Paper 8 : Cost Accounting and Financial Management

Full Marks: 100 **Time : 3 hours**

This question paper is divided into two sections, Section A- Cost Accounting (60 marks) and Section B - Financial Management (40 marks).
From Section A: Question no. 1 is compulsory and answer any 3 from the rest questions in Group A.
From Section B: Question no. 6 is compulsory and answer any 2 from the rest questions in Group B.

Section A - Cost Accounting
(Full Marks: 60)

Question No.1: (Compulsory question)
Answer the followings:
(a) State the objectives of Cost Accounting. [2]
(b) Explain Just-in-time (JIT) as a production strategy. [2]
(c) Analyse the accounting treatment of scrap. [3]
(d) Discuss the treatment of idle time and overtime wages in cost records [5]

Answer.

(a) The following are the main objectives of Cost Accounting :-

(i) To ascertain the Costs under different situations using different techniques and systems of costing.
(ii) To determine the selling prices under different circumstances.
(iii) To determine and control efficiency by setting standards for Materials, Labour and Overheads.
(iv) To determine the value of closing inventory for preparing financial statements of the concern.
(v) To provide a basis for operating policies which may be determination of Cost Volume relationship, whether to close or operate at a loss, whether to manufacture or buy from market, whether to continue the existing method of production or to replace it by a more improved method of production....etc.

(b) Just in time (JIT) is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. Inventory is seen as incurring costs, or waste, instead of adding and storing value, contrary to traditional accounting. In short, the Just-in-Time inventory system focuses on "the right material, at the right time, at the right place, and in the exact amount" without the safety net of inventory.

(c) Accounting treatment of scrap is as follows:

(i) Sales Credited to Revenue:

In this method, the scrap is not cost and its value does not, therefore, appear separately in the Cost Accounts. Only a quantitative record of the scrap returned to storeroom from the shops is maintained and the sale value realised from time to time is credited to the Profit and Loss Account as miscellaneous revenue.

(ii) Credit to Overhead:

In this method and in the following method the scrap is assigned a cost. The cost is usually the sale value of the scrap less selling and distribution costs. If the scrap has no ready market but has only utility or use value, and is taken as a credit to manufactur-ing overhead. The effect of this credit is to reduce the overhead recovery rate. When predetermined overhead rates are in use,

it is more expedient to credit an estimated allowance for the scrap instead of the amount of actual scrap.

(iii) Credit to Jobs:

The scrap is assigned a cost and is traced to the job which yielded the scrap. This affords a reasonable amount of credit to the jobs and widely different.

(iv) Transfer to Other Jobs:

Scrap arising in one job may be issued for utilization in another job. Such transfers of scrap from one job to anoth-er should be affected through Material Transfer Notes. Alternatively, scrap may be returned to store room and subsequently issued to another job for utilization. The latter method is more appropriate when some further processing is required on the scrap before it can be utilized for other jobs.

(d) Treatment of Idle Time

As per CAS-7, Idle Time Cost shall be assigned direct to the cost object or treated as overheads depending on the economic feasibility and specific circumstances causing such idle time.

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

(i) Unavoidable idle time above would be for insignificant periods. In Cost Accounts, this is allowed to remain merged in the Production Order or Standing Order Number on which the worker was otherwise employed.

(ii) Normal Idle Time is booked to factory or works overhead. For the pur-pose of effective control, each type of idle time, i.e., idle time classi-fied according to the causes is allocated to a separate Standing Order Number.

(iii) Abnormal Idle Time would usually be heavy in amount involves longer periods and would mostly be beyond the control of the management. Payment for such idle time is not included in cost and is adjusted through the Costing Profit and Loss Account or included in Profit and Loss Account, when the accounts are integrated.

(iv) Tendency to conceal Idle Time should be discouraged. It is a non-effective time and the resultant loss of profit due to reduced production activity but also increases the cost per unit of production as the fixed costs continue to be incurred, irrespective of the reduced quantum of production due to loss of labour time. Idle Time should, therefore, be highlighted prominently so that action can be taken to remove the causes thereof. Although for obvious reasons, it is not possible to record minor details, vigilance is neces-sary for finding out long-term idleness among the workers.

Treatment of Overtime in Cost Records

As per CAS-7, Overtime Premium shall be assigned directly to the cost object or treated as overheads depending on the economic feasibility and specific circumstances requiring such overtime.

When overtime is worked due to exigencies or urgencies of the work, the basic / normal payment is treated as Direct Labour Cost and charged to Production or cost unit on which the worker is employed. Whereas the amount of premium (extra amount) is treated as overhead.

If overtime is spent at the request of the customer, then the entire amount (including overtime premium) is treated as direct wages and should be charged to the job.

When the overtime is worked due to lack of capacity as general policy of the company, then the total amount paid is treated as direct wages which is computed at the estimated rate based on the figures of the previous years.

Overtime worked on account of the abnormal conditions such as flood, earth-quake, etc., should not be charged to cost, but to costing Profit and Loss Account if integrated accounts are maintained.

Question No.2:

(a) A work measurement study was carried out in a firm for 10 hours and the following information was generated:
Units produced 700; Idle time 15% ; performance rating 120%; allowance time 10% of standard time. What is the standard time for the task? [6]

(b) Estimate the direct expenses as per CAS-10 from the following information:
Royalty paid on sales ₹ 40,000; royalty paid on units produced ₹ 30,000 ; hire charges of equipment used for production ₹ 5,000; design charges ₹ 10,000; software development charges related to production ₹ 30,000. [6]

(c) Mr. X purchased an asset costing ₹ 50,000, and a spare part costing ₹ 4,000. This spare part is specific to the asset purchased. Also given that the life of the equipment is 4 years, whereas the life of the spare part is 5 years. State the treatment of this spare part as per CAS-6. [4]

Answer.

(a) Calculation of standard time for task

Total time = 10 x 60 = 600 minutes
(-) Down time or Idle time @ 15% = 90 minutes
Actual time = 510 minutes
Normal Time = 510 x 120% = 612 minutes
(+) Relaxation allowance
(10% or 1/10 on standard time
i.e. 1/9 on normal time) = 68 minutes
Standard time for job = 680 minutes
Standard time for each unit = 680/700 = 0.971 minutes

(b) Computation of Direct Expenses

	Particulars	**Amount (₹)**
	Royalty paid on Sales	40,000
Add	Royalty paid on units produced	30,000
Add	Hire charges of equipment used for production	5,000
Add	Design Charges	10,000
Add	Software development charges related to production	30,000
	Direct Expenses	**1,15,000**

Note:

(i) Expenses are related to either manufacturing of the product or rendering of service
(ii) These costs are directly identifiable and can be linked with the cost object and are not related to direct material cost or direct employee cost. Hence, these are considered as Direct Expenses.

(c) Spares which are specific to an item of equipment shall not be taken to inventory, but shall be capitalized with the cost of the specific equipment. Cost of capital spares and/or insurance spares, whether procured with the equipment or subsequently, shall be amortised over a period, not exceeding the useful life of the equipment.

In the given case, the spare parts should be amortised over the useful life of the equipment i.e. 4 years.

Question No.3

(a) Define Labour Turnover. State the causes of Labour turnover. [6]

(b) The management of XYZ Ltd. is worried about the increasing Labour Turnover in the factory and before analyzing the causes and taking remedial steps; they want to have an idea of the profit foregone as a result of Labour Turnover during the last year. Last year's sales amounted to ₹83,03,300 and the profit/volume ratio was 20%. The total number of actual hours worked by the direct Labour force was 4.45 lakhs. As a result of the delays by the Personnel department in filling vacancies due to Labour Turnover, 1,00,000 potentially productive hours were lost. The Actual Direct Labour hours included 30,000 hours attributable to training new recruits, out of which, half of the hours were unproductive. The cost incurred consequent on Labour turnover revealed, on analysis the following. Settlement cost due to leaving: ₹43,820 & Recruitment costs: ₹26,740. Selection costs: ₹12,750, & Training costs: ₹30,490

Assuming that the potential production lost as a consequence of Labour Turnover could have been sold at prevailing prices, find the profit foregone last year on account of Labour Turnover. [10]

Answer.

(a) Labour Turnover of an organisation is change in the labour force during a specified period measured against a suitable index. The rate of Labour Turnover in an industry depends upon several factors such as, nature of the industry, its size, location and composition of the labour force. A controlled level of Labour Turnover is considered desira-ble because it helps the firm to adjust the size of its labour force in response to needs such as for seasonal changes or changes in technology.

Causes of Labour Turnovers:

The causes giving rise to high labour turn-over may be broadly classified under the following the heads:

(i) Personnel Causes: Workers may leave employment purely on personal grounds, e.g.,

(a) Dislike for the job, locality or environments.
(b) Domestic troubles and family responsibilities.
(c) Change of line for betterment.
(d) Retirement due to old age and ill health.
(e) Death.

In all such cases, personal factors count the most and employer can practically do nothing to help the situation.

(ii) Unavoidable Causes : In certain circumstances it becomes obligatory on the part of the management to ask some of the workers to leave. These circumstances are:

(a) Retrenchment due to seasonal trade, shortage of any material and other resources, slack market for the product, etc.

(b) Discharge on disciplinary grounds.

(c) Discharge due to continued or long absence.

(iii) Avoidable Causes: Under this head, may be grouped the causes which need the attention of the management most so that the turnover may be kept low by taking remedial measures. The main reasons for which workers leave are:

(a) Unsuitability of job.

(b) Low pay and allowance.

(c) Unsatisfactory working conditions.

(d) Unhappy relations with co-workers and unsatisfactory behaviour of superiors.

(e) Dispute between rival trade unions.

(f) Lack of transport, accommodation, medical and other factors.

(g) Lack of amenities like recreational centres, schools, etc.

The above causes may also be classified in a different manner under three heads, viz., Financial Causes, Social and Economic Causes and Psy-chological Causes relating to human relationship.

(b) We will have to calculate the profit foregone by calculating the amount of contribution lost and the additional cost that was incurred as a result of the Labour Turnover. This is done in the following manner.

I. Actual productive hours: Actual hours worked – Unproductive training hours

= 4,45,000 – 15,000 [50% of 30, 000]

= 4,30,000 actual productive hours.

II. Total hours lost: 1,00,000 hrs

Sales lost [₹83,03,300 × 1,00,000]/4,30,000 = ₹19,31,000

Loss of contribution – 20% of ₹19,31,000 = ₹3,86,200

Statement Showing Profit Foregone

	₹
Contribution lost:	3,86,200
Settlement cost due to leaving:	43,820
Recruitment cost:	26,740
Selection cost:	12,750
Training cost:	30,490
Profit foregone:	5,00,000

Question No.4

(a) Gross pay ₹10,30,000 (including cost of idle time hours paid to employee ₹25,000); Accommodation provided to employee free of cost [this accommodation is owned by employer, depreciation of accommodation ₹1,00,000, maintenance charges of the accommodation ₹90,000, municipal tax paid for this accommodation ₹3,000], Expenses relating to perquisites provided to the employee ₹ 25,000 of which 40% recovered from his salary; Employer's Contribution to P.F. ₹1,00,000 (including a penalty of ₹2,000 for violation of PF rules), Employee's Contribution to P.F. ₹75,000. Compute the Employee cost as per CAS-7. [8]

(b) Calculate the fixed overheads with the help of least squares method. The semi-variable overheads for six months are as under: [8]

Month	Machine Hours	Semi-variable overheads
January	200	1,400
February	150	1,300
March	100	1,200
April	300	1,600
May	250	1,500
June	400	1,800

Answer.

(a) Computation of Employee Cost

	Particulars	Amount (₹)
	Gross Pay (net of cost of idle time) =[10,30,000 (-) 25,000]	9,95,000
Add	Cost of accommodation provided by employer = Depreciation (+) Municipal Tax paid (+) maintenance charges = 1,00,000 + 90,000 + 3,000 = 1,93,000	1,93,000
Add	Perquisites to employee = [25,000 – 40% of 25,000]	15,000
Add	Employer's Contribution to PF excluding penalty paid to PF authorities = [1,00,000 (-) 2,000]	98,000
	Employee Cost	**12,86,000**

Note:

(i) Assumed that the entire accommodation is exclusively used by the employee. Hence, cost of accommodation provided includes all related expenses/costs, since these are identifiable/traceable to the cost centre.

(ii) Cost of idle time hours is an excludible item. Since it is already included in the gross pay, hence excluded.

(iii) Penalty paid to PF authorities is not a normal cost. Since, it is included in the amount of contribution, it is excluded.

(iv) Recoverable amount from employee is excluded from the cost of perquisites.

(b)

Month	Machine Hours (x)	Semi-variable overheads (y)	x^2	xy
January	200	1,400	40,000	2,80,000

February	150	1,300	22,500	1,95,000
March	100	1,200	10,000	1,20,000
April	300	1,600	90,000	4,80,000
May	250	1,500	62,500	3,75,000
June	400	1,800	1,60,000	7,20,000
N = 6	$\sum x$=1,400	$\sum y$=8,800	$\sum x^2$=3,85,000	$\sum xy$=21,70,000

$$\text{Variable cost per unit} = \frac{N\sum xy - \sum x.\sum y}{N\sum x^2 - (\sum x)^2} = \frac{(6 \times 21,70,000) - (1,400 \times 8,800)}{(6 \times 3,85,000) - (1,400)^2}$$

$$= \frac{1,30,20,000 - 1,23,20,000}{3,50,000} = \frac{7,00,000}{3,50,000} = ₹\ 2$$

Total semi variable overheads for January	₹ 1,400
Total variable overheads for January (200 x ₹ 2)	400
Total fixed overheads	1,000

Question No.5

(a) Distinguish Blanket Overhead rate and Pre-determined overhead rate. [4]

(b) X Ltd. which absorbs overheads at a pre-determined rate, provides the following information: overheads actually incurred ₹4,50,000; overhead absorbed ₹1,00,000. It was found that 60% of the unabsorbed overheads were due to defective planning. How would unabsorbed overheads due to defective planning be treated in cost accounts? [6]

(c) State the treatment of the following transactions:

(i) Depreciation on fixed assets (like warehouse, delivery van) used by distribution office;
(ii) Cost of primary packing for protecting the product or for convenient handling;
(iii) Cost of special packing at the request of the customer;
(iv) Cost of research relating to marketing activities;
(v) Cost of unsuccessful research;
(vi) Cost of night shift allowance spent to meet some specific customer order. [1x6 =6]

Answer.

(a) A **blanket overhead absorption rate** is an absorption used throughout a factory and for odd jobs and units of output irrespective of the department in which they are produced. Blanket OAR are also known as single factory wide OAR.

N.B. Blanket OARs are inappropriate in the following circumstances.

i) Where there is more than one department.

ii) Jobs do not spend an equal amount of time in each department.

If a single factory overhead absorption rate is used some products will receive a higher overhead charge than they ought fairly to bear, where other products will be under charged i.e. it will result in over or under absorption. If a separate OAR is used for each department charging of overheads will be fair and the full cost of production of items will represent amount of effort and resources put into making them.

Predetermined Overhead Absoprtion Rate

In practice, actual overhead costs are not always readily available for application since the total figure of overhead cost incurred during the period will be ascertained only at the end of the accounting period and application of actual overhead absorption is not possible. To overcome the difficulty a predetermined overhead absorption rate is calculated at the beginning of the accounting period and is applied to the completed units during the period. The major objective of using predetermined absorption rate is to recover the overhead as soon as the product has been completed, to arrive at the product cost. It is calculated with the budgeted figures of the forthcoming accounting period basing on the expected level of activity.

(b)

	₹
Overhead incurred	4,50,000
Overhead absorbed	1,00,000
Under absorption	3,50,000

60 percent of under absorbed overhead is due to defective planning. This being abnormal, should be debited to Profit and Loss A/c (60% of ₹ 3,50,000) = ₹ 2,10,000

(c) The treatment are as follows :

(i) Depreciation on fixed assets represents the consumption of the value of the concerned assets in the process of operations. This consumption, is therefore an indirect cost of the production and operations. Without this, true cost of production cannot be obtained. Hence, depreciation charged in the accounts is considered as includible as an element of cost.

(ii) The cost of primary containers should be charged off as a production overhead and included in production cost. In some cases, the primary packing materials may be made decorative with a view to promote sales, and in such a case a part of the primary packing materials should be apportioned as a selling cost.

(iii) This packing cost is treated as S & D Overhead.

(iv) Many times organisations appoint professional bodies or conduct by themselves a study of potential market for their products. This study is aimed at finding the customer needs, their habits, changing market for the products, technological changes in the product, competition etc. This is treated as S & D cost.

(v) Cost of unsuccessful research is treated as factory overhead, provided the expenditure is normal and is provided in the budget. If it is not budgeted, it is written off to the profit and loss account. If the research is extended for long time, some failure cost is spread over to successful research.

(vi) It is customary practice that the persons working in night shifts are paid some extra and such an allowance is known as night shift allowance. Such additional expenditure caused by general pressure of work in excess of normal capacity are charged to general pro-duction overhead because otherwise job performed during days will be cheap-er than the jobs completed during night which by no means a fair proposi-tion. If the additional expenditure is incurred extremely as a result of pressing demands from customers such expenditure should directly be charged to the job concerned. On the other hand if the night shifts are run for a fault of the particular department the night shift allowance should be charged as the departmental overhead applicable to the concerned department.

Section B – Financial Management
(Full Marks: 40)

(Answer Question no.1 which is compulsory and any two from the rest in this section.)

1. **Choose the most appropriate one from the stated options.**
   a) **Based on the following information, what will be the amount of Inventory?**
      Current ratio=2.6: 1 Liquid ratio=1.5:1 Current liabilities=₹40, 000.
      i) **₹ 55,000**
      ii) **₹ 44,000**
      iii) **₹ 22,000**
      iv) **₹ 33, 000**
   b) **City Ltd has total assets of ₹60 crpre and a debt/equity ratio of 0.5. Its sales are ₹27 crore and it has total fixed cost of ₹7 crore. If the company's EBIT is ₹6 crore, its tax rate is 40 per cent and the interest rate on debt is 12 per cent, the ROE of City LTD. Would be**
      i) **4.40%**
      ii) **5.40%**
      iii) **6.20%**
      iv) **Insufficient information**
   c) **The degree of operating leverage and degree of financial leverage of Vintex Ltd. Are 2.00 and 1.5 respectively. What will be the percentages in EPS, if the sale increases by 10%?**
      i) **10% increase**
      ii) **15% increase**
      iii) **30% increase**
      iv) **Insufficient information**
   d) **What will be the effect on NPV of a one year project if fixed costs are increased from ₹200 to ₹300. When the firm is profit making, pays tax @ 35% and has 12% cost of capital?**
      i) **NPV decrease by ₹100**
      ii) **NPV decrease by ₹89.29**
      iii) **NPV decrease by ₹65**
      iv) **NPV decrease by ₹58.04**

[2×4=8]

Solution:

a) **(ii)₹ 44,000**

Current ratio=Current Asset/Current Liability
2.6 =CA/40,000
CA =40000*2.6
=₹1, 04,000
Liquid Assets =40,000*1.5 =Rs, 60000
Inventory =C A- LA
=₹ 44000.

b) (ii) 5.40%

Total Equity + total Debt = ₹60 crore
Total Equity = (60/1.5) = ₹40 crore
Total Debt = (60-40) = ₹20 crore
Interest of Debt = (0.12 × 20) = ₹2.40 crore
Net Income = [(EBIT)-1] × (1-t) = (6-2.40) (1-0.40)
= 3.60 × 0.6 = ₹2.16 crore.
ROE = (2.16/40) × 100 =5.40%

c) (iii) 30% increase

DOL = 2, DFL =1.5
DTL =2 ×1.5 = 3
Increase in EPS = DTL × change is sales quantity = 3 ×10% = 30%

d) (iv) NPV decrease by ₹58.04

Increase in Fixed Cost =₹100, increase, in each outflow after tax =₹65, NPV =65/1.12 = ₹58.04 decrease in NPV

2.

a) In considering the most desirable capital structure of a company, the following estimates of the cost of debt and equity capital (after tax) have been made at various levels of Debt-equity Mix.

Debt as % of total capital employed	Cost of debt %	Cost of equity%
0	5.0	12.0
10	5.0	12.0
20	5.0	12.5
30	5.5	13.0
40	6.0	14.0
50	6.5	16.0
60	7.0	20.0

Calculate the optimal Debt-Equity Mix for the company by calculating composite cost of capital.

b) A publishing house purchases 72000 rims of a special type paper per annum at cost ₹90 per rim. Ordering cost per order is ₹500 and the carrying cost is 5 per cent per year of the inventory cost. Normal lead time is 20 days and safety stock is NIL. Assume 300 working days in a year: you are required:

i) calculate the economic order quantity (E.O.Q)
ii) Calculate the Reorder Inventory Level.
iii) If a 1 percent quantity discount is offered by the supplier for purchases in lot of 18000 rims or more, should the publishing house accept the proposal?

[8+8=16]

Solution:

a)

Composite cost of capital can be easily calculated as follows:

Debt as % of capital	0	10	20	30	40	50	60
Cost of debt %	5.0	5.0	5.0	5.5	6.0	6.5	7.0
Cost of equity %	12.0	12.0	12.5	13.0	14.0	16.0	20.0
Composite cost of capital	12.00	11.30	11.00	10.75	10.80	11.25	12.20

Composite cost of capital is lowest at debt-equity mix of 30% i.e., 30% debt and 70% equity.

Composite cost of capital = 5.5 x 30% + 13.0 x 70%
=10.75. Similar for other calculations.

b)

i) $EOQ = \sqrt{\frac{2 \times A \times O}{C}}$

A = Annual consumption

O = Ordering cost per order

C = Stock carrying cost per unit per annum

$= \sqrt{\frac{2 \times 72,000 \times 500}{5\% \text{ of } ₹\,90}}$

$= \sqrt{1,60,00,000}$ = 4,000 Rims.

ii) Re-order Level = Normal Lead Time × Normal Usage = 20 × 240 = 4,800 Rims

Note: Normal Usage = $\frac{\text{Annual usage}}{\text{Normal working days in a year}} = \frac{72,000 \text{ Rims}}{300}$ = 240 Rims

iii) Evaluation of Quantity Discount Offer :

	EOQ	Discount Offer
Size of Order	4,000 Rims	18,000 Rims
No. of Orders in a year	18	4
Average Inventory $\left(\frac{\text{Order Size}}{2}\right)$	2,000 Rims	9,000 Rims
Cost:		
	Amount in (₹)	**Amount in (₹)**
Ordering Cost @ ₹500 per order	9,000	2,000
Inventory Carrying Cost		
At EOQ – (4,000/2) × ₹4.5	9,000	-
At Discount offer – (18,000/2) × ₹4.455	-	40,095
Purchases Cost		
At EOQ – 72,000 × ₹90	64,80,000	-
At discount offer – 72,000 × ₹89.10	-	64,15,200
Total Cost	64,98,000	64,57,295

Advise: The Total Cost is less in case of quantity discount offer. Hence, quantity discount offer should be accepted.

3.

a) The following is the Balance sheet of Birla Ltd.,

Liabilities	As at 30.6.08	As at 30.6.09	Assets	As at 30.6.08	As at 30.6.09
Share capital (equity shares of ₹100 each)	10.00	20.00	Plant	13.00	18.00
10% redeemable shares of ₹100 each	7.50	2.50	Stock	8.00	9.50
Share premium	0.50	0.25	Debtors	15.00	14.50
Cap. Red. Reserve	0.00	5.00	Bank balance	3.00	2.50
Reserve	8.00	4.50	Miscellaneous	1.00	1.00
P&L A/C	3.00	5.00			
Provision for taxation	5.00	6.00			
Current Liabilities	6.00	2.25			
	40.00	45.50		40.00	45.50

The following further information is furnished:

i) The company declared a dividend of 20% for the year ended 30th June 2008 to equity shareholders on 30th September, 2008. Dividend on preference share capital for the year ended 30th June, 2008 was paid on 30th June, 2008.

ii) The company issued notice to preference shareholders holding preference shares of the face value of ₹5 lakhs for redemption at a premium of 5 % on 1st December, 2008 and the entire proceedings were completed before 31-12-2008 in accordance with the law.

iii) The company provided depreciation at 10% on the closing balance of plant. During the year one plant whose book value was ₹ 2,00,000 was sold at a loss of ₹ 30,000.

iv) Miscellaneous expenditure incurred during the year ended 30th June 2009 ₹25, 000 for share issue and other expenses.

v) A sum of ₹4 lakhs has been provided for taxation during the year.

vi) Prepare statements of sources and application of funds for the year ended 30th June, 2009. Also prepare a statement showing changes in working capital.

b) Discuss about the functions of finance manager.

[10+6=16]

Solution:

a)

Funds Flow Statement

Sources	Amount (₹)	Applications	Amount (₹)
Sales of fixed assets	170000	Increase in working capital	425000
Funds from operations	1255000	Purchase of fixed assets	900000
Issue of equity	1000000	Redemption preference shares	525000

		Tax paid Equity Dividend 2008 Preference dividend 2009 Miscellaneous expenditure	300000 200000 50000 25000
	2425000		2425000

Working note No. 1: Changes in working capital

	2008	**2009**
Current assets		
Stock Debtors Bank	800000 1500000 300000	950000 1450000 250000
	2600000	2650000
Current liabilities	600000	225000
Working capital	2000000	2425000
Increase in working capital	425000	

Working note No. 2: depreciation

WDV of fixed asset @90% For 100% Therefore depreciation provided	1800000 2000000 200000

Working note No. 3: Purchase or sale of fixed assets

fixed asset (-) depreciation (-) book value of asset sold (+) additions (b/f)	1300000 200000 200000 900000 900000
	1800000

Working note No. 4: P & L adjustment a/c

To depreciation To transfer to reserve (9500000 – 800000) To Provision for tax To miscellaneous expenditure Written off To loss on sale of assets To equity dividend 2008 To preference dividend 2009 To balance c/d	200000 150000 400000 25000 30000 200000 50000 500000	By balance b/d By funds from operations (b/f)	300000 1255000
	1555000		1555000

b) The Finance Manager's main objective is to manage funds in such a way so as to ensure their optimum utilisation and their procurement in a manner that the risk, cost and control considerations are properly balanced in a given situation. To achieve these objectives the Finance Manager performs the following functions:

i) Estimating the requirement of Funds: Both for long-term purposes i.e. investment in fixed assets and for short-term i.e. for working capital. Forecasting the requirements of funds involves the use of techniques of budgetary control and long-range planning.

ii) Decision regarding Capital Structure: Once the requirement of funds has been estimated, a decision regarding various sources from which these funds would be raised has to be taken. A proper balance has to be made between the loan funds and own funds. He has to ensure that he raises sufficient long term funds to finance fixed assets and other long term investments and to provide for the needs of working capital.

iii) Investment Decision: The investment of funds, in a project has to be made after careful assessment of various projects through capital budgeting. Assets management policies are to be laid down regarding various items of current assets. For e.g. receivable in coordination with sales manager, inventory in coordination with production manager.

iv) Dividend decision: The finance manager is concerned with the decision as to how much to retain and what portion to pay as dividend depending on the company's policy. Trend of earnings, trend of share market prices, requirement of funds for future growth, cash flow situation etc., are to be considered.

v) Evaluating financial performance: A finance manager has to constantly review the financial performance of the various units of organisation generally in terms of ROI Such a review helps the management in seeing how the funds have been utilised in various divisions and what can be done to improve it.

vi) Financial negotiation: The finance manager plays a very important role in carrying out negotiations with the financial institutions, banks and public depositors for raising of funds on favourable terms.

vii) Cash management: The finance manager lays down the cash management and cash disbursement policies with a view to supply adequate funds to all units of organisation and to ensure that there is no excessive cash.

viii) Keeping touch with stock exchange: Finance manager is required to analyse major trends in stock market and their impact on the price of the company share.

4.

a) Write the basic propositions and the assumptions of the MM Approach.

b) Explain how the combined effects of operating and financial leverages provide the risk profile of an organization.

c) Following are the data on a capital project being evaluated by the management of S Ltd.:

	Project S

Annual cost saving	**₹40,000**
Useful Life	**4 years**
I.R.R	**15%**
Profitability Index (PI)	**1.064**
NPV	**?**
Cost of project	**?**
Cost of capital	**?**
Pay back	**?**
Salvage value	**0**

Find the missing values considering the following table of discount factor only:

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**

[4+4+8=16]

Solution:

a) Basic Propositions:

M -M Hypothesis can be explained in terms of two propositions of Modigliani and Miller. They are:

i) The overall cost of capital (K_o) and the value of the firm are independent of the capital structure. The total market value of the firm is given by capitalizing the expected net operating income by the rate appropriate for that risk class.

ii) The financial risk increases with more debt content in the capital structure. As a result cost of equity (K_e) increases in a manner to offset exactly the low – cost advantage of debt. Hence, overall cost of capital remains the same.

Assumptions of the MM Approach:

1. There is a perfect capital market. Capital markets are perfect when
   i) Investors are free to buy and sell securities,
   ii) They can borrow funds without restriction at the same terms as the firms do,
   iii) They behave rationally,
   iv) They are well informed, and
   v) There are no transaction costs.
2. Firms can be classified into homogeneous risk classes. All the firms in the same risk class will have the same degree of financial risk.
3. All investors have the same expectation of a firm's net operating income (EBIT).
4. The dividend payout ratio is 100%, which means there are no retained earnings.
5. There are no corporate taxes. This assumption has been removed later.

b) The total risk involved in a firm can be determined by combining the operating and financial leverages. The Degree of combined leverage is calculated by multiplying the two leverages. As a rule, a firm having a high operating leverage should have a low financial leverage and vise versa. If a firm has both the leverages at a high level, it will be a very risky proposition because the combined effect of the two is a multiple of these

two leverages. As such if a firm has a high operating leverage the financial leverage should be kept low. Thus it will be necessary to have a proper balance between operating and financial leverage of keep the risk profile of a firm within a reasonable limit. Such a situation should also maximize return to shareholders.

c)

CIAT = 40,000

Life = 4 years

IRR = 15%

PI = 1.064

At 15% IRR

PV of cash inflow = Cost of project

40,000 PVAF 4 yrs 15% = Cost of project

Cost of Project = 40,000 x 2.855

= 1, 14,200

$$PI = \frac{\text{PV of cash inflow}}{\text{Initial outflow}}$$

= 1.064

$$1.064 = \frac{\text{PV of cash inflow}}{1,14,200}$$

PV of cash inflow = 1, 21,509

Less: Outflow = 1, 14,200

NPV = 7,309

At cost of capital

Let r be the Cost of Capital (K_o)

PV of cash inflow

40,000 PVAF r% 4 yrs = 1, 21,509

PVAF n% 4 yrs = 1, 21,509 / 40,000 = 3.038

r = 12%

$$\text{Pay back period} = \frac{\text{Initial Investment}}{\text{Annual cash flow}}$$

$$= \frac{1,14,200}{40,000}$$

= 2.855