

PAPER – 4 : COST ACCOUNTING AND FINANCIAL MANAGEMENT

Question Nos. 1 and 6 are compulsory.

Attempt three questions out of remaining Question Nos. 2, 3, 4 and 5 and attempt two questions from the remaining questions Nos. 7, 8 and 9.

Working notes should form part of the answer.

Question 1

- (a) ABC Ltd. manufactures and sells three types of products P, Q and R. The company has been following conventional method of costing and wishes to shift to Activity Based Costing system. Following data are given for a month:

Products	P	Q	R
Sales – No. of units	50,000	1,12,000	54,000
Selling price – Rs. per unit	18.00	14.00	12.00
Prime cost – Rs. per unit	12.00	9.00	8.00
Gross production units/production run	5,040	5,620	6,020
No. of defective units/production run	40	20	20
Set up cost/production run – Rs.	400	600	500
Inspection hours/production run	6	8	8
Machine hours/production run	40	24	60
Overhead costs :	Rs.		
Set-up	20,500		
Inspection	1,46,000		
Machines	2,84,000		
Selling	3,24,000		

The following additional information is given:

- No accumulation of inventory is considered. All good units produced are sold.
- Included in the total selling overhead is advertisement cost of Rs.1,66,000. This cost is incurred only for products Q and R. However product P needs no advertisement.
- Product Q needs special packing and Rs.1,08,000 is the amount on packing which is included in the total selling overhead cost given above.

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You are required to present:

- (i) Productwise profitability statement under the conventional system assuming all manufacturing and selling overheads are allocated on the basis of unit sold.
- (ii) Productwise profitability statement as per Activity Based Costing system.

(12 Marks)

(b) What is Cost reduction? Explain its scope.

(3 Marks)

(c) Distinguish between :

- (i) Batch costing and Uniform costing.
- (ii) Normal process loss and Abnormal process loss.

(3 Marks)

Answer

(a) Working Notes:

(i) Overhead costs	Rs.
Set-up	20,500
Inspection	1,46,000
Machines	2,84,000
Selling	<u>3,24,000</u>
Total	7,74,500

As per conventional system, total O/H of Rs.7,74,500 is to be allocated on the basis of no. of units sold i.e. 50 : 112 : 54 = 216

(ii)

	P	Q	R
Overheads (Rs.)	1,79,282.41	4,01,592.59	1,93,625.00
Gross units / production run	5040	5620	6020
Defective units / production run	40	20	20
Good units / production run	5,000	5,600	6,000
Sale of good units	50,000	1,12,000	54,000
∴ No. of production runs	10	20	9
Gross production required (units)	50,400	1,12,400	54,180
Prime cost (Rs.)	50,400 × 12 = 6,04,800	112,400 × 9 = 10,11,600	54,180 × 8 = 4,33,440

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(i) Statement of profitability as per conventional system

Products	P (Rs.)	Q (Rs.)	R (Rs.)
Sales value	$50,000 \times 18 = 9,00,000$	$112,000 \times 14 = 15,68,000.00$	$54,000 \times 12 = 6,48,000.00$
Prime cost	6,04,800.00	10,11,600.00	4,33,440.00
Overheads	1,79,282.41	4,01,592.59	1,93,625.00
Total cost	7,84,082.41	14,13,192.59	6,27,065.00
Profit	1,15,917.59	1,54,807.41	20,935.00

Working notes for ABC System:

(i)	Set up cost / production run	400	600	500
	Total set up cost (20,500)	$400 \times 10 = 4,000$	$600 \times 12 = 12,000$	$500 \times 9 = 4,500$
	Set up O/H of Rs.20,500 & cost driver is set up cost	4,000	12,000	4,500
(ii)	Inspection hours / prod. run	6	8	8
	Total inspection hours (total 292)	$6 \times 10 = 60$	$8 \times 20 = 160$	$8 \times 9 = 72$
	Inspection cost 1,46,000 & cost driver is inspection hours (Rs.)	30,000	80,000	36,000
(iii)	Machine hours / prod. run	40	24	60
	Total machine hours (Total 1420)	$40 \times 10 = 400$	$24 \times 20 = 480$	$60 \times 9 = 540$
	Machining cost 2,84,000 & cost driver machine hours	80,000	96,000	1,08,000
(iv)	Total selling O/H Rs.3,24,000 Advertisement cost 1,66,000 to be allocated to Q & R in ratio of sales units 112 : 54 = 166	--	1,12,000	54,000

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Special packing only for Q	--	1,08,000	--
Balance (324,000 – 166,000 – 108,000) = 50,000 to be allocated in sales units 50 : 112 : 54 = 216	11,574	25,926	12,500
	11,574	2,45,926	66,500

(ii) **Statement of profitability as per ABC system**

Products	P (Rs.)	Q (Rs.)	R (Rs.)
Sales value	9,00,000	15,68,000	6,48,000
Prime cost	6,04,800	10,11,600	4,33,440
Set-up cost	4,000	12,000	4,500
Inspection cost	30,000	80,000	36,000
Machining cost	80,000	96,000	1,08,000
Selling cost	11,574	2,45,926	66,500
Total cost	7,30,374	14,45,526	6,48,440
Profit	1,69,626	1,22,474	(440)

- (b) Cost reduction: may be defined as the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for the use intended or diminution in the quality of the product.

Scope of cost reduction:

It is attainable in almost all areas of business activities. It covers a wide range like new layout, product design, production methods, materials and machines in factories as well as in offices, innovation in marketing etc. It also covers activities like purchasing, handling packaging, shipping, warehousing, use of administrative facilities and even utilization of financial resources.

- (c) (i) **Batch costing and uniform costing:**

Batch Costing is the extension of job costing. Under this system or method each batch is treated as a unit of cost and separately costed. Batch may represent a number of small orders. On the other hand, in case of uniform costing, when a number of firm in an industry agree amount themselves to follow the same system of costing in detail adopting common terminology for various items and processes they are said to follow a system of uniform costing.

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(ii) Normal process loss & abnormal process loss:

Normal process loss as the loss of material which is inherent in the nature of work. Such loss can be reasonably anticipated from the nature of the material nature of operation. The experience and technical data cost of normal loss is absorbed by good units produced under the process and the amount realized by the sale of normal loss units should be credited to the process account. While abnormal process loss is loss in excess of the pre-determined loss. This type of loss may be occur due to carelessness of workers, a bad plant design or operation etc. The cost of an abnormal process loss unit is equal to the cost of a good unit.

Question 2

- (a) Bright Shoe-Polish Company manufacturing black and brown polish in one standard size of tin retailing at Rs.12.00 and Rs.13.30 respectively. Following information is supplied to you:

Opening Stock:

Black polish	2,400 tins
Brown polish	8,000 tins

Closing Stock:

Black polish	5,400 tins
Brown polish	3,000 tins

Sales:

Black polish	72,000 tins
Brown polish	30,000 tins

Direct materials:

Polish	Rs.2,46,000
Tins	Rs.1,20,000
Direct wages	Rs.2,04,000
Production overhead	Rs.3,06,000
Administration and selling overhead	Rs.1,02,000

The opening stock of black and brown polish was valued at its production cost. The cost of raw materials for brown polish is 10 per cent higher than that for black, but there is no difference in the cost of tins. Direct wages for brown polish are 8 per cent higher than those of black polish and production overheads are considered to vary with direct wages. Administration and selling overhead is absorbed at a uniform rate per tin of polish sold.

Prepare a statement to show the cost and profit per tin of polish. (10 Marks)

- (b) State 'essentials of Good Cost Accounting system'. (4 Marks)

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Answer

(a)

Particulars	Black 75,000 Tin		Brown 25,000 Tin	
	Total Amount Rs.	Cost per Tin	Total Amount Rs.	Cost per Tin
Direct material				
Polish	1,80,000	2.40	66,000	2.64
Tins	90,000	1.20	30,000	1.20
Direct wages	1,50,000	2.00	54,000	2.16
Prime Cost	420,000	5.60	150,000	6.00
Production overhead	2,25,000	3.00	81,000	3.24
Cost of Production	6,45,000	8.60	2,31,000	9.24
Add: Opening stock	20,640	8.60	73,920	9.24
	6,65,640	8.60	304,920	9.24
Less: Closing stock	46,440	8.60	27,720	9.24
	619,200	8.60	277,200	9.24
Add: Adms & Selling Overhead	72,000	1.00	30,000	1.00
Cost of sales	691,200	9.60	307,200	10.24
Profit	172,800	2.40	91,800	3.06
Sales	864,000	12.00	399,000	13.30

Working Notes:

(i) Total production:

Black Polish : 72,000 + 5,400 – 2,400 = 75,000 Tins

Brown Polish : 30,000 + 3,000 – 8,000 = 25,000 Tins

(ii) Direct material in both polish:

Let Material in Black Polish = Rs. x per Tin

In Brown = $\frac{11x}{10}$ per Tin

$$75,000x + 25,000 \left(\frac{11x}{10} \right) = 246,000$$

$$x = 2.40 \quad \ominus \quad \frac{11x}{10} = 2.64$$

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(iii) Direct Labour in both polish:

Let wages in Black polish = y per Tin

Therefore in Brown polish = $\frac{108y}{100} = \frac{27}{25}y$ per Tin

$$75,000 + 25,000 \left(\frac{27}{25}y \right) = 204,000$$

$$y = 2.00 \quad \ominus \quad \frac{27}{25}y = 2.16$$

(iv) Production over head based on direct wages

$$\text{Black} = \frac{306,000 \times 150,000}{204,000} = 225,000; \text{Brown} = \frac{306,000 \times 54,000}{204,000} = 81,000$$

(v) ADM & Selling overhead = $\frac{102,000}{102,000} = \text{Rs.1.00 per Tin sold}$

(b) Essentials of good cost accounting system:

- Cost accounting system should be tailor-made, practical, simple and capable of meeting the requirements of a business concern.
- The data to be used by the Cost Accounting system should be accurate; otherwise it may distort the output of the system.
- Necessary cooperation and participation of executive from various departments of the concern is essential for development of a good system of cost accounting.
- The cost of installing and operating the system should justify the results.
- The system of costing should not sacrifice the utility by introducing meticulous and unnecessary details.
- A carefully phased program should be prepared by using network analysis for the introduction of the system.
- Management should have a faith in the costing system and should also provide a helping hand for its development and success.

Question 3

(a) The following details are available from the books of accounts of a contractor with respect to a particular construction work for the year ended 31st March, 2009 :

	Rs.
Contract price	91,00,000
Cash received from contractee (90% of work certified)	71,91,000
Material sent to site	35,82,600

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Planning and estimation cost	3,50,000
Direct wages paid	32,62,700
Cost of plant installed at site	7,00,000
Direct expenses	1,68,000
Establishment expenses	2,03,000
Material returned to store	14,840
Head office expenses apportioned	2,50,000
Cost of work uncertified	3,17,000

On 31st March, 2009:

Material at site	85,400
Accrued direct wages	78,120
Accrued direct expenses	9,310
Value of plant (as revalued)	6,16,000

Required:

- (i) Prepare the Contract account for the year ended 31st March, 2009.
- (ii) Show the relevant Balance Sheet entries. (9 Marks)
- (b) What are the essential requisites for the installation of uniform costing system ? (5 Marks)

Answer

(a) **Contract Account**
For the year ended 31st March, 2009

	Rs.		Rs.
To Material sent to site	35,82,600	By Materials returned	14,840
“ Direct wages 32,62,700		“ Material at site	85,400
“ Accrued wages <u>78,120</u>	33,40,820	“ Work-in-Progress:	
“ Planning and estimation cost	3,50,000		
“ Direct expenses 1,68,000			
“ Add: Accrued expenses <u>9,310</u>	1,77,310		
“ Depreciation on Plant 7,00,000 – 6,16,000	84,000	Cost of work uncertified	3,17,000

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“ Establishment expenses	2,03,000		Value of Work certified 7191000	
“ Head Office Expenses	2,50,000		$\times \frac{100}{90}$	
“ Notional Profit C/d	4,19,510			79,90,000
	84,07,200			84,07,200
To P & L A/c	2,51,706	By Notional Profit B/d		4,19,510
“ Reserve	1,67,804			
	4,19,510			4,19,510

Profit Transferred to P & L A/c

$$\frac{2}{3} \times \text{Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$\frac{2}{3} \times 4,19,510 \times \frac{71,91,000}{79,90,000} = \text{Rs. } 2,51,706$$

Balance Sheet as on 31st March, 2009

Liabilities	Amount	Assets	Amount
P & L A/c	2,51,706	Work-in-progress	
Accrued Wages	78,120	Value of work certified	79,90,000
Accrued Expenses	9,310	Cost of work uncertified	3,17,000
			83,07,000
		Less: Reserved Profit	1,67,804
			81,39,196
		Less: Cash received	71,91,000
			9,48,196
		Material at site	85,400

(b) Essential requisites for the installation of Uniform Costing System :

- (i) The firms in the industry should be willing to share data / information.
- (ii) A spirit of co-operation and mutual trust should prevail among the participating firms.
- (iii) Mutual exchange of ideas, methods used, special achievements made, research and know-how etc. should be frequent.
- (iv) Bigger firms should take the load towards sharing their experience with smaller firms to improve the performance.
- (v) Uniformity should be made for the following points –

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- (a) Size of the various units covered by uniform costing
- (b) Production methods
- (c) Accounting methods, principles and procedures used

Question 4

- (a) ABC Pvt. Ltd. has furnished its Profit and Loss account for the year ended 31st March, 2009 and also given a statement showing reconciliation between the profit as per financial records and cost records. The Profit and Loss account is given below:

Profit and Loss account for the year ended 31st March, 2009 (Rs.)

Particulars	Amount	Particulars	Amount
To Opening Stock:		By Sales	17,80,000
Raw Materials	95,500	By Closing Stock:	
W.I.P.	45,000	Raw Materials	99,000
Finished goods	78,000	W.I.P.	58,000
To Purchases	6,42,000	Finished goods	80,000
To Direct wages	2,22,000	By Dividend received on	
To Factory overheads	2,45,000	shares	1,65,000
To Administrative exp.	1,98,500		
To Selling exp.	3,42,000		
To Goodwill written off	80,000		
To Interest on loans	50,000		
To Legal charges	42,000		
To Net profit	1,42,000		
Total	21,82,000	Total	21,82,000

Reconciliation Statement as at 31st March, 2009 is given below: (Rs.)

	Amount	Amount
Profits as per financial records		1,42,000
Add:		
Raw Material – Closing stock	1,500	
W.I.P. – Opening Stock	2,000	
Finished goods – Operating Stock	3,000	
Finished goods – Closing Stock	1,000	
Goodwill written off	80,000	
Interest on loans	50,000	

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Legal charges	42,000	1,79,500
		3,21,500
Less:		
Raw Material – Opening Stock	2,500	
W.I.P. – Closing Stock	3,500	
Dividend received on shares	1,65,000	1,71,000
Profits as per cost records		1,50,500

You are required to draw up the following accounts in the cost ledger of ABC Pvt. Ltd.:

- (i) Material control account
 - (ii) W.I.P. control account
 - (iii) Finished goods control account
 - (iv) Cost of sales account
 - (v) Costing profit and loss account (6 Marks)
- (b) X Ltd. is reviewing its stock policy, and has the following alternatives available for the evaluation of stock: (5 Marks)
- (i) Purchase stock twice in a month, 400 units.
 - (ii) Purchase monthly, 800 units
 - (iii) Purchase every three months, 2,400 units
 - (iv) Purchase six monthly, 4,800 units
 - (v) Purchase annually, 9,600 units

It is ascertained that the purchase price per unit is Rs.40 for deliveries upto 2,000 units. A 5% discount is offered by the supplier on the whole order where deliveries are 2,001 to 4,000 units and 10% reduction on the total order for deliveries in excess of 4,000 units. Each purchase order incurs administration costs of Rs.250. Interest on capital and other storage costs are Rs.12.50 per unit of average stock quantity held.

Calculate the optimum order size.

- (c) State the areas of activity for which accounting records are to be maintained under Cost Accounting records rules. (3 Marks)

Answer

- (a) (i) Material Control A/c

Particulars	Amount	Particulars	Amount
To Balance b/d	98,000	By WIP Control A/c	6,39,500
To General ledger adj.	6,42,000	By Balance C/d	1,00,500

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(ii)	WIP Control A/c			
	Particulars	Amount	Particulars	Amount
	To Balance b/d	43,000	By Finished Goods A/c	10,95,000
	To Material Control	6,39,500	By Balance C/d	54,500
	To Wages Control A/c	2,22,000		
	To Factory over. Cont. A/c	2,45,000		
(iii)	Finished Goods Control A/c			
	Particulars	Amount	Particulars	Amount
	To Balance b/d	75,000	By Cost of Sales A/c	12,87,500
	To WIP Control A/c	10,95,000	By Balance C/d	81,000
	To Admn. Exp. Control A/c	1,98,500		
(iv)	Cost of Sales A/c			
	Particulars	Amount	Particulars	Amount
	To Finished goods Control	12,87,500	By Costing P/L A/c	16,29,500
	To Selling Exp. A/c	3,42,000		
(v)	Costing P/L A/c			
	Particulars	Amount	Particulars	Amount
	To Cost of Sales A/c	16,29,500	By General Ledger Adj.	17,80,000
	To Profit	1,50,500		

- (b) The purchase cost is not constant per unit. It is therefore, not possible to use the EOQ formula. For optimum order size statement of cost is prepared.

Size of Order	No. of Order	Annual Purchase Cost		Storage Cost	Admin. Cost	Total Cost
		Rs.	Rate (Rs.)			
9600	1	3,45,600	36	60,000	250	4,05,850
4800	2	3,45,600	36	30,000	500	3,76,100
2400	4	3,64,800	38	15,000	1000	3,80,800
800	12	3,84,000	40	5,000	3000	3,92,000
400	24	3,84,000	40	2500	6,000	3,92,500

Purchasing of 4800 units has lowest total cost Rs.3,76,100. Therefore, It is optimum order size.

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Working Notes:

- (i) Purchase price below or upto 2000 units Rs.40
At order size 2000 units
 $\text{Rs.40} - 5\% \text{ Discount} = \text{Rs.38}$
At 4800 units & 9600 units it is 10% less i.e. $40 - 4 = \text{Rs.36}$
- (ii) Storage Cost: Rs.12.50 per units of average Stock
Order size 400 Average stock 200 units $\times 12.50 = \text{Rs.2500}$
At 4800 units = $2400 \text{ units} \times 12.50 = \text{Rs.30,000}$
- (c) Areas of activity for which cost accounting record rules are to be maintained are:
- | | |
|--|---|
| (i) Raw materials, components, store etc. | (ii) Salaries & wages |
| (iii) Service department expenses | (iv) Utilities |
| (v) Repair and maintenance | (vi) Depreciation |
| (vii) Royalty | (viii) Other overheads |
| (ix) Conversion cost | (x) R & D expenses |
| (xi) Interest | (xii) Expenses/Incentive on exports |
| (xiii) By-products | (xiv) Joint products |
| (xv) Captive consumption | (xvi) packing |
| (xvii) Expenses of capital nature | (xviii) WIP & FG Stock |
| (xix) Cost statement | (xx) Production records |
| (xxi) Reconciliation of Cost and Financial A/c | (xxii) Adjustment of cost variances |
| (xxiii) Record of Physical verification | (xxiv) Statistical statement & records. |

Question 5

5. (a) Explain the following: (6 Marks)
- (i) Opportunity cost and out-of-pocket cost
 - (ii) High points and low points method of segregating semi-variable costs
 - (iii) Efficiency audit and propriety audit.
- (b) Enumerate the important objectives of Cost accounting. (3 Marks)
- (c) The standard time for a job is 50 hours. The hourly rate of guaranteed wages is Rs.9. Because of saving in time, a worker X gets an hourly wages of Rs.10.80

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under Rowan premium bonus system. For the same saving in time, calculate the hourly rate of wages a worker Y will get under Halsey premium bonus system assuming 50 per cent Bonus to worker. (5 Marks)

Answer

- (a) (i) Opportunity cost: refers to the value of sacrifice made or benefit of opportunity foregone in accepting an alternative course of action. If a firm for its expansion plan draws money from its bank deposits, then loss of interest on bank deposit is opportunity cost of the expansion plan.

Out-of-pocket cost: is that portion of total cost which involves cash outflow. It is used in decision making for fixation of selling price in recession, make or buy etc. This cost can be avoided if a particular proposal under consideration is not accepted.

- (ii) High points & low points method of segregation of semi-variable cost: In this method, the difference between the total cost at highest and lowest volume is divided by the difference between the sales value at the highest and lowest volume. The quotient thus obtained gives us the rate of variable cost in relation to sales value. The fixed cost is the remainder.
- (iii) Efficiency Audit: It is directed towards the measurement of whether corporate plans have been effectively executed. It is concerned with the utilization of the resources in optimum manner to achieve the objectives of the concern.
- (iv) Propriety Audit: It is concerned with the executive actions and plans bearing on the finances and expenditure of the company.
- (b) Cost Accounting: is defined as the process of accounting for cost which begins with the recording of income and expenditure or the bases on which they are calculated and ends with the preparation of periodical statements and reports for ascertaining and controlling costs".
- Objective of cost accounting:
- (i) Ascertainment of cost
 - (ii) Determination of selling price
 - (iii) Cost control and cost reduction
 - (iv) Ascertaining the profit of each activity
 - (v) Assisting management in decision making

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- (c) Let x = Time taken to complete the Job
Time saved = Time allowed – Time taken
= (50 – x) hours

Bonus under rowan premium plant

$$= \frac{\text{Time saved}}{\text{Time allowed}} \times \text{Actual hours} \times \text{rate}$$
$$= \frac{50-x}{50} \times (x \times \text{Rs.9})$$

The effective hourly wages rate is Rs.10.80

Hence total earning = $x \times 10.80$

Total earning of X under Rowan Premium Plan

$$x \times 9.0 + \left(\frac{50-x}{50} \right) \times (x \times 9) = x \times 10.80$$

$$\frac{450 + 450 - 9x}{50} = 10.80$$

$$900 - 9x = 540$$

$$x = \frac{360}{9} = 40 \text{ hrs. Time taken by } x$$

Time saved = $50 - 40 = 10$ hrs.

Under Halsey Premium Plan 50% bonus to y

Bonus will be $50\% \times 10 \times 9 = \text{Rs.45}$

Total earning of y: Wages + Bonus

$$= 40 \times \text{Rs.9} + 45 = \text{Rs.360} + 45 = \text{Rs.405}$$

Effective hourly rate of wages

$$= \frac{\text{Total Earning}}{\text{Actual Hours}} = \frac{405}{40} = \text{Rs.10.125}$$

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Question 6

- (a) The following are the summarised Balance Sheet of XYZ Ltd. as on 31st March, 2008 and 2009:

				(Rs. in 000')	
Liabilities	31.3.08	31.3.09	Assets	31.3.08	31.3.09
Share capital	3,900	5,200	Plant & machinery	3,978	5,525
Reserve and surplus	1,690	2,600	Land & building	1,040	1,040
12% debenture	-	1,300	Investment	130	130
Sundry creditors	936	1,222	Inventories	676	975
Outstanding rent	52	65	Sundry debtors	728	1,131
Income-tax payable	520	195	Prepaid selling expenses	26	52
			Cash at bank	494	1,677
			Cash in hand	26	52
	<u>7,098</u>	<u>10,582</u>		<u>7,098</u>	<u>10,582</u>

Profit & Loss account for the year ended 31st March, 2009

				(Rs. in 000')	
	Rs.		Rs.		
To Opening stock	806	By Sales	6,331		
To Purchases	2,080	By Closing stock	1,105		
To Wages	650				
To Gross profit C/d	<u>3,900</u>				
	<u>7,436</u>				<u>7,436</u>
To Depreciation	390	By Gross profit B/d	3,900		
To Office expenses	390	By Discount	39		
To Rent	130	By Commission	91		
To Selling & distribution expenses	780	By Dividend	260		
To Income – tax	1,040				
To Net profit C/d	<u>1,560</u>				
	<u>4,290</u>				<u>4,290</u>
To Dividend	650	By Balance B/d	1,690		
To Balance C/d	<u>2,600</u>	By Net profit B/d	<u>1,560</u>		
	<u>3,250</u>		<u>3,250</u>		

You are required to prepare a Cash flow statement as per AS-3 (revised).

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- (b) Discuss the proposition made in Modigliani and Miller approach in capital structure theory. (12 + 4 = 16 Marks)

Answer

(a)	Cash Flow Statement for the year ending 31 st March, 2009 [as per AS – 3 (revised)]		(Rs. in '000')
(A)	Cash flow from Operating Activities		
	Cash from Sales	5,928	
	Commission Received	<u>91</u>	
			6,019
	Cash Payments		
	Cash Purchases	1,755	
	Wages	650	
	Office Expenses	390	
	Rent	117	
	Selling and Distribution Expenses	<u>806</u>	
			<u>3,718</u>
			2,301
	Less : Tax Paid		<u>1,365</u>
	Cash flow from Operating Activities (a)		936
(B)	Cash flow from Investing Activities		
	Purchase of Plant and Machinery	(1,937)	
	Dividend Received	<u>260</u>	
	Net Cash used in Investing Activities (b)		(1,677)
(C)	Cash flow from Financing Activities		
	Issue of Shares	1,300	
	Issue of 12% Debentures	1,300	
	Dividend Paid	<u>(650)</u>	
	Net Cash flow from Financing Activities (c)		<u>1,950</u>
	Net Increase in Cash and Cash Equivalents during the year (a+b+c)		1,209
	Add: Cash and Cash Equivalents at 1-4-2008		<u>520</u>
	Cash and Cash Equivalents at 31-3-2009		<u>1,729</u>

Working Notes:

1. Cash Sales

$$\begin{aligned}
 \text{Cash Sales} &= \text{Total Sales} - \text{Increase in Debtors} \\
 &= 6,331 - (1,131 - 728) \\
 &= 6,331 - 403 = \text{Rs. } 5,928
 \end{aligned}$$

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2. Cash Purchases
- Cash Purchases = Total Purchases – Increase in Creditors
 = 2,080 – (1,222+39 – 936)
 = 2,080 – 325= Rs. 1,755
3. Rent
- | | |
|--|------------|
| | Rs. |
| Rent | 130 |
| Add: Rent Outstanding as on 31-3-2008 | <u>52</u> |
| | 182 |
| Less: Rent Outstanding as on 31-3-2009 | <u>65</u> |
| | <u>117</u> |
4. Tax Payable
- | | | | |
|----------------|-----------------|------------------------|--------------|
| | Tax Payable A/c | | |
| | Rs. | | Rs. |
| To Tax paid | 1,365 | By Balance b/d | 520 |
| To Balance c/d | <u>195</u> | By Profit and Loss A/c | <u>1,040</u> |
| | <u>1,560</u> | | <u>1,560</u> |
5. Selling and Distribution Expenses
- | | |
|---|------------|
| | Rs. |
| Selling and Distribution Expenses | 780 |
| Add: Prepaid Selling Expenses on 31-3-2009 | <u>52</u> |
| | 832 |
| Less: Prepaid Selling Expenses on 31-3-2008 | <u>26</u> |
| | <u>806</u> |
- (b) Three Basic Propositions made in Modigliani and Miller Approach in Capital Structure Theory
- (i) The total market value of a firm and its cost of capital are independent of its capital structure. The total market value of the firm is given by capitalizing the expected stream of operating earnings at a discount rate considered appropriate for its risk class.
 - (ii) The cost of equity (ke) is equal to capitalization rate of pure equity stream plus a premium for financial risk. The financial risk increases with more debt content in the capital structure. As a result, ke increases in a manner to offset exactly the use of less expensive source of funds.

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- (iii) The cut-off rate for investment purposes is completely independent of the way in which the investment is financed. This proposition alongwith the first implies a complete separation of the investment and financing decisions of the firm.

Question 7

- (a) Given below are the data on a capital project 'M':

Annual cost saving	Rs. 60,000
Useful life	4 years
Internal rate of return	15 %
Profitability index	1.064
Salvage value	0

You are required to calculate for this project M:

- (i) Cost of project
- (ii) Payback period
- (iii) Cost of capital
- (iv) Not present value.

Given the following table of discount factors:

Discount factor	15%	14%	13%	12%
1 year	0.869	0.877	0.885	0.893
2 years	0.756	0.769	0.783	0.797
3 years	0.658	0.675	0.693	0.712
4 years	0.572	0.592	0.613	0.636
	2.855	2.913	2.974	3.038

- (b) Explain the role of Finance Manager in the changing scenario of financial management in India. (8 + 4 = 12 Marks)

Answer

- (a) (i) Cost of Project 'M'

At 15% internal rate of return (IRR), the sum of total cash inflows = cost of the project i.e initial cash out lay

Annual cost savings = Rs 60,000

Useful life = 4 years

Considering the discount factor table @ 15%, cumulative present value of cash inflows for 4 years is 2.855

Hence, Total Cash inflows for 4 years for Project M is

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$$60,000 \times 2.855 = \text{Rs. } 1,71,300$$

Hence, Cost of the Project = Rs. 1,71,300

(ii) Payback Period

$$\begin{aligned}\text{Pay back period} &= \frac{\text{Cost of the Project}}{\text{Annual Cost Savings}} \\ &= \frac{\text{Rs. } 1,71,300}{60,000}\end{aligned}$$

$$\text{Payback Period} = 2.855 \text{ years}$$

(iii) Cost of Capital

$$\text{Profitability index} = \frac{\text{Sum of Discounted Cash inflows}}{\text{Cost of the Project}}$$

$$1.064 = \frac{\text{Sum of Discounted Cash inflows}}{1,71,300}$$

$$\therefore \text{Sum of Discounted Cash inflows} = \text{Rs. } 1,82,263.20$$

Since, Annual Cost Saving = Rs. 60,000

$$\text{Hence, cumulative discount factor for 4 years} = \frac{\text{Rs. } 1,82,263.20}{60,000} = 3.038$$

From the discount factor table, at discount rate of 12%, the cumulative discount factor for 4 years is 3.038

Hence, Cost of Capital = 12%

(iv) Net Present Value (NPV)

$$\text{NPV} = \text{Sum of Present Values of Cash inflows} - \text{Cost of the Project}$$

$$= \text{Rs. } 1,82,263.20 - 1,71,300$$

$$= \text{Rs. } 10,963.20$$

$$\text{Net Present Value} = \text{Rs. } 10,963.20$$

(b) Role of Finance Manager in the Changing Scenario of Financial Management in India

In the modern enterprise, the finance manager occupies a key position and his role is becoming more and more pervasive and significant in solving the finance problems. The traditional role of the finance manager was confined just to raising of funds from a number of sources, but the recent development in the socio-economic and political scenario throughout the world has placed him in a central position in the business organisation. He is now responsible for shaping the fortunes of the enterprise, and is involved in the most vital

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decision of allocation of capital like mergers, acquisitions, etc. He is working in a challenging environment which changes continuously.

Emergence of financial service sector and development of internet in the field of information technology has also brought new challenges before the Indian finance managers. Development of new financial tools, techniques, instruments and products and emphasis on public sector undertakings to be self-supporting and their dependence on capital market for fund requirements have all changed the role of a finance manager. His role, especially, assumes significance in the present day context of liberalization, deregulation and globalization.

Question 8

- (a) A company currently has an annual turnover of Rs. 50 lakhs and an average collection period of 30 days. The company wants to experiment with a more liberal credit policy on the ground that increase in collection period will generate additional sales.

From the following information, kindly indicate which policy the company should adopt:

Credit policy	Average collection period	Annual sales (Rs. lakhs)
A	45 days	56
B	60 days	60
C	75 days	62
D	90 days	63

Costs : Variable cost : 80% of sales

Fixed cost : Rs. 6 lakhs per annum

Required (pre-tax) return on investment : 20%

A year may be taken to comprise of 360 days.

- (b) (i) What is meant by Venture capital financing?
(ii) Name the various financial instruments dealt with in the International market.

(8 + 4 = 12 Marks)

Answer

(a) Evaluation of Credit Policies

Credit Policy	Present	A	B	C	D
Average collection period (days)	30	45	60	75	90
(A) Sales Revenue	50	56	60	62	63
Less: Variable Costs (VC)	40	44.80	48	49.60	50.40
Total Contribution	10	11.20	12	12.40	12.60
Less : Fixed Costs (FC)	6	6	6	6	6
Profit	4	5.20	6	6.40	6.60

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Increase in profit due to increase in total contribution (20% of sales) compared to present profit (a)	-	1.20	2	2.40	2.60
(B) Investment in Debtors:					
Total Cost (VC + FC)	46	50.80	54	55.60	56.40
Debtors Turnover Ratio (DT) (360 / Average Collection Period)	12	8	6	4.80	4
Average Investment in Debtors (Total Cost / DT)	3.83	6.35	9	11.58	14.10
Additional Investment compared to Present Level	-	2.52	5.17	7.75	10.27
Cost of Additional Investment @ 20% (b)	-	0.50	1.03	1.55	2.05
(C) Incremental Profit (a – b)	-	0.70	0.97	0.85	0.55

Recommendation: Credit Policy (B), where the average collection period is of 60 days, is recommended as it yields maximum profit of 0.97 lakhs.

(b) (i) Venture Capital Financing

The venture capital financing refers to financing of new high risky ventures promoted by qualified entrepreneurs who lack experience and funds to give shape to their ideas. In broad sense, under venture capital financing venture capitalists make investment to purchase equity or debt securities from inexperienced entrepreneurs who undertake highly risky ventures with a potential of success.

The common methods of venture capital financing are:

- Equity financing
- Conditional loan
- Income note
- Participating debenture.

(ii) Financial Instruments in the International Market

Some of the various financial instruments dealt with in the international market are:

- (a) Euro Bonds
- (b) Foreign Bonds
- (c) Fully Hedged Bonds
- (d) Medium Term Notes
- (e) Floating Rate Notes
- (f) External Commercial Borrowings

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- (g) Foreign Currency Futures
- (h) Foreign Currency Option
- (i) Euro Commercial Papers.

Question 9

- (a) The capital structure of a company as on 31st March, 2009 is as follows:

	Rs.
Equity capital : 6,00,000 equity shares of Rs. 100 each	6 crore
Reserve and surplus	1.20 crore
12% debenture of Rs. 100 each	1.80 crore

For the year ended 31st March, 2009 the company has paid equity dividend @24%. Dividend is likely to grow by 5% every year. The market price of equity share is Rs. 600 per share. Income-tax rate applicable to the company is 30%.

Required:

- (i) Compute the current weighted average cost of capital.
 - (ii) The company has plan to raise a further Rs. 3 crore by way of long-term loan at 18% interest. If loan is raised, the market price of equity share is expected to fall to Rs. 500 per share. What will be the new weighted average cost of capital of the company?
- (b) A company operates at a production level of 5,000 units. The contribution is Rs. 60 per unit, operating leverage is 6, combined leverage is 24. If tax rate is 30%, what would be its earnings after tax?

- (c) Discuss the advantages of raising funds by issue of equity shares. (6 + 4 + 2= 12 Marks)

Answer

- (a) (i) Computation of Current Weighted Average Cost of Capital

Cost of Debentures (k_d)

$$k_d = \frac{I}{NP}(1-t) = \frac{12}{100} (1-0.30) \\ = 0.084 = 8.4\%$$

Cost of Equity Share Capital (k_e)

$$k_e = \frac{D}{P} + g \\ = \frac{24}{600} + 5\%$$

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$$= 0.04 + 0.05 = 0.09$$

$$= 9\%$$

Source	Amount (Rs. in crores)	Weight	Cost of Capital	Weighted Cost of Capital
Equity	7.20	0.8	9%	7.20
Debentures	<u>1.80</u>	0.2	8.4%	<u>1.68</u>
	<u>9.00</u>			<u>8.88</u>

Current Weighted Average Cost of Capital = 8.88 %

(ii) Computation of New Weighted Average Cost of Capital

Cost of Existing Debenture (k_d)

Cost of existing debenture = 8.4%

Cost of Loan

$$\text{Cost of Loan} = \frac{18}{100} (1 - 0.30)$$

$$= 0.18 \times 0.70 = 0.126 = 12.6\%$$

Cost of Equity Share Capital (k_e)

$$k_e = \frac{24(1.05)}{500} + 5\%$$

$$= \frac{25.2}{500} + 0.05$$

$$= 0.0504 + 0.05 = 0.1004$$

$$= 10.04\%$$

Source	Amount (Rs. in crores)	Weight	Cost of Capital	Weighted Cost of Capital
Equity	7.20	0.60	10.04%	6.024
Debt (Loan)	3.00	0.25	12.6%	3.15
Debenture	<u>1.80</u>	0.15	8.4%	<u>1.26</u>
	<u>12.00</u>			<u>10.434</u>

New Weighted Average Cost of Capital = 10.434%

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(b) Computation of Earnings after tax (EAT)

Total contribution = 5,000 units x Rs. 60/unit = Rs. 3,00,000

Operating leverage (OL) x Financial leverage (FL) = Combined leverage (CL)

$$\therefore 6 \times FL = 24$$

$$\therefore FL = 4$$

$$\therefore OL = \frac{\text{Contribution}}{\text{EBIT}}$$

$$\therefore 6 = \frac{3,00,000}{\text{EBIT}}$$

$$\therefore \text{EBIT} = \text{Rs. } 50,000$$

$$FL = \frac{\text{EBIT}}{\text{EBT}}$$

$$\therefore 4 = \frac{50,000}{\text{EBT}}$$

$$\therefore \text{EBT} = \text{Rs. } 12,500$$

Since tax rate is 30%, therefore, Earnings after tax = 12,500 (1 – 0.30)

$$= 12,500 \times 0.70$$

$$= \text{Rs. } 8,750$$

Earnings after tax (EAT) = Rs. 8,750

(c) Advantages of Raising Funds by Issue of Equity Shares

- (i) It is a permanent source of finance. Since such shares are not redeemable, the company has no liability for cash outflows associated with its redemption.
- (ii) Equity capital increases the company's financial base and thus helps further the borrowing powers of the company.
- (iii) The company is not obliged legally to pay dividends. Hence in times of uncertainties or when the company is not performing well, dividend payments can be reduced or even suspended.
- (iv) The company can make further issue of share capital by making a right issue.