

1. Answer any **five** of the following :

(i) Define the following :

- (a) Imputed cost
- (b) Capitalised cost.

(ii) Calculate efficiency, and activity ratio from the following data :

Capacity ratio	=	75%
Budgeted output	=	6000 units
Actual output	=	5000 units
Standard Time per unit	=	4 hours

(iii) List the Financial expenses which are not included in cost,

(iv) Mention the main advantage of cost plus contracts.

(v) A Company sells two products, J and K. The sales mix is 4 units of J and 3 units of K. The contribution margins per unit are Rs. 40 for J and Rs. 20 for K. Fixed costs are Rs. 6,16,000 per month. Compute the break-even point.

(vi) When is the reconciliation statement of Cost and Financial accounts not required ?

Ans. 1. (i) (a) Imputed costs- These costs are notional costs which do not involve any cash outlay. Interest on capital, the payment for which is not actually made, is an example of imputed cost, These costs are similar to opportunity costs.

Ans. 1. (i) (b) Capitalised Cost : The Cost which generates enduring benefits and helps in revenue generation over more than one accounting period, is called Capitalised Cost. These Costs are written off in the calculation of cost of a product or service over several accounting periods.

Ans (1) (ii) Capacity ratio = $\frac{ATw}{BT}$

$$75\% = \frac{ATw}{6000 \times 4}$$

$$\therefore ATw = 24000 \times 75\% = 18000 \text{ hrs}$$

$$\text{Efficiency ratio} = \frac{ST}{ATw} = \frac{5000 \times 4}{18000} \times 100 = 111.11\%$$

$$\text{Activity ratio} = \frac{ST}{BT} = \frac{20000}{24000} \times 100 = 83.33\%$$

Here ST = Standard time for actual output

ATw = Actual time worked

BT = Budgeted time.

Ans. 1 (iii) List of Financial Expenses which are not included in Cost Records -

- (a) Profit/Loss on sale of fixed assets, investments.
- (b) Preliminary Expenses written off.
- (c) Goodwill written off etc.
- (d) Provision for taxation.
- (e) Appropriation of profit - dividend transfer to reserve etc.

Ans. 1 (iv) Advantages of Cost-plus Contracts : Such contracts have number of advantages for the contractor and the contractee.

Advantages to Contractor

- (i) All costs are fully covered. There is no risk of loss due to price changes and under estimation of costs,
- (ii) There are no bargaining hassles.
- (iii) There is an automatic escalation clause so that cost increases are recovered,
- (iv) Profit is known in advance,
- (v) Work of preparing tenders and quotations gets simplified.

Advantages of Contractee

- (i) Contractee pays only the reasonable price based on actual cost incurred,
- (ii) No bargaining hassles,
- (iii) Contractee gets the benefit of fall in price of materials and wage rates, etc.

Ans. 1. (v) Break up point in case of multi product firm

$$\begin{aligned} \text{BEP} &= \frac{\text{Fixed Cost}}{\text{Overall Contribution per unit}} = \frac{616000}{31.428571/- \text{ (W.N.1)}} \\ &= 19600 \text{ Units per month} \end{aligned}$$

W.N. (1)

Overall contribution per unit

Product	Contribution per unit	Sales Mix	Contribution X Sales Mix
J	40/-	4 units	160
K	20/-	3 units	60
		<u>7</u>	<u>220</u>

$$\begin{aligned} \text{Overall Contribution per unit} &= \frac{\sum \text{Contribution} \times \text{Sales Mix}}{\sum \text{Sales Mix}} \\ &= \frac{220}{7} = 31.428571 \text{ /-} \end{aligned}$$

Ans.1 (vi) If the enterprises is maintaining integrated system of accounting, then reconciliation statement of cost and financial accounts are not required. In case of integrated system of accounting, cost and financial accounts are kept in the same set of books; therefore there is no need to reconcile them.

QN 2. Mega Company has just completed its first year of operations. The unit costs on a normal costing basis are as under :

	Rs.
Direct material 4 kg @ Rs. 4	= 16.00
Direct labour 3 hrs @ Rs. 18	= 54.00
Variable overhead 3 hrs @ Rs. 4	= 12.00
Fixed overhead 3 hrs @ Rs. 6	= <u>18.00</u>
	<u>100.00</u>

Selling and administrative costs :

Variable	Rs. 20 per unit
Fixed	Rs. 7,60,000

During the year the company has the following activity :

Units produced	= 24,000
Units sold	= 21,500
Unit selling price	= Rs. 168
Direct labour hours worked	= 72,000

Actual fixed overhead was Rs. 48,000 less than the budgeted fixed overhead. Budgeted variable overhead was Rs. 20,000 less than the actual variable overhead. The company used an expected actual activity level of 72,000 direct labour hours to compute the predetermine overhead rates.

Required :

- (i) Compute the unit cost and total income under :
 - (a) Absorption costing
 - (b) Marginal costing.
- (ii) Under or over absorption of overhead.

(iii) Reconcile the difference between the total income under absorption and marginal costing.

[15 marks]

Ans 2. (i)

Profit & Loss A/c under absorption costing

To D. Material (24000 units @ 16/- per unit)	384000	By Sales (215000 units @ 168/- p.u.)	3612000
" D. Labour (24000 units @ 54/- per unit)	1296000	" Over recovery of fixed overhead	48000
" Variable overhead absorbed	288000	" <u>Closing Stock</u>	
" Fixed overhead absorbed	432000	(100/- x 2500 units)	250000
" <u>Selling & Admn. Overhead</u>			
Variable	430000		
(21500 units @ 20/- p.u.)			
Fixed	760000		
" Under recovery of variable overhead	20000		
" Net Income	300000		
	<u>3910000</u>		<u>3910000</u>

Profit & Loss A/c under marginal costing

To D. Material	384000	By Sales	3612000
" D. Labour	1296000	" Closing Stock	207083
" Variable overhead (Actual)	308000	(82.8333/- x 2500 units)	
" Fixed overhead (Actual)	384000		
" <u>Selling & Admn. OH</u>			
Variable	430000		
Fixed	760000		
" Net Income	257083		
	<u>3819083</u>		<u>3819083</u>

Budgeted Fixed overhead = 72000 labours hours x 6/- per hour = 432000/-

Actual Fixed overhead = 432000/- - 48000 /- = 383000/-

Fixed overhead absorbed = units produced x fixed oh per unit

= 24000 x 18/- = 432000 /-

Budgeted variable overhead = 72000 labour hours @ 4/- per hour = 288000 /-

Actual variable overhead = 288000/- + 20000 /- = 308000 /-

Cost per unit under absorption costing

	<u>Rs.</u>
D. Material	16.00
D. Labour	54.00
Variable Overhead	12.00
Fixed Overhead	18.00
Total Cost	100.00

Cost per unit under Marginal costing

	<u>Rs.</u>
D. Material	16.00
D. Labour	54.00
Variable overhead	12.83
(308000/- ----- 2400 units)	
Total Cost	82.83

(ii) Under or over absorption of overhead

(a) Variable Overhead (Actual)		308000/-
" " (Absorbed)		<u>288000/-</u>
Under recovery	=	<u>20000/-</u>
(b) Fixed overhead (Actual)	=	384000/-
" " (Absorbed)	=	<u>432000/-</u>
Over recovery	=	<u>48000/-</u>

Ans. 2 (iii) Reconciliation statement between profit under absorption costing & marginal costing

Profit as per marginal costing	257083 /-
Add : under valuation of Clo. Stock in marginal costing	42917/-
Profit as per absorption costing	-----
	300000 /-

3. (a) XP Ltd. furnishes you the following information relating to process II.

(i) Opening work-in-progress—NIL

(ii) Units introduced 42,000 units @ Rs. 12

(iii) Expenses debited to the process :

	Rs.
Direct material	61,530
Labour	88,820
Overheads	1,76,400

(iv) Normal loss in the process = 2% of input.

(v) Closing work-in-progress—1200 units

Degree of completion —	Materials	100%
	Labour	50%
	Overhead	40%

(vi) Finished output—39500 units

(vii) Degree of completion of abnormal loss :

Material	100%
Labour	80%
Overhead	60%

(viii) Units scrapped as normal loss were sold at Rs. 4.50 per unit,

(ix) All the units of abnormal loss were sold at Rs. 9 per unit.

Prepare :

- Statement of equivalent production.
- Statement showing the cost of finished goods, abnormal loss and closing work-in-progress.
- Process II account and abnormal loss account.

[8 marks]

(b) The following information is available from the cost records of Vatika & Co. For the month of August, 2009 :

Material purchased 24,000 kg Rs. 1,05,600
 Material consumed 22,800 kg
 Actual wages paid for 5,940 hours Rs. 29,700
 Unit produced 2160 units.
 Standard rates and prices are :
 Direct material rate is Rs. 4.00 per unit
 Direct labour rate is Rs. 4.00 per hour
 Standard input is 10 kg. for one unit.
 Standard requirement is 2.5 hours per unit.

Calculate all material and labour variances for the month of August-2009.

[8 marks]

Ans. (3) (a) Statement showing equivalent production

Particulars	Total	Material		Labour		Overhead	
		%	Qty	%	Qty	%	Qty
(i) Opening WIP	NIL	--	--	--	--	--	--
(ii) Units in produced, completed & transferred process III	39500	100%	39500	100%	39500	100%	39500
(iii) Normal Loss	840	--	--	--	--	--	--
(iv) Abnormal Loss	460	100%	460	80%	368	60%	276
(v) Closing WIP	1200	100%	1200	50%	600	40%	480
Equivalent Production	42000		41160		40468		40256

Statement showing cost per unit of each element of material, labour & overhead

	Material	Labour	Overhead
Total Material Cost including additional material (Rs.)	565530	88820	176400
Less : Scrap value of Normal Loss [840 units @ 4.5/- per unit]	3780	--	--
	561750	88820	176400
Equivalent Production	41160	40468	40256
Cost per unit	13.647959/-	2.1948205/-	4.3819554/-

Statement showing cost of finished goods, abnormal loss closing WIP

Particulars	Finished Goods	Abnormal Loss	Closing WIP
D. Material	539094/- (39500 x 13.647959)	6278/- (460 x 13.6479)	16378/- (1200 x 13.6479/-)
D. Labour	86695/- (39500 x 2.1948)	807/- (368 x 2.1948/-)	1318/- (600 x 2.1948/-)
Overhead	173087/- (39500 x 4.3819/-)	1210/- (276 x 4.3819/-)	2103/- (480 x 4.3819/-)
	798876/-	8295/-	19799/-

Process II account

Particulars	Qty	Amount	Particulars	Qty	Amount
To D. Material	42000	504000	By Normal Loss	840	3780
" Other Material	--	61530	" Abnormal Loss	460	8295
" D. Labour	--	88820	" Finished Goods a/c	39500	798876
" Overhead	--	176400	" Closing WIP	1200	19799
	42000	830750		42000	830750

Abnormal Loss account

To Process II a/c	8295	By Cash a/c (460 units @ 9/- p.u.)	4140
		" Profit & Loss a/c (B/F)	4155
	8295		8295

Ans. 3 (b) Material Variances (Assuming Partial plan)

SP x SQ	SP x SM	SP x AQ used	AP x AQ used
4 x (10 x 2160) = 86400/-	4 x 22800 = 91200/-	4 x 22800 = 91200/-	4.4 x 22800 = 100320

SP = Standard Price of material per kg = 4/-

SQ = Standard Quantity for actual output = 10 kg x 2160 units = 21600 k.g.

AQ used = Actual Quantity used = 22800 k.g.

Rs. 105600

$$\begin{aligned} \text{AP} &= \text{Actual Price of Material per K.g.} = \frac{\text{Rs. 105600}}{\text{24000 k.g.}} \\ &= 4.4/- \text{ per k.g.} \end{aligned}$$

SM = Total Actual quantity used in standard mix ratio = 22800 k.g. (because there is only one material given in the question)

$$\text{Material Cost variance} = (\text{SP} \times \text{SQ}) - (\text{AP} \times \text{AX used}) = 86400/- - 100320/- = 13920 \text{ /- (A)}$$

$$\text{Material Price variance} = (\text{SP} \times \text{AX used}) - (\text{AP} \times \text{AQ used}) = 91200/- - 100320/- = 9120/- \text{ (A)}$$

$$\text{Material usage variance} = (\text{SP} \times \text{SQ}) - (\text{SP} \times \text{AQ used}) = 86400 - 91200 = 4800/- \text{ (A)}$$

$$\text{Material Mix Variance} = (\text{SP} \times \text{SM}) - (\text{SP} \times \text{AQ used}) = 91200 - 91200 = \text{NIL}$$

$$\text{Material yield variance} = (\text{SP} \times \text{SQ}) - (\text{SP} \times \text{SM}) = 86400 - 91200 = 4800 \text{ /- (A)}$$

Labour variance

SR X ST	SR X SM	SR X ATW	SR X ATP	AR X ATP
4 x (2.5 x 2160)	4 x 5940	4 x 5940	4 x 5940	29700/-
= 21600/-	= 23760/-	= 23760/-	= 23760/-	

Here,

SR = Standard rate of labour per hour

AT = Actual rate of labour per hour

ST = Standard time for actual output

ATw = Actual time worked.

ATp = Actual time paid for

SM = Total Actual time worked in standard mix ratio.

Note : - (1) It is assumed that ATP = ATw

(2) In this question only one type of labour is there therefore SM = ATw.

SR = 4/- per hour

ST = 2.5 hours per unit x 2160 units = 5400 hours

ATp = ATw = SM = 5940 hours

$$\text{Labour cost variance} = (\text{SR} \times \text{ST}) - (\text{AR} \times \text{ATp}) = 21600 - 29700 = 8100/- \text{ (A)}$$

$$\text{Labour rate variance} = (\text{SR} \times \text{ATp}) - (\text{AR} \times \text{ATp}) = 23760 - 29700 = 5940/- \text{ (A)}$$

$$\text{Labour Idle time variance} = (\text{SR} \times \text{ATw}) - (\text{SR} \times \text{ATp}) = \text{NIL}$$

$$\text{Labour Mix Variance} = (\text{SR} \times \text{SM}) - (\text{SR} \times \text{ATw}) = \text{NIL}$$

$$\text{Labour Efficiency Variance} = (\text{SR} \times \text{ST}) - (\text{SR} \times \text{SM}) = 21600 - 23760 = 2160 \text{ (A)}$$

QN 4. Answer any **three** of the following :

[3 x 3 = 9 marks]

(i) Standard Time for a job is 90 hours. The hourly rate of Guaranteed wages is Rs. 50. Because of the saving in time a worker A gets an effective hourly rate of wages of Rs. 60 under Rowan premium bonus system. For the same saving in time, calculate the hourly rate of wages a worker B will get under Halsey premium bonus system assuring 40% to worker.

(ii) Explain briefly, what do you understand by Operating Costing. How are composite units computed ?

(iii) The following information relating to a type of Raw material is available :

Annual demand	2000 units
Unit price	Rs. 20.00
Ordering cost per order	Rs. 20.00
Storage cost	2% p.a.
Interest rate	8% p.a.
Lead time	Half-month

Calculate economic order quantity and total annual inventory cost of the raw material.

(iv) List the eight functional budgets prepared by a business.

Ans (4) (i) Time Allowed = 90 hours
 Time taken = x hours (Assumed)
 Time saved = 90 – x

Total Earning of the worker under Rowan System

Total = Time wages + Bonus Earning

$$60x = (X \times 50) + \frac{TT}{TA} \times TS \times \text{Guaranteed wages per hour}$$

$$60x = 50x + \frac{X}{90} \times (90 - x) \times 50$$

$$10x = 50x - \frac{50x^2}{90}$$

$$\frac{50x^2}{90} = 50x - 10x$$

$$\frac{50x^2}{90} = 40x$$

$$x^2 = \frac{40x \times 90}{50}$$

$$\therefore x^2 = 72x$$

$$\therefore x = 72 \text{ hours}$$

TT = Time Taken (Hours)

TA = Time Allowed (")

TS = Time Saved (")

Total earning of the worker under halsey scheme (40%) For the same savings in time

$$\begin{aligned} \text{Total Earning} &= \text{Time wages} + \text{Bonus} \\ &= \text{Time wages} + 50\% \text{ of time saved} \times \text{Guaranteed wages} \\ &= (50\% \times 72 \text{ hours}) + 50\% [18 \text{ hours} \times 50/-] \\ &= 3600/- + 450/- = 4050 /- \end{aligned}$$

$$\begin{aligned} \text{Hourly Earning of worker B} &= \frac{\text{Total Earning}}{\text{TT}} \\ &= \frac{4050 /-}{72 \text{ hrs}} = 56.25/- \end{aligned}$$

Qn. 4(ii) MEANING OF OPERATING COSTING : It is a method of ascertaining costs of providing or operating a service. This method of costing is applied by those undertakings which provide services rather than production of commodities. The emphasis under operating costing is on the ascertainment of cost of services rather than on the cost of manufacturing a product. This costing method is usually made use of by transport companies; gas and water works departments, electricity supply companies, canteens, hospitals, theatres, schools, etc.

Composite units i.e, tonnes Kms, quintal Kms. etc may be computed in two ways -

- i) **Absolute (Weighted average) tonnes-kms., quintal kms., etc.** : Absolute (weighted) tonnes kms, are the sum total of tonnes kms., arrived at by multiplying various distances by respective load quantities carried.
- ii) **Commercial (simple average) tonnes Kms., quintal Kms etc.** : Commercial (simple average) tonnes Kms., are arrived at by multiplying total distance kms., average load quantity.

Ans 4 (iii)

$$\text{Economic order quantity} = \sqrt{\frac{2AB}{C}}$$

A = Annual Consumption = 2000 units assuming consumption ratio of finished goods & Raw material is 1:1

B= Ordering Cost per order = 20/-

C = Carrying cost per unit per annum = (2% + 8%) of Purchase price
= 10% of Rs. 20/- = 2/- per unit p.a.

$$\text{EOQ} = \sqrt{\frac{2AB}{C}} = \sqrt{\frac{2 \times 2000 \times 20}{2}} = 200 \text{ units}$$

Total Annual Inventory cost of Raw Material

= Inventory Purchase cost + Inventory Holding Cost + Inventory Carrying Cost
= 40000/- + 200/- + 200/- = 40400/-

Inventory Purchase Cost = 2000 units @ 20/- p.u. = 40000/-

$$\begin{aligned} \text{Holding Cost} &= \frac{AB}{\text{EOQ}} = \frac{2000 \times 20}{200} \\ &= 200/- \end{aligned}$$

$$\begin{aligned} \text{Carrying Cost} &= \frac{\text{EOQ} \times C}{2} = \frac{200 \text{ units} \times 2/-}{2} \\ &= 200/- \end{aligned}$$

QN 4 (iv) List of eight functional budgets prepared by a business are –

1. Sales Budget
2. Production Budget
3. Production Cost Budget
4. Raw Material Consumption Budget
5. Raw Material Purchase Budget
6. Direct Labour Budget
7. Factory/Manufacturing Overheads Budget
8. Administration Overheads Budget etc.

5. Answer any five of the following :

[5 x 2 = 10 marks]

- (i) Explain briefly the limitations of Financial ratios.
- (ii) What do you understand by Business Risk and Financial Risk ?
- (iii) Differentiate between Factoring and Bills discounting.
- (iv) Differentiate between Financial Management and Financial Accounting.
- (v) Y Ltd. retains Rs. 7,50,000 out of its current earning. The expected rate of return to the shareholders. If they had invested the funds elsewhere is 10%. The brokerage is 3% and the shareholders came in 30% tax bracket. Calculate the cost of retained earning.
- (vi) From the informations given below calculate the amount of Fixed assets and Proprietor's fund.
Ratio of fixed assets to proprietors fund = 0.75

Net working capital = Rs. 6,00,000

Ans. 5 (i) Limitations of Financial ratios

- (a) Financial statements do not represent a complete picture of the business, but merely a collection of facts which can be expressed in monetary terms. These may not refer to other factors which affect performance.
- (b) Over use of ratios as controls on managers could be dangerous, in that management might concentrate more on simply improving the ratios than on dealing with the significant issues. For example, the return on capital employed can be improved by reducing assets rather than increasing profits.
- (c) Ratios are interconnected. They should not be treated in isolation. The effective use of ratios, therefore, depends on being aware of all these limitations and ensuring that, following comparative analysis, they are used as a trigger point for investigation and corrective action rather than being treated as meaningful in themselves.

Qn 5 (ii) Business Risk : It is concerned with the operation of any firm. The cost structure of the any firm gives rises to business risks because of the existence of fixed nature of costs.

Financial Risk : It indicates the effects on earnings by rise of fixed cost funds. It refers to the use of debt in the capital structure. Financial risk arises when a firm deploys debt funds with fixed charge.

Ans. 5 (iii)

Factoring	Bills discounting
<ol style="list-style-type: none"> 1. It is also called 'Invoice factoring'. 2. In this, the parties are viz., client, factor and debtor. 3. It is broad in scope. 4. It is management of book debts. 5. Maximum time is 6 months. 6. Grace time is not given. 7. Bad debts protection is given for extra commission. 8. There is no specific Act. 9. Settlement : No such provision. 10. Provision of advance payment on book debts is available. 	<ol style="list-style-type: none"> 1. It is also called 'Invoice discounting'. 2. In this, the parties are : drawer, drawee and payee. 3. It is narrow in its scope. 4. It is a sort of borrowing from commercial banks. 5. Maximum time is 3 months. 6. Grace time is 3 days. 7. Protection is allowed for del credere commission. 8. Negotiable Instruments Act applies. 9. Settlement : Notary public. 10. No such provision is available.

Ans 5 (iv) Difference between Financial Management and Financial Accounting :

Just as production and sales are major functions in an enterprise, finance too is an independent specialized function and it is well knit with other functions. Financial management is a separate management area. In many organizations accounting and finance functions are clubbed and the finance function is often considered as part of the functions of the Accountant. But the Financial management is something more than an art of accounting and book keeping in the sense that, accounting function discharges the function of systematic recording of transactions relating to the firm's transactions in books of account and summarizing the same for presenting in financial statements viz, Profit and loss account and Balance sheet, Funds flow and Cash flow statements. The finance manager will make use of the accounting information in analysis and review of the firm's business position in decision making. In addition to the analysis of financial information available from the books of account and records of the firm, a Finance manager uses the other methods and techniques like capital budgeting techniques, statistical and mathematical models and computer applications in decision making to maximize the value of the firm's wealth and value of the owners' wealth. In view of the above, finance function is a distinct and separate function rather than simply an extension of accounting function. Financial management is the key function, many firms prefer to centralize the function to keep constant control on the finances of the firm. Any inefficiency in Financial management will be concluded with a disastrous situation. But, as far as, the routine matters are concerned, the finance function could be decentralized with adoption of responsibility accounting concept. It is advantageous to decentralize accounting function on to speedup the process of information. But since the accounting information is used in taking financial decisions, proper controls should be exercised on accounting function in processing of accurate and reliable information to the needs of the firm. The centralization or decentralization if accounting and finance functions mainly depend on the attitude of the top level management.

Ans. 5. (v) Cost of Retained Earnings : Kr x Retained Earnings

$$K_r = (D - I) (1 - t)$$

Where K_r = Cost of Retained Earnings

D = Opportunity Cost of Capital = 10%

I = Incidental cost = 3%

t = tax rate = 30%

$$K_r = (10\% - 3\%) \times (1 - 0.30)$$

$$= 4.9\%$$

$$\text{Cost of Retained Earnings} : K_r \times \text{Retained Earnings} = 4.9\% \times \text{Rs. } 7,50,000 = \text{Rs. } 36,750$$

Ans. 5. (vi) Proprietor Fund = Fixed Assets + Working Capital

Fixed Assets

$$\text{-----} = 0.75$$

Proprietor Fund

Fixed Assets

$$\text{-----} = 0.75$$

Fixed Assets + Working Capital

Fixed Assets

$$\text{-----} = 0.75$$

Fixed Assets + Rs. 6,00,000

$$0.75 \text{ Fixed Assets} + \text{Rs. } 4,50,000 = \text{Fixed Assets}$$

$$\text{Therefore Fixed Assets} = \frac{\text{Rs. } 4,50,000}{0.25} = \text{Rs. } 18,00,000$$

Proprietor Fund = Fixed Assets + Working Capital

$$= 18,00,000 + 6,00,000 = \text{Rs. } 24,00,000$$

Qn. 6. The Balance Sheets of a Company as on 31st March, 2008 and 2009 are given below :

Liabilities	31.3.08 Rs.	31.3.09 Rs.	Assets	31.3.08 Rs.	31.3.09 Rs.
Equity share capital	14,40,000	19,20,000	Fixed assets	38,40,000	45,60,000
Capital reserve	-	48,000	Less depreciation	11,04,000	13,92,000
General reserve	8,16,000	9,60,000		27,36,000	31,68,000
Profit & Loss A/c	2,88,000	3,60,000	Investment	4,80,000	3,84,000
9% debentures	9,60,000	6,72,000	Sunder debtors	12,00,000	14,00,000
Sundry creditors	5,50,000	5,90,000	Stock	1,40,000	1,84,000
Bills payables	26,000	34,000	Cash in hand	4,000	-
Proposed dividend	1,44,000	1,72,800	Preliminary Expenses	96,000	48,000
Provision for tax	4,32,000	4,08,000			
Unpaid dividend	-	19,200			
	<u>46,56,000</u>	<u>51,84,000</u>		<u>46,56,000</u>	<u>51,84,000</u>

Additional informations:

During the year ended 31st March, 2009 the company :

- Sold a machine for Rs. 1,20,000; the cost of machine was Rs. 2,40,000 and depreciation provided on it was Rs. 84,000.
- Provided Rs. 4,20,000 as depreciation fixed assets.
- Sold some investment and profit credited to capital reserve.
- Redeemed 30% of the debenture @ 105
- Decided to write off fixed assets costing Rs. 60,000 on which depreciation amounting to Rs. 48,000 has been provided.

You are required to prepare Cash Flow Statement as per AS-3.

[15 marks]

Ans. 6

Cash Flow Statement

Cash flow operating activities

Increase in P/L	72000
Transfer to G/ Reserve	144000
Transfer to Capital Reserve	48000
Proposed Dividend	172800
Depreciation	420000
Preliminary Exps. W. off	48000
Loss on sale of machinery (w.n.2)	36000
Profit on sale of investment (w.n.4)	(48000)
Loss on redemption of debenture	14400
Depreciation w. off on F.A. (w.n. 3)	(48000)
F. Assets W. off	60000
Opening Cash before w. capital changes	919200

Changes in working capital

Increase in Debtor	(200000)	
Increase in Stock	(44000)	
Increase in Creditor	40000	
Increase in B/P	8000	(196000)
Cash generated from operations		723200
Less – I. Tax paid		(24000)
		<u>6,99,200 (A)</u>

Cash flow from investing activities

Sale of machinery	120000	
Sale of investment	144000	
Purchase of F. Assets	(1020000)	
Cash from Investing activities		<u>(75600) (B)</u>

Cash flow from financing activities

Payment of Dividend (144000 – 19200) =	(124800)	
Redemption of Debentures	(302400)	
Issue of equity share capital	480000	
Cash from financing activities		<u>52800 (C)</u>
Total Cash generated (A + B + C)		(4000)
Add – Cash at the beginning of the years		<u>4000</u>
Cash at the end of the years		<u>NIL</u>

W.N. 1

Fixed Asset A/c

To Balance b/d	3840000	By Sales of machinery	240000
" Cash A/c (B/F)	1020000	" P/L A/c (W. off)	60000
(Purchase of F.A.)		" Balance c/d	4560000
	<u>4860000</u>		<u>4860000</u>

W.N. 2

Machinery A/c

To Balance b/d	240000	By Depreciation	84000
		" Cash A/c	120000
		" P/L A/c (Loss on sale)	36000
	<u>240000</u>		<u>240000</u>

W.N. 3

Depreciation A/c

To Machinery A/c	84000	By Balance b/d	1104000
" P/L (W. off)	48000	" P/L A/c	420000
" Balance c/d	1392000		
	1524000		1524000

W.N. 4

Investment A/c

To Balance b/d	480000	By Balance c/d	384000
" P/L (Profit on sale)	48000	" Cash A/c (Sale of Investment)	144000
	528000		528000

W.N. 5

Debenture A/c

To Cash A/c (960000 x 30% x $\frac{105}{100}$)	302400	By Balance b/d	960000
" Balance c/d	672000	" P/L (Loss on redemption)	14400
	974400		974400

7. (a) From the following Financial data of Company A and Company B :
Prepare their Income statements.

	Company A Rs.	Company B Rs.
Variable cost	56,000	60% of sales
Fixed cost	20,000	-
Interest expenses	12,000	9,000
Financial Leverage	5 : 1	-
Operating Leverage	-	4 : 1
Income tax rate	30%	30%
Sales	-	1,05,000

[8 marks]

- (b) A hospital is considering to purchase a diagnostic machine costing Rs. 80,000. The projected life of the machine is 8 years and has an expected salvage value of Rs. 6,000 at the end of 8 years. The annual operating cost of the machine is Rs. 7,500. It is expected to generate revenues of Rs. 40,000 per year for eight years. Presently, the hospital is outsourcing the diagnostic work and is earning commission income is Rs. 12,000 per annum; net of taxes.
Required :

Whether it would be profitable for the hospital to purchase the machine. Give your recommendation under :

- (i) Net Present Value method
(ii) Profitability Index method.

PV factors at 10% are given below :

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467

[8 marks]

Ans 7 (a)
Income statement of company A & B :

Particulars	A	B
Sales	91000	105000
- V. Cost	<u>56000</u>	<u>63000</u>
Contribution	35000	42000
- F. Cost	<u>20000</u>	<u>31500</u>
EBIT	15000	10500
- Interest	<u>12000</u>	<u>9000</u>
FBT	3000	1500
- Tax @ 30%	<u>900</u>	<u>450</u>
EAT	<u>2100</u>	<u>1050</u>

Note

(1) EBT means Earning Before Tax

(2) EAT " " after tax.

Company A

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBIT} - \text{Interest}}$$

$$5 = \frac{\text{EBIT}}{\text{EBIT} - 12000}$$

$$5 \text{ EBIT} - 60000 = \text{EBIT}$$

$$4 \text{ EBIT} = 60000$$

$$\text{EBIT} = \frac{60000}{4} = 15000 \text{ /-}$$

Contribution – Fixed Cost = EBIT

Contribution – 20000 = 15000

 \therefore Contribution = 35000 /-

 Sales = Contribution + Variable Cost
 = 35000 + 56000 = 91000 /-

Company B

$$\text{Contribution} = \text{Sales} \times \text{P.V. ratio}$$

$$= 10500 \times (1 - .60) = 42000 \text{ /-}$$

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{Contribution} - \text{Fixed Cost}}$$

$$4 = \frac{42000}{42000 - \text{Fixed Cost}}$$

$$168000 - 4 \text{ Fixed Cost} = 42000$$

$$\text{Fixed Cost} = \frac{168000 - 42000}{4}$$

$$= 31500 \text{ /-}$$

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBIT} - \text{Interest}}$$

$$= \frac{42000 - 31500}{10500 - 9000} = 7$$

Ans. 7 (b) Calculation of Depreciation

$$= \frac{\text{Acquisition Cost} - \text{Salvage values}}{\text{Life of asset}} = \frac{80000 - 6000}{8} = 9250 \text{ /- p.a.}$$

Note : In this question tax rate is not given therefore we assumed that tax rate is 40%

NPV method

Calculation of Cash inflow

	Sales	40000
-	<u>Cost</u>	
	Operating Cost	7500
	Opportunity Cost	12000
	Depreciation	<u>9250</u>
	EBT	11250
-	Tax @ 40%	<u>4500</u>
	EAT	6750
+	Depreciation	<u>9250</u>
	Cash flow	16000
	Annuity factor @ 10% for 8 yr.	5.334
	Present Value of cash in flow	85344
	Add Present Value of salvage value	85344
	(6000 x 0.467)	<u>2802</u>
	Total Present Value of cash inflow	88146
	Less – Present Value of cash outflow	<u>80000</u>
	NPV	= <u>8146</u>

Profitability Index method

$$\text{PI} = \frac{\text{P/V of cash inflow}}{\text{P/V of cash outflow}} = \frac{88146}{80000} = 1.1 \text{ times.}$$

Conclusion → Under both methods it is profitable to purchase new machine.

8. Answer any **three** of the following :

[3 x 3 = 9 marks]

(i) Explain the two basic functions of Financial Management.

(ii) Explain the following terms :

- Ploughing back of profits
- Desirability factor.

(iii) What do you understand by Weighted average cost of Capital ?

(iv) There are two firms P and Q which are identical except P does not use any debt in its capital structure while Q has Rs. 8,00,000, 9% debentures in its capital structure. Both the firms have earning before interest and tax of Rs. 2,60,000 p. a. and the capitalisation rate is 10%. Assuming the corporate tax of 30%, calculate the value of these firms according to MM Hypothesis.

Qn 8. (i) TWO BASIC FUNCTIONS OF FINANCIAL MANAGEMENT :

(1) Procurement of funds : - Procurement of fund includes followings:-

- Identification of finance sources.
- Cultivating sources of funds and raising funds.
- Determination of finance mix.
- Allocation of profit between dividends and retention of profits i.e. internal fund generation.

(2) Utilisation of funds :- Effective utilisation of fund is one of most important work under financial management because in present developed financial system procurement of fund is more easy then its effective utilisation.

Ans (8) (ii) (a) Ploughing back of profits : It is a management tool under which management does not distribute the whole of the profits earned during an year to the owners of capital but it retains a part of it to be utilized in future for financing the schemes of development & betterment of the company and/or meeting the special fixed or working capital requirements of the concern. It is the best device to finance the schemes of expansion, modernization and betterment for an existing company. Ploughing back or re-investment of profits is an aspect of sound financial management. It raises no problem or complication as does borrowings either from the banks or the public. The reserves may be built up during a continuous spell of prosperous period by following the conservative dividend policy and without touching the capital structure of the company and may be used during emergency. It will help the company during depression however serious. According to this device, a part of the total earnings may be transferred to various reserves eg General Reserve, Repair and Renewal Reserve fund etc. Sometimes secret reserves are created by the directors without the knowledge of the shareholders to make the financial position of the company sound.

Ans. (8) (ii) (b) Desirability factor : - It is also called Profitability Index. The desirability factor is the present value of an anticipated future cash inflows divided by the initial outlay. A project is acceptable if its desirability if equal to or more than one. When more than one project proposals are evaluated, for selection of one among them, the project with higher desirability factor will be selected. Mathematically, desirability factor can be expressed as follows :

Present value of cash inflows

Present value of cash outflows

Advantage

1. This methods also uses time value of money concept
2. It is a better project evaluation technique than NPV.

Disadvantages

1. If fails as a guide to resolve capital rationing when projects are indivisible
2. Sometimes project with a lower desirability factor chosen generates cash flows in such a way that another new project can be started within one or two years and the total NPV exceeds the NPV of the project with maximum desirability factor.

The desirability factor approach cannot be used indiscriminately without examining other type of alternatives of projects.

Qn. 8. (iii) Weighted average cost of capital: The composite or overall cost of capital of a firm is the weighted average of the costs of various sources of funds. Weights are taken to be the proportion of each source of funds in the capital structure. The weight to be used can be either book value weights or market value weights. While taking financial decisions this overall or weighted cost is used. For calculating WAC following steps should be followed:-

Step. 1. Calculate individual cost of capital as above.

Step. 2. Calculate Weights:

Weights for

How to calculate

- | | |
|------------------------------|--|
| 1. Equity Capital | Equity capital / Total capital employed |
| 2. Retained earning | Retained earning/Total capital employed |
| 3. Preference share | Preference share / Total capital employed |
| 4. Loans, debenture, deposit | Loan, debenture, deposit/Total Capital employed. |

Step. 3. WAC = Step 1 X Step 2 (Individual for each items)

Note: One may consider market value of capital instead of books value of calculating weights but normally book value is taken. If we take market value then market value is taken for numerator and denominator both. But market value is taken only when question is required.

Qn. 8. (iv)

Value of unlevered firm = Value of equity

$$= \frac{\text{Earnings available for equity shareholders}}{\text{Equity Capitalisation rate}} = \frac{1,82,000 \text{ (WN 1)}}{10\%} = 18,20,000$$

Value of levered firm = Value of unlevered firm + Value of Debt (tax rate)
= 18,20,000 + (8,00,000 X 30%)
= 20,60,000

WN 1 – Calculation of Earnings available for equity shareholders

EBIT	2,60,000
Less : Interest	----

EBT	2,60,000
Less : Tax @ 30%	78,000

EAT	1,82,000