1,150</u>	<u>575</u>
Estimated cost	<u>4,600</u>	<u>5,750</u>	<u>2,875</u>

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(iii) Amount of Indirect Labour is calculated as under:

	₹
Preliminary estimates	20,000
Add: Increase in wages @ 20%	<u>4,000</u>
	<u>24,000</u>

(iv) Interest on capital outlay is a financial matter and, therefore it has been excluded from the cost accounts.

(b) Advise regarding Change in Credit Policy

Working Notes:

(1)	Present Sales Value	₹ 18,90,000
	Present Selling Price per unit	₹ 21
	\ Present Sales Volume	$= \frac{18,90,000}{21} = 90,000 \text{ units}$
	Expected increase in Sales Volume	= 25%
	\ Expected Sales Volume in next year	= 90,000 + 25%
		= 90,000 + 22,500
		= 1,12,500 units
(2)		₹
	Present total cost (90,000 ´ 18)	16,20,000
	Add: Variable cost on additional Sales (22,500 ´ 14)	<u>3,15,000</u>
	\ Total cost of future sales	<u>19,35,000</u>
	\ Average cost per unit	$\frac{19,35,000}{1,12,500} = ₹ 17.2$
(3)		₹
	Cost of Sale (1,12,500 ´ 17.2)	19,35,000
	Average collection period	= 2 months
	\ Average Investment in receivables in the proposed credit policy	$= \frac{19,35,000}{12} \times 2 = 3,22,500$

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(4)		₹
	Additional Investment in receivables	$= 3,22,500 - \frac{90,000 \times 180}{12}$
		$= 3,22,500 - 1,35,000$
		$= ₹ 1,87,500$
(5)	Contribution from additional sales	$= (21 - 14) 22,500$
		$= ₹ 1,57,500$
(6)	Return on additional investments in receivables	$= \frac{1,57,500}{1,87,500} \times 100$
		$= 84\%$

Advise: Since the expected rate of return on additional investment in receivables (84%) is more than the required rate of return (40%), the proposed increase in credit period from one month to two months should be accepted and implemented in the next year.

Question 3

The management of MNP Company Ltd. is planning to expand its business and consults you to prepare an estimated working capital statement. The records of the company reveal the following annual information:

	₹
Sales –Domestic at one month's credit	24,00,000
Export at three month's credit (sales price 10% below domestic price)	10,80,000
Materials used (suppliers extend two months credit)	9,00,000
Lag in payment of wages – ½ month	7,20,000
Lag in payment of manufacturing expenses (cash) – 1 month	10,80,000
Lag in payment of Adm. Expenses – 1 month	2,40,000
Sales promotion expenses payable quarterly in advance	1,50,000
Income tax payable in four instalments of which one falls in the next financial year	2,25,000

Rate of gross profit is 20%.

Ignore work-in-progress and depreciation.

The company keeps one month's stock of raw materials and finished goods (each) and believes in keeping ₹ 2,50,000 available to it including the overdraft limit of ₹ 75,000 not yet utilized by the company.

The management is also of the opinion to make 12% margin for contingencies on computed figure.

You are required to prepare the estimated working capital statement for the next year. (16 Marks)

Answer

Preparation of Statement of Working Capital Requirement for MNP Company Ltd.

Estimated Working Capital Statement

(A)	Current Assets in terms of Cash Costs	₹
	Debtors: Domestic Sales $\frac{1}{12}$ ' 19,20,000	1,60,000
	Export Sales $\frac{3}{12}$ ' 9,60,000	2,40,000
	Prepaid Sales promotion expenses	37,500
	Stock of Raw materials $\frac{1}{12}$ ' 9,00,000	75,000
	Stock of finished goods $\frac{1}{12}$ ' 28,80,000	2,40,000
	Cash at Bank and in Hand	<u>1,75,000</u>
	Total Current Assets	<u>9,27,500</u>
(B)	Current Liabilities in terms of Cash Costs	₹
	Creditors for:	
	Material $\frac{2}{12}$ ' 9,00,000	1,50,000
	Wages $\frac{1}{24}$ ' 7,20,000	30,000
	Manufacturing expenses $\frac{1}{12}$ ' 10,80,000	90,000
	Administrative expenses $\frac{1}{12}$ ' 2,40,000	20,000
	Income Tax Payable	<u>56,250</u>
	Total Current Liabilities	<u>3,46,250</u>
(C)		₹
	Net Current Assets (A – B)	5,81,250
	Add: 12% margin for contingencies	<u>69,750</u>
	Required Working Capital	<u>6,51,000</u>

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Working Notes:

Cash cost of sales is calculated as under:	₹	₹
Domestic Sales	24,00,000	
Less: Gross profit @ 20%	<u>4,80,000</u>	19,20,000
Export Sales	10,80,000	
$\text{₹ } \frac{10,80,000 \times 100}{90} = 12,00,000 @ 10\%$	<u>1,20,000</u>	<u>9,60,000</u>
		<u>28,80,000</u>

Question 4

The summarized Balance Sheets of XYZ Limited as at 31st March, 2010 and 2011 are given below:

Liabilities	2010	2011	Assets	2010	2011
	(₹)	(₹)		(₹)	(₹)
Preference share capital	4,00,000	2,00,000	Plant and Machinery	7,00,000	8,20,000
Equity share capital	4,00,000	6,60,000	Long term investment	3,20,000	4,00,000
Share premium A/c	40,000	30,000	Goodwill	-	30,000
Capital redemption reserve	-	1,00,000	Current Assets	9,10,000	11,41,000
General reserve	2,00,000	1,20,000	Short term investment (less than 2 months)	50,000	84,000
P & L A/c	1,30,000	1,75,000	Cash and Bank	1,00,000	80,000
Current liabilities	6,40,000	9,00,000	Preliminary expenses	40,000	20,000
Proposed dividend	1,60,000	2,10,000			
Provision for tax	<u>1,50,000</u>	<u>1,80,000</u>			
	<u>21,20,000</u>	<u>25,75,000</u>		<u>21,20,000</u>	<u>25,75,000</u>

Additional information:

During the year 2011 the company:

- (i) Preference share capital was redeemed at a premium of 10% partly out of proceeds issue of 10,000 equity shares of ₹ 10 each issued at 10% premium and partly out of profits otherwise available for dividends.

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(ii) The company purchased plant and machinery for ₹ 95,000. It also acquired another company stock ₹ 25,000 and plant and machinery ₹ 1,05,000 and paid ₹ 1,60,000 in Equity share capital for the acquisition.

(iii) Foreign exchange loss of ₹ 1,600 represents loss in value of short-term investment.

(iv) The company paid tax of ₹ 1,40,000.

You are required to prepare cash flow statement.

(16 Marks)

Answer

Preparation of Statement of Cash Flow for XYZ Limited

Cash flow statement as per AS 3 for the year ending 31st March, 2011

(a)	Cash flow from Operating Activities	₹	₹
	Profit before tax (2,75,000 + 1,70,000)	4,45,000	
	Add: Depreciation on machinery	80,000	
	Foreign exchange loss	1,600	
	Preliminary expenses written off	20,000	
	Cash flow before working capital adjustment	5,46,600	
	Add: Stock obtained on acquire	25,000	
	Increase in Current Liabilities	2,60,000	
	Less: Increase in current assets	(2,31,000)	
	Cash flow before tax paid	6,00,600	
	Less: Tax paid	(1,40,000)	
	Cash flow from operating activities		4,60,600
(b)	Cash flow from Investing Activities		
	Purchase of Machinery	(95,000)	
	Purchase of investment	(80,000)	(1,75,000)
(c)	Cash flow from Financing Activities		
	Issue of shares at premium	1,10,000	
	Payment of dividend	(1,60,000)	
	Redemption of preference shares at premium	(2,20,000)	(2,70,000)
	Net increase/decrease in cash and cash equivalent (a+b+c)		15,600
	Cash and cash equivalent at the beginning of the year		1,50,000
	Cash and cash equivalent at the end of the year		1,65,600

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Working Notes:

1. **Plant and Machinery Account**

	₹		₹
To balance b/d	7,00,000	By depreciation	80,000
To bank	95,000		
To acquired from other	<u>1,05,000</u>	By balance c/f	<u>8,20,000</u>
	<u>9,00,000</u>		<u>9,00,000</u>

2. **Provision for Tax Account**

	₹		₹
To bank	1,40,000	By balance b/d	1,50,000
To balance c/f	<u>1,80,000</u>	By P & L	<u>1,70,000</u>
	<u>3,20,000</u>		<u>3,20,000</u>

3. **Profit for the year 2011**

	₹
P&L Account (1,75,000-1,30,000)	45,000
Transfer to general reserve (1,20,000+1,00,000 for redemption-opening 2,00,000)	20,000
Proposed dividend	<u>2,10,000</u>
Net Profit	<u>2,75,000</u>

4. **Cash and Cash Equivalent**

Opening balance + short term investment = 1,00,000 + 50,000 = ₹ 1,50,000

Closing balance = Closing cash + short term investment + foreign exchange loss
= 80,000+84,000+1,600=₹ 1,65,600

Question 5

(a) You are given the following information of the cost department of a manufacturing company:

	₹
Stores:	
Opening Balance	12,60,000
Purchases	67,20,000

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<i>Transfer from work-in-progress</i>	33,60,000
<i>Issue to work-in-progress</i>	67,20,000
<i>Issue to repairs and maintenance</i>	8,40,000
<i>Shortage found in stock taking</i>	2,52,000
<i>Work-in-progress:</i>	
<i>Opening Balance</i>	25,20,000
<i>Direct wages applied</i>	25,20,000
<i>Overhead applied</i>	90,08,000
<i>Closing Balance</i>	15,20,000

Finished products:

Entire output is sold at a profit of 12% on actual cost from work-in-progress.

Other information:

	₹
<i>Wages incurred</i>	29,40,000
<i>Overhead incurred</i>	95,50,000
<i>Income from Investment</i>	4,00,000
<i>Loss on sale of fixed assets</i>	8,40,000

Shortage in stock taking is treated as normal loss.

You are require to prepare:

- (i) *Stores control account;*
 - (ii) *Work-in-progress control account;*
 - (iii) *Costing Profit and Loss account;*
 - (iv) *Profit and Loss account and*
 - (v) *Reconciliation statement*
- (b) *What is debt securitization? Explain the basic debt securitization process.*
- (12 + 4 = 16 Marks)

Answer

(a) Stores Leger Control Account

Dr.	₹		Cr. ₹
To Balance b/d	12,60,000	By Work-in-progress control A/c	67,20,000

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To General ledger adjustment A/C	67,20,000	By Overhead control A/c	8,40,000
To Work-in progress Control A/c	33,60,000	By Overhead control A/c (Shortage)	2,52,000
		By Balance c/d	35,28,000
	1,13,40,000		1,13,40,000

W.I.P Control A/c

Dr.	₹		Cr. ₹
To Balance b/d	25,20,000	By Stores ledger control A/c	33,60,000
To Stores ledger control A/c	67,20,000	By Costing P&L A/c (Cost of Sales) (Balancing figure)	1,58,88,000
To Direct wages Control A/c	25,20,000		
To Overhead control A/c	90,08,000	BY Balance c/d	15,20,000
	2,07,68,000		2,07,68,000

Costing Profit and Loss A/c

Dr.	₹		₹	Cr. ₹
To W.I.P Control A/c	1,58,88,000	By General Ledger Adj. A/c		
To General ledger Adj. A/c (Profit)	19,06,560	Cost of sales	1,58,88,000	
		Add 12% Profit	<u>19,06,560</u>	1,77,94,560
	1,77,94,560			1,77,94,560

Financial Profit and Loss A/c

Dr.	₹	₹		₹	Cr. ₹
To opening stock : Stores	12,60,000		By Sales		1,77,94,560
W.I.P	<u>25,20,000</u>	37,80,000	By Income from investment		4,00,000
To Purchases		67,20,000	By Closing stock:		
To Wages		29,40,000	Stores	35,28,000	
			W.I.P	<u>15,20,000</u>	50,48,000

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To Overhead	95,50,000	By loss	5,87,440
To Loss on sale of fixed assets	8,40,000		
	2,38,30,000		2,38,30,000

Reconciliation Statement

Dr.	₹	Cr. ₹
Profit as per Cost Accounts		19,06,560
Add: Income from investments		<u>4,00,000</u>
		23,06,560
Less : Loss on sale of fixed assets	8,40,000	
Under absorption of overheads (working note)	<u>20,54,000</u>	<u>28,94,000</u>
Loss as per Financial Accounts		<u>5,87,440</u>

Working Notes:

Overhead Control Account

Dr.	₹		Cr. ₹
To General Ledger Adj. A/c	9550000	By W.I.P control A/c	90,08,000
To stores Ledger Control A/c	252000	By balance c/d (under absorption of overheads)	20,54,000
To stores ledger control A/c	8,40,000		
To wages control A/c Indirect wages (₹ 29,40,000-25,20,000)	4,20,000		
	1,10,62,000		1,10,62,000

- (b) Debt Securitisation and its Basic Process:** It is a method of recycling of funds. It is especially beneficial to financial intermediaries to support the lending volumes. Assets generating steady cash flows are packaged together and against this asset pool, market securities can be issued e.g., housing finance, auto loans, and credit card receivable.

Process of Debt securitization

- (i) **The Origination Function:** A borrower seeks a loan from finance company, bank, etc., the credit worthiness of borrower is evaluated and contract is entered into with repayment schedule structured over the life of the loan.

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- (ii) **The Pooling Function:** Similar loans or receivables are clubbed together to create an underlying pool of assets. The pool is transferred in favour of special purpose vehicle (SPV), which acts as a trustee for investors.
- (iii) **The Securitization Function:** SPV will structure and issue securities on the basis of assets pool. The securities carry a coupon and expected maturity, which can be asset based/mortgage based. These are generally sold to investors through merchant bankers. Investors are pension funds, mutual funds and insurance funds.

The process of securitization is without resource i.e. investors bear the credit risk or risk of default. Credit enhancement facilities like insurance, letter of credit and guarantees are provided.

Question 6

- (a) *The management of Z Company Ltd. wants to raise its funds from market to meet out the financial demands of its long-term projects. The company has various combination of proposals to raise its funds. You are given the following proposals of the company:*

(i) Proposals	% of Equity	% of Debts	% of Preference shares
P	100	-	-
Q	50	50	-
R	50	-	50

- (ii) *Cost of debt – 10%*

Cost of preference shares – 10%

- (iii) *Tax rate – 50%*

- (iv) *Equity shares of the face value of ₹ 10 each will be issued at a premium of ₹ 10 per share.*

- (v) *Total investment to be raised ₹ 40,00,000.*

- (vi) *Expected earnings before interest and tax ₹ 18,00,000.*

From the above proposals the management wants to take advice from you for appropriate plan after computing the following:

- Earnings per share*
- Financial break-even-point*
- Compute the EBIT range among the plans for indifference. Also indicate if any of the plans dominate.*

- (b) *Distinguish between cost units and cost centres.*

(12 + 4 = 16 Marks)

Answer

(a) (i) Computation of Earnings per Share (EPS)

Plans	P	Q	R
	₹	₹	₹
Earnings before interest & tax (EBIT)	18,00,000	18,00,000	18,00,000
Less: Interest charges	-	2,00,000	-
Earnings before tax (EBT)	18,00,000	16,00,000	18,00,000
Less : Tax @ 50%	<u>9,00,000</u>	<u>8,00,000</u>	<u>9,00,000</u>
Earnings after tax (EAT)	9,00,000	8,00,000	9,00,000
Less : Preference share dividend	<u>-</u>	<u>-</u>	<u>2,00,000</u>
Earnings available for equity shareholders	9,00,000	8,00,000	7,00,000
No. of shares	2,00,000	1,00,000	1,00,000
E.P.S (Rs.)	4.5	8	7

(ii) Computation of Financial Break-even Points

Proposal 'P' = 0

Proposal 'Q' = ₹ 2,00,000 (Interest charges)

Proposal 'R' = Earnings required for payment of preference share dividend i.e.
₹ 2,00,000 , 0.5 (Tax Rate) = ₹ 4,00,000

(iii) Computation of Indifference Point between the Proposals

The indifference point

$$\frac{(EBIT - 1_1)(1 - T)}{E_1} = \frac{(EBIT - 1_2)(1 - T)}{E_2}$$

Where,

EBIT = Earnings before interest and tax

1_1 = Fixed Charges (Interest) under Proposal 'P'

1_2 = Fixed charges (Interest) under Proposal 'Q'

T = Tax Rate

E_1 = Number of Equity shares in Proposal P

E_2 = Number of Equity shares in Proposal Q

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Combination of Proposals

(A) Indifference point where EBIT of proposal “P” and proposal ‘Q’ is equal

$$\frac{(EBIT - 0)(1 - .5)}{2,00,000} = \frac{(EBIT - 2,00,000)(1 - 0.5)}{1,00,000}$$

$$.5 EBIT (1,00,000) = (.5 EBIT - 1,00,000) 2,00,000$$

$$.5 EBIT = EBIT - 2,00,000$$

$$EBIT = ₹ 4,00,000$$

(b) Indifference point where EBIT of proposal ‘P’ and Proposal ‘R’ is equal:

$$\frac{(EBIT - 1)(1 - T)}{E_1} = \frac{EBIT - 12}{E_2} - \text{Preference share dividend}$$

$$\frac{(EBIT - 0)(1 - .5)}{2,00,000} = \frac{(EBIT - 0)(1 - .5) - 2,00,000}{1,00,000}$$

$$\frac{.5EBIT}{2,00,000} = \frac{.5EBIT - 2,00,000}{1,00,000}$$

$$.25 EBIT = 0.5 EBIT - 2,00,000$$

$$EBIT = 2,00,000 \div 0.25$$

$$= ₹ 8,00,000$$

(c) Indifference point where EBIT of proposal ‘Q’ and proposal ‘R’ are equal

$$\frac{(EBIT - 2,00,000)(1 - 0.5)}{1,00,000} = \frac{(EBIT - 0)(1 - 0.5) - 2,00,000}{1,00,000}$$

$$.5 EBIT - 1,00,000 = .5 EBIT - 2,00,000$$

There is no indifference point between proposal ‘Q’ and proposal ‘R’

Analysis: It can be seen that Financial proposal ‘Q’ dominates proposal ‘R’, since the financial break-even-point of the former is only ₹ 2,00,000 but in case of latter, it is ₹ 4,00,000.

(b) **Cost units:** It is a unit of product, service or time (or combination of these) in relation to which costs may be ascertained or express. A batch which consists of a group of identical items and maintain its identity through one or more stages of production may also be considered as a cost unit. Cost units are usually the units of physical measurement like number, weight, area, volume, length, time and value.

Cost centre: It is defined as a location, person or an stress of equipment (or group of these) for which cost may be ascertained and used for the purpose of cost control. Cost centres are of two types, viz., personal and impersonal. A personal cost centre consists of a person or group of persons and an impersonal cost centre consists of a location or an item of equipment (or group of these).

Question 7

Answer any **four** of the following:

- (a) How do you deal with the following in cost account?
 - (i) Packing Expenses
 - (ii) Fringe benefits
- (b) Explain the following ratios:
 - (i) Operating ratio
 - (ii) Price earnings ratio
- (c) Enumerate the causes of labour turnover.
- (d) Write short note on William J. Baumal Vs. Miller-Orr cash management model.
- (e) Discuss the process of estimating profit/loss on incomplete contracts. (4 x 4 = 16 Marks)

Answer

- (a) **Packing expenses:** Cost of primary packing necessary for protecting the product or for convenient handling, should become a part of the prime cost. The cost of packing to facilitate the transportation of the product from the factory to the customer should become a part of the distribution cost. If the cost of special packing is at the request of the customer, the same should be charged to the specific work order or the job. The cost of fancy packing necessary to attract customers is an advertising expenditure. Hence, it is to be treated as a selling overhead.

Fringe benefits: These are the additional payments or facilities provided to the workers apart from their salary and direct cost-allowances like house rent and city compensatory allowances. If the amount of fringe benefit is considerably large, it may be recovered as direct charge by means of a supplementary wage or labour rate; otherwise these may be collected as part of production overheads.

- (b) (i) **Concept of Operating Ratio**

$$\text{Operating ratio} = \frac{\text{Cost of goods sold} + \text{operating expenses}}{\text{Net sales}} \times 100$$

This is the test of the operational efficiency with which the business is being carried; the operating ratio should be low enough to leave a portion of sales to give a fair return to the investors.

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(ii) Concept of Price-Earning ratio

$$\text{Price Earning Ratio} = \frac{\text{Market price per equity share}}{\text{Earning per share}}$$

This ratio indicates the number of times the earnings per share is covered by its market price. It indicates the expectation of equity investors about the earnings of the firm.

(c) Causes of Labour Turnover : The main causes of labour turnover in an organisation/industry can be broadly classified under the following three heads :

- (a) Personal Causes;
- (b) Unavoidable Causes; and
- (c) Avoidable Causes.

Personal causes are those which induce or compel workers to leave their jobs; such causes include the following :

- (i) Change of jobs for betterment.
- (ii) Premature retirement due to ill health or old age.
- (iii) Domestic problems and family responsibilities.
- (iv) Discontent over the jobs and working environment.

Unavoidable causes are those under which it becomes obligatory on the part of management to ask one or more of their employees to leave the organisation; such causes are summed up as listed below:

- (i) Seasonal nature of the business;
- (ii) Shortage of raw material, power, slack market for the product etc.;
- (iii) Change in the plant location;
- (iv) Disability, making a worker unfit for work;
- (v) Disciplinary measures;
- (vi) Marriage (generally in the case of women).

Avoidable causes are those which require the attention of management on a continuous basis so as to keep the labour turnover ratio as low as possible. The main causes under this case are indicated below :

- (i) Dissatisfaction with job, remuneration, hours of work, working conditions, etc.,
- (ii) Strained relationship with management, supervisors or fellow workers;

- (iii) Lack of training facilities and promotional avenues;
- (iv) Lack of recreational and medical facilities;
- (v) Low wages and allowances.

(d) **William J Baumal vs Miller- Orr Cash Management Model:** According to William J Baumal's Economic order quantity model optimum cash level is that level of cash where the carrying costs and transactions costs are the minimum. The carrying costs refer to the cost of holding cash, namely, the interest foregone on marketable securities. The transaction costs refer to the cost involved in getting the marketable securities converted into cash. This happens when the firm falls short of cash and has to sell the securities resulting in clerical, brokerage, registration and other costs.

The optimum cash balance according to this model will be that point where these two costs are equal. The formula for determining optimum cash balance is :

$$C = \sqrt{\frac{2UP}{S}}$$

Where,

- C = Optimum cash balance
- U = Annual (monthly) cash disbursements
- P = Fixed cost per transaction
- S = Opportunity cost of one rupee p.a. (or p.m)

Miller-Orr cash management model is a net cash flow stochastic model. This model is designed to determine the time and size of transfers between an investment account and cash account. In this model control limits are set for cash balances. These limits may consist of h as upper limit, z as the return point, and zero as the lower limit.

When the cash balances reach the upper limit, the transfer of cash equal to h-z is invested in marketable securities account. When it touches the lower limit, a transfer from marketable securities account to cash account is made. During the period when cash balance stays between (h,z) and (z, 0) i.e high and low limits no transactions between cash and marketable securities account is made. The high and low limits of cash balance are set up on the basis of fixed cost associated with the securities transactions, the opportunity cost of holding cash and the degree of likely fluctuations in cash balances. These limits satisfy the demands for cash at the lowest possible total costs.

- (e) **Process of Estimating Profit/Loss on Incomplete Contracts:** To determine the profit to be taken to Profit and Loss Account, in the case of incomplete contracts, the following process is followed:
- (i) *Completion of contract is less than 25 per cent:* In this case no profit should be taken to profit and loss account.

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- (ii) *Completion of contract is upto 25 per cent or more than 25 per cent but less than 50 per cent:* In this case one-third of the notional profit, reduced in the ratio of cash received to work certified, should be transferred to the Profit and Loss Account. Mathematically:

$$\frac{1}{3} \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work received}}$$

- (iii) *Completion of contract is upto 50 per cent or more than 50 per cent but less than 90 per cent:* In this case, two-third of the notional profit, reduced by proportion of cash received to work certified, is transferred to the Profit and Loss Account. Mathematically :

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

- (iv) *Completion of contract is upto 90 per cent or more than 90 per cent i.e. it is nearing completion:* In this case the profit to be taken to Profit and Loss Account is determined by determining the estimated Profit and using any one of the following formulas :

(a) $\text{Estimated Profit} \times \frac{\text{Work certified}}{\text{Contract price}}$

(b) $\text{Estimated Profit} \times \frac{\text{Work certified}}{\text{Contract price}} \times \frac{\text{Cash received}}{\text{Work certified}}$

OR

$$\text{Estimated Profit} \times \frac{\text{Cash received}}{\text{Contract price}}$$

(c) $\text{Estimated Profit} \times \frac{\text{Cost of work to date}}{\text{Estimated total cost}}$

(d) $\text{Estimated Profit} \times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$

(e) $\text{Notional Profit} \times \frac{\text{Work certified}}{\text{Contract price}}$