Solution of May 2009 Examination

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Paper - 4A : Cost Accounting

## Chapter-1 : Basic Concepts

2009-May [1] \{C\} Answer the following:
(ii) Distinguish between product cost and period cost. (2 marks) Answer:
(ii) Product costs are associated with the purchase and sale of goods. In the production scenario, such costs are associated with the acquisition and conversion of materials and all other manufacturing inputs into finished product for sale. Hence under absorption cost, total manufacturing costs constitute inventoriable or product cost.
Periods costs are the costs, which are not assigned to the products but are charged as expense against revenue of the period in which they are incurred. General Administration, marketing, sales and distributor overheads are recognized as period costs.

## Chapter-2: Material

2009-May [4] \{C\} Answer the following:
(i) Discuss accounting treatment of spoilage and defectives in cost accounting.
(3 marks)
Answer:
Please refer 2000-May [3] (c) on page no. 26
Chapter-3: Labour
2009-May [1] \{C\} Answer the following:
(i) Two workmen, A and B, produce the same product using the same material. A is paid bonus according to Halsey plan, while B is paid bonus according to Rowan plan. The time allowed to manufacture the product is 100 hours. A has taken 60 hours and B has taken 80 hours to complete the product. The normal hourly rate of wages of workman
is Rs. 24 per hour. The total earnings of both the workers are same. Calculate normal hourly rate of wages of workman B. (2 marks)

## Answer:



According to the problem,

$$
\begin{array}{ll}
\text { Total earnings of } & =\text { Total earnings of B } \\
1920 & =96 \mathrm{X} \\
\mathrm{X} & =\frac{1920}{96}=\text { Rs. } 20
\end{array}
$$

Therefore, hourly rate of wages of the worker is Rs. 20 per hour.

* Bonus $=$ Time Saved $\times 50 \% \times$ Wage Rate
** Bonus $=\frac{\text { Time taken }}{\text { Time Allowed }} \times$ Time Save $\times$ Wage Rate
2009-May [4] \{C\} Answer the following :
(ii) Discuss accounting treatment of idle capacity costs in cost accounting.


## Answer:

Idle Capacity: It represents the difference between practical capacity and the capacity based on long term sales expectancy.

If the actual capacity is different from the capacity based on sales expectancy, then the idle capacity is the difference between the practical capacity and the actual capacity.

Idle capacity represents a part of practical capacity which has not been utilized due to regular interruptions and which may not be avoided.
Idle capacity cost can be determined as
Idle capacity cost $=\frac{\text { Total } \mathrm{OH} \text { related to plant }}{\text { Normal capacity }} \times$ Idle capacity
It may be normal or abnormal. The treatment can be done in the following ways :-

1. Arising due to unavoidable reasons (Normal idle capacity):

Generally arises due to lack of demand or due to seasonal nature of the product.

## Treatment $\downarrow$

Production OHs are absorbed into the cost of production either by the inflated OH absorption rate or by the supplementary OH rate.
2. Arising due to avoidable reasons (Abnormal idle capacity):

It may arise due to lack of proper planning control or due to lack of managements forecasting.

Treatment $\downarrow$
The cost of such idle treatment capacity should be changed to costing Profit and Loss A/c.
3. If arises due to trade depression or any other external factors:

Then it being normal in nature,

## Treatment $\downarrow$

The cost should be charged to costing $\mathrm{P} / \mathrm{L} \mathrm{A} / \mathrm{c}$.
Chapter-4 : Overheads
2009-May [1] \{C\} Answer the following:
(vi) Following information is available for the first and second quarter of the year 2008-09 of ABC Limited :

Production Semi-variable cost

| (in units) | (Rs.) |
| ---: | ---: |
| 36,000 | $2,80,000$ |
| 42,000 | $3,10,000$ |

## Quarter I

42,000
3,10,000
You are required to segregate the semi-variable cost and calculate :
(a) Variable cost per units; and
(b) Total fixed cost.
(2 marks)
Answer:
Production (Units) Semi Variable Cost (Rs.)
Quarter I
36,000

2,80,000
Quarter II
$42,000 \quad 3,10,000$

Difference
6,000 30,000

Variable Cost per Unit $=\frac{\text { Change in Semi Variable Cost }}{\text { Change in Production }}$

$$
=\frac{\text { Rs } \cdot 30,000}{6,000 \mathrm{units}}
$$

$=$ Rs. 5 per units
Total Fixed Cost $=$ Semi Variable Cost $-($ Production x Variable Cost per Unit)
Total fixed cost in Quarter I:

$$
\begin{aligned}
& =2,80,000-(36,000 \times 5) \\
& =2,80,000-1,80,000 \\
& =1,00,000
\end{aligned}
$$

Total fixed cost in Quarter II:

$$
\begin{aligned}
& =3,10,000-(42,000 \times 5) \\
& =3,10,000-2,10,000 \\
& =1,00,000
\end{aligned}
$$

## Chapter - 6 : Reconciliation of Cost and Financial Accounts

2009-May [3] \{C\} (a) A manufacturing company has disclosed a net loss of Rs. 2,13,000 as per their cost accounting records for the year ended March 31, 2009. However, their financial accounting records disclosed a net loss of Rs. $2,58,000$ for the same period. A scrutiny of data of both the sets of books of accounts revealed the following information :

| (i) | Factory overheads underabsorbed | 5,000 |
| ---: | :--- | ---: |
| (ii) | Administration overheads overabsorbed | 3,000 |
| (iii) | Depreciation charged in financial accounts | 70,000 |
| (iv) | Depreciation charged in cost accounts | 80,000 |
| (v) | Interest on investments not included in cost accounts | 20,000 |
| (vi) | Income-tax provided in financial accounts | 65,000 |
| (vii) | Transfer fees (credit in financial accounts) | 2,000 |
| (viii) | Preliminary expenses written off | 3,000 |
| (ix) | Over-valuation of closing stock of finished goods |  |
|  | in cost accounts | 7,000 |

Prepare a Memorandum Reconciliation Account.
Answer:
Memorandum Reconciliation Account


## Chapter-8:Contract Costing

2009-May [4] \{C\} Answer the following :
(iii) A contract is estimated to be $80 \%$ complete in its first year of construction as certified. The contractee pays $75 \%$ of value of work
certified, as and when certified and makes the final payment on the completion of contract. Following information is available for the first year :

Rs.
Cost of work-in progress uncertified $\quad 8,000$
Profit transferred to Profit \& Loss A/c at the end of year I on incomplete contract

60,000
Cost of work to date $\quad 88,000$
Calculate the value of work-in-progress certified and amount of contract price. (3 marks)

## Answer:

As the contract is $80 \%$ complete, So $2 / 3$ rd of the notional profit on cash basis has been transferred to Profit \& Loss A/c in the first year of contract.

$$
\begin{aligned}
\therefore \text { Amount transferred to Profit \& Loss A/c } & =\frac{2}{3} \times \text { Notional Profit } \mathrm{x} \% \text { of cost } \\
\text { received or, } 60,000 & =\frac{2}{3} \times \text { Notional Profit } \times \frac{75}{100} \\
\text { or, Notional Profit } & =\frac{60,000 \times 3 \times 100}{2 \times 75}
\end{aligned}
$$

$=$ Rs. $1,20,000$

## Computation of Value of Work Certified:

| Cost of work to date | $=$ |
| ---: | :--- |
| Add: Notional Profit | $=$Rs. 88,000 <br> Ls. $1,20,000$ |
| Less: $\quad$Cost of Work Uncertified <br> Value of Work Certified <br> Since the Value of Work Certified is $80 \%$ of the Contract Price, <br> therefore | $=$$\frac{8,000}{\text { Rs. } 2,00,000}$ <br> Contract Price |
|  | $=\frac{\text { Value of work Certified }}{80 \%}$ |
|  | $=\frac{\text { Rs. } \mathbf{2 , 0 0 , 0 0 0}}{\mathbf{8 0 \%}}=$ Rs. $2,50,000$ |

Therefore sales revenue required to achieved a quarterly profit.
Contract Account

| Particulars | Amount Rs. | Particulars | Amount Rs. |
| :---: | :---: | :---: | :---: |
| To Cost to date To National Profit | $\begin{array}{r} 88,000 \\ 1,20,000 \end{array}$ | By Work in Progress <br> - Work Certified <br> - Work uncertified | $\begin{array}{r} 2,00,000 \\ 8,000 \end{array}$ |
|  | 2,08,000 |  | 2,08,000 |


| To P/L A/c <br> To Work in Progress | 60,000 <br> 60,000 |
| :--- | ---: |
|  | $1,20,000$ |
|  | By Notional Profit |

Chapter-9: Operating and Multiple Costing
2009-May [1] \{C\} Answer the following :
(iii) A lorry starts with a load of 24 tonnes of goods from station A. It unloads 10 tonnes at station $B$ and rest of goods at station C. It reaches back directly to station A after getting reloaded with 18 tonnes of goods at station C. The distance between A to $\mathrm{B}, \mathrm{B}$ to C and then from C to A are $270 \mathrm{kms}, 150 \mathrm{kms}$ and 325 kms respectively. Compute 'Absolute tonnes kms' and 'Commercial tonnes-kms'. (2 marks)

## Answer:

Absolute tonnes kms

$$
\begin{aligned}
& =\text { tonnes }(\text { unit of weight }) \times \mathrm{Km}(\text { Unit of distance }) \\
& =(24 \text { tonnes } \times 270 \mathrm{kms})+(14 \text { tonnes } \times 150 \mathrm{kms})+(18 \text { tonnes } \times 325 \\
& \mathrm{kms}) \\
& =6480+2,100+5850 \\
& =14430 \text { tonnes } \mathrm{kms} \\
& \text { Commercial Tonnes kms } \\
& =\text { Average load } \times \text { Total kms travelled } \\
& =\left[\frac{24+14+18}{3}\right] \text { tonnes } \times 745 \mathrm{kms} \\
& =13906.67 \text { Tonnes } \mathrm{km}
\end{aligned}
$$

## Chapter-11 : Joint Products \& By Products

2009-May [3] \{C\} (b) Describe briefly, how joint costs upto the point of separation may be apportioned amongst the joint products under the following methods :
(i) Average unit cost method
(ii) Contribution margin method
(iii) Market value at the point of separation
(iv) Market value after further processing
(v) Net realizable value method

## Answer:

Methods of apportioning joint cost among the joint products:
(i) Average Unit Cost Method:

- In this method, total process cost (upto the point of separation) is divided by total units of joint products produced.
- On division average cost per unit of production is obtained. The effect of application of this method is that all joint products will have uniform cost per unit.
(ii) Contribution Margin Method:
- In this method joint costs are segregated into two parts - variable and fixed. The variable costs are apportioned over the joint
products on the basis of units produced (average method) or physical quantities.
- When the products are further processed, then all variable cost incurred be added to the variable cost determined earlier.
- After that contribution is calculated by deducting variable cost from their respective sales values.
- The fixed costs are then apportioned over the joint products on the basis of contribution ratios.
(iii) Market Value at the Time of Separation:
- This method is used for apportioning joint costs to joint products upto the split off point.
- This method is difficult to apply if the market value of the products at the point of separation are not available.
- The joint cost may be apportioned in the ratio of sales values of different joint products.
(iv) Market Value after further Processing:
- Under this method the basis of apportionment of joint costs is the total sales value of finished products at the further processing.
- The use of this method is unfair where further processing costs after the point of separation are disproportionate or when all the joint products are not subjected to further processing.
(v) Net Realisable Value Method:
- Under this method joint costs is apportioned on the basis of net realisable value of the joint products,
Net Realisable Value $=$ Sale value of joint products (at finished stage)
(-) estimated profit margin
(-) selling \& distribution expenses, if any
(-) post split-off cost


## Chapter-12: Standard Costing

2009-May [1] \{C $\}$ Answer the following :
(iv) Following details relating to product X during the month of April, 2009 are available :
Standard cost per unit of X:
Materials : $50 \mathrm{~kg} @$ Rs. $40 / \mathrm{kg}$
Actual production : 100 units
Actual material cost : Rs. $42 / \mathrm{Kg}$
Material price variance : Rs. 9,800 (Adverse)
Material usage variance : Rs. 4,000 (Favourable)
Calculate the actual quantity of material used during the month April, 2009.

## Answer:

Material price variance $=\mathrm{AQ}($ Std. price per kg - Actual price per kg$)$

$$
\begin{aligned}
& =(-) 9800=\mathrm{AQ}(40-42) \\
& =(-) 9800=\mathrm{AQ}(-2) \\
& \therefore \mathrm{AQ}=\frac{9800}{2}=4,900
\end{aligned}
$$

Actual quantity of material used during the month of April $=4,900 \mathrm{~kg}$.

## Chapter-13: Marginal Costing

2009-May [4] \{C\} Answer the following:
(iv) Product Z has a profit-volume ratio of $28 \%$. Fixed operating costs directly attributable to product $Z$ during the quarter II of the financial year 2009-10 will be Rs. $2,80,000$.
Calculate the sales revenue required to achieve a quarterly profit of Rs. 70,000.
(3 marks)

## Answer:

$\mathrm{P} / \mathrm{V}$ ratio $=28 \%$
Quarterly fixed Cost $=$ Rs. $2,80,000$

Desired Profit $\quad=$ Rs. 70,000
Sales revenue required to achieve desired profit

$$
\begin{aligned}
& =\frac{\text { Fixed Cost }+ \text { Desired Profit }}{P / V \text { ratio }} \\
& =\frac{2,80,000+70,000}{28 \%} \\
& =\frac{3,50,000}{0.28}=\text { Rs. } 12,50,000
\end{aligned}
$$

Chapter-14 : Budgets \& Budgetary Control
2009-May [1] \{C\} Answer the following:
(v) Discuss the components of budgetary control system. (2 marks)

## Answer:

Components of budgetary control system: There are a number of bases for classifing the budgets into two or more categories. But the most important and widely used bases are functional classification and classification according to flexibility.
The policy of a business for a defined period is represented by the master budget the details of which are given in a number of individual budgets called functional budgets. The functional budgets are broadly grouped under the following heads:
(a) Physical Budgets - This budget contains information in terms of physical units e.g. Sales Qty, Product Qty, Inventory, Manpower budget.
(b) Cost Budgets - Manufacturing Cost, Administration Cost, sales \& distribution cost, R \& D Cost.
(c) Profit Budget - A budget which enable in the ascertainment of profit, e.g. Sales budget, profit \& loss budget etc.

On the other hand, budgets may be classified into two categories on the basis of flexibility as fixed budgets and flexibility budgets.
2009-May [2] \{C $\}$ Following is the sales budget for the first six months of the year 2009 in respect of PQR Ltd :

| Months | $:$ | Jan. | Feb. | March | April | May |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | June

Finished goods inventory at the end of each month is expected to be $20 \%$ of budgeted sales quantity for the following month. Finished goods inventory was 2,700 units on January 1, 2009. There would be no work-in-progress at the end of any month.
Each unit of finished product requires two types of materials as detailed below :

Material X: $4 \mathrm{kgs} @$ Rs. $10 / \mathrm{kg}$
Material Y: $6 \mathrm{kgs} @$ Rs. $15 / \mathrm{kg}$
Material on hand on January, 1,2009 was $19,000 \mathrm{kgs}$ of material X and 29,000 kgs of material Y. Monthly closing stock of material is budgeted to be equal to half of the requirements of next month's prodcution.
Budgeted direct labour hour per unit of finished product is $3 / 4$ hour.
Budgeted direct labour cost for the first quarter of the year 2009 is Rs. $10,89,000$.
Actual data for the quarter one, ended on March 31, 2009 is as under :
Actual production quantity : 40,000 units
Direct material cost
(Purchase cost based on materials actually issued to production)
Material X: 1,65,000 kgs @ Rs. 10.20/kg.
Material Y:2,38,000 kgs @ Rs. 15.10/kg.
Actual direct labour hours worked : 32,000 hours
Actual direct labour cost : Rs. 13,12,000
Required :
(a) Prepare the following budgets :
(i) Monthly production quantity budget for the quarter one.
(ii) Monthly raw material consumption quantity budget from January, 2009 to April, 2009.
(iii) Materials purchase quantity budget for the quarter one.
(b) Compute the following variances :
(i) Material cost variance
(ii) Material price variance
(iii) Material usage variance
(iv) Direct labour cost variance
(v) Direct labour rate variance
(vi) Direct labour efficiency variance. $\quad(6+9=15$ marks $)$

## Answer :

(a) Statement showing monthly production quantity budget: Production Budget for January to March 2009
Production Budget for January to March 2009

| Particulars (in Unit) | Jan | Feb | Mar | April |
| :--- | ---: | ---: | ---: | ---: |
| Budgeted Sales (in Unit) | 10,000 | 12,000 | 14,000 | 15,000 |
| Add: Budgeted Closing Stock |  |  |  |  |
| (20\% of sales of next month) | 2,400 | 2,800 | $\frac{3,000}{}$ | $\frac{3,000}{12,400}$ |
|  | 14,800 | 17,000 | 18,000 |  |
| Less: Opening Stock | 2,700 | 2,400 | 2,800 | 3,000 |
| Budgeted Output | 9,700 | 12,400 | 14,200 | 15,000 |

Total Budgeted Output for the Quarter ended March 31, 2009
$=(9,700+12,400+14,200)$
$=36,300$ units,
(ii) Monthly Raw Material consumption quantity budget from Jan 2009 to April 2009

Raw Material Consumption Budget (in quantity)

| Month | Budgeted Output <br> (Units) | Material 'X'@4 kg <br> per unit (Kg) | Material'Y'@ <br> kg per unit (Kg) |
| :--- | :---: | :---: | :---: |
| Jan | 9,700 | 38,800 | 58,200 |
| Feb | 12,400 | 49,600 | 74,400 |
| Mar | 14,200 | 56,800 | 85,200 |
| Apr | 15,000 | 60,000 | 90,000 |
| Total |  | $2,05,200$ | $3,07,800$ |

(iii) Material purchase quantity budget for the quarter: Raw Materials Purchase Budget (in quantity) for the Quarter ended (March 31,2009)

Material X

|  | Jan | Feb | Mar | Total |
| :--- | :---: | :---: | :---: | :---: |
| Raw material required for <br> production (x) | 38800 | 49600 | 56800 | 145200 |
| Add: Closing stock of raw <br> material | 24800 | 28400 | 30000 | 83200 |
| Less: Opening stock of raw <br> material X | 63600 | 78000 | 86800 | 228400 |
| Materials to be purchased X | 44600 | 53800 | 28400 | 72200 |


| Raw Materials Purchase Budget (in quantity) for the Quarter ended (March 31,2009) Material Y |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Jan | Feb | Mar | Apr |
| Raw material required for production (Y) | 58,200 | 74,400 | 85,200 | 2,17,800 |
| Add: Closing stock of raw | 37,200 | 42,600 | 45,000 | 1,24,800 |
|  | 95,400 | 1,17,000 | 1,30,200 | 3,42,600 |
| Less: Opening stock of raw material Y | 29,000 | 37,200 | 42,600 | 108,800 |
| Materials to be purchased Y | 66,400 | 79,800 | 87,600 | 2,33,800 |

(b) Calculation of Material Cost Variance:

Material Variance

| (1) | $(2)$ | $(3)$ | $(4)$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  | SP X SQ | SP X SM | SP X AQ used | AP X AQ used |
| X | $10 \times 1,60,000$ | $10 \times 1,61,200$ | $10 \times 1,65,000$ | $10.20 \times 1,65,000$ |
| Y | $15 \times 2,40,000$ | $15 \times 2,41,800$ | $15 \times 2,38,000$ | $15.10 \times 2,38,000$ |
|  | $52,00,000$ | $52,39,000$ | $52,20,000$ | $52,76,800$ |

SM $=$ Std. mix i.e. total actual quantity used in std. mix ratio
Total Actual quantity used $=1,65,000+2,38,000$

$$
\begin{aligned}
& =4,03,000 \mathrm{kgs} \\
\text { Std. mix ratio } & =4: 6 \text { i.e. } \mathrm{x}: \mathrm{y} \\
\text { Std mix for } \mathrm{X} & =\frac{4}{10} \times 4,03,000 \\
& =161200 \mathrm{kgs} \\
\text { Std. mix for } \mathrm{y} & =\frac{6}{10} \times 4,03,000 \\
& =2,41,800 \mathrm{kgs}
\end{aligned}
$$

Std. quantity i.e. std. qty for actual output.
Actual output $=40,000 \mathrm{~kg}$.
$\therefore$ material x required $=40000 \times 4=1,60,000$
material y required $=40,000 \times 6=2,40,000$
Here: $\quad S P=$ Standard Price per kg of RM
$S Q=$ Standard quantity for actual output.
SM = Standard mix i.e. Total actual quantity used in standard mix ratio

AQ used $=$ Actual quantity used.
(i) Material cost variance $=1-4=76,800$ (Adv.)
(ii) Material Price variance $=3-4=56,800$ (Adv.)
(iii) Material uses variance $=1-3=20,000$ (Adv.)

## Working notes:

Labour Variance

| $(1)$ |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: |
| $\mathrm{SR} \times \mathrm{ST}$ | $\mathrm{SR} \times \mathrm{SM}$ | $\mathrm{SR} \times \mathrm{ATW}$ | $\mathrm{SR} \times \mathrm{ATP}$ | $\mathrm{AR} \times \mathrm{ATP}$ |
| $40 \times(40,000 \times .75)$ | $40 \times 32,000$ | $40 \times 32,000$ | $40 \times 32,000$ | $13,12,000$ |
| $12,00,000$ | $12,80,000$ | $12,80,000$ | $12,80,000$ | $13,12,000$ |

Budgeted Hours $=$ Budget Production $x$ Budgeted Time per unit
Budget Production $=9700+12400+14200$

$$
\begin{aligned}
& =36,300 \times \frac{3}{4} \\
& =27,225 \text { hours } \\
& =\frac{\text { Budgeted labours cost }}{\text { Budgeted hours }} \\
& =\frac{10,89,000}{27,225} \\
& =40 \mathrm{Rs} .
\end{aligned}
$$

Let Actual time worked = Actual time paid
Here: $\quad S R=$ Standard rate of labour per hour
ST $=$ Standard time for Actual output
SM = Standard mix i.e. total at worked in ltd. mix ratio.
ATW = Actual time worked
ATP $=$ Actual time paid for
(iv) Direct Labour Cost Variance $=1-5$ = 1,12,000 (Adv)
(iv) Direct Labour rate variance $=4-5$ $=32,000$ (Adv)
(vi) Direct Labour efficiency variance $=1-2$ $=80,000$ (Adv)

## Paper - 4B : Financial Management

## Chapter-1 : Scope and Objectives of Financial Management

2009-May [5] \{C\} Answer the following:
(iv) Discuss conflict in profit versus wealth maximisation objective.

## Answer:

Financial management is basically concerned with procurement and use of funds. In the light of these, the main objectives of financial management are:-

1. Profit Maximisation.
2. Wealth Maximisation

## Profit Maximisation :

Profit Maximisation is the main objective of business because :
(i) Profit acts as a measure of efficiency and
(ii) It serves as a protection against risk.

Agreements in favour of profit maximisation :
(i) When profit earning is the main aim of business the ultimate objective should be profit maximisation.
(ii) Future is uncertain. A firm should earn more and more profit to meet the future contingencies.
(iii) The main source of finance for growth of a business is profit. Hence, profits maximisation is required.
(iv) Profit maximisation is justified on the grounds of rationality as profits act as a measure of efficiency and economic prosperity.
Arguments against profit maximisation :
(i) It leads to exploitation of workers and consumers.
(ii) It ignores the risk factors associated with profit.
(iii) Profit in itself is a vague concept and means differently to different people.
(iv) It is a narrow concept at the cost of social and moral obligations.

Thus, profit maximisation as an objective of financial management has been considered inadequate.
2. Wealth Maximisation : Wealth maximisation is considered as the appropriate objective of an enterprise. When the firms maximises the stock holder's wealth, the individual stockholder can use this wealth to maximise his individual utility. Wealth maximisation is the single substitute for a stock holder's utility.

## A stock holder's wealth is shown by :

Stock holder's wealth $=$ No. of shares owned $\times$ Current stock price per share Higher the stock price per share, the greater will be the stock holder's wealth, the greater will be the stock price per share.


Maximum stock price per share

## Arguments in favour of wealth maximisation:

(i) Due to wealth maximisation, the short term money lenders get their payments in time.
(ii) The long time lenders too get a fixed rate of interest on their investments.
(iii) The employees share in the wealth gets increased.
(iv) The various resources are put to economical and efficient use.

Argument against wealth maximisation :
(i) It is socially undesirable.
(ii) It is not a descriptive idea.
(iii) Only stock holders wealth maximisation does not lead to firm's wealth maximisation.
(iv) The objective of wealth maximisation is endangered when ownership and management are separated.
Inspite of the arguments against wealth maximisation, it is the most appropriative objective of a firm.
Chapter-3: Financial Analysis and Planning
2009-May [5] \{C\} Answer the following :
(iii) How is Debt service coverage ratio calculated? What is its significance?
(2 marks)
Answer :

- This ratio is the vital indicator to the lender to assess the extent of ability of the borrower to service the loan in regard to timely payment of interest and repayment of principal amount.
- It shows whether the business is earning sufficient profits to pay not only the interest charges, but also the instalment due of the principal amount.
- Debt service coverage ratio of $1: 2$ is considered ideal by the financial institutions.
- This ratio will enable the lender to take correct view of the borrower's repayment capacity.
- The ratio is calculated as follows :

Earning available for debt service*
Interest on loan+Instalment of the principal amount

* Where earning available for debt service $=$ Profit after tax + Depreciation + Interest on Loan.
2009-May [6] \{C\} Balance Sheets of RST Limited as on March 31, 2008 and March 31, 2009 are as under :

Liabilities $\quad$| 31.3.2008 |
| :---: |
| Rs. |

| Equity Share Capital |  | Rs. |
| :--- | ---: | ---: |
| $\quad$ (Rs. 10 face value |  |  |
| $\quad$ per share) | $10,00,000$ | $12,00,000$ |
| General Reserve | $3,50,000$ | $2,00,000$ |
| $9 \%$ Preference Share |  |  |
| $\quad$ Capital | $3,00,000$ | $5,00,000$ |
| Share Premium A/c | 25,000 | 4,000 |
| Profit \& Loss A/c | $2,00,000$ | $3,00,000$ |
| $8 \%$ Debentures | $3,00,000$ | $1,00,000$ |
| Creditors | $2,05,000$ | $3,00,000$ |


| Assets | 31.3 .2008 | 31.3 .2009 |
| :--- | ---: | ---: |
|  | Rs. | Rs. |
| Land \& Building | $6,00,000$ | $7,00,000$ |
| Plant \& Machinery | $9,00,000$ | $11,00,000$ |
| Investments (Long-term) | $2,50,000$ | $2,50,000$ |
| Stock | $3,60,000$ | $3,50,000$ |
| Debtors | $3,00,000$ | $3,90,000$ |
| Cash \& Bank | $1,00,000$ | 95,000 |
| Prepaid Expenses | 15,000 | 20,000 |
| Advance Tax Payment | 80,000 | $1,05,000$ |
| Preliminary Expenses | 40,000 | 35,000 |


| 45,000 | 81,000 |
| ---: | ---: |
| 70,000 | $1,00,000$ |
| $\frac{1,50,000}{26,45,000}$ | $\underline{2,60,000}$ |

$\overline{26,45,000} \quad \overline{30,45,000}$

## Additional information :

(i) Depreciation charged on building and plant and machinery during the year 2008-09 were Rs. 50,000 and Rs. 1,20,000 respectively.
(ii) During the year an old machine costing Rs. 1,50,000 was sold for Rs. 32,000 . Its written down value was Rs. 40,000 on date of sale.
(iii) During the year, income tax for the year 2007-08 was assessed at Rs. 76,000 . A cheque of Rs. 4,000 was received alongwith the assessment order towards refund of income tax paid in excess, by way of advance tax in earlier years.
(iv) Proposed dividend for 2007-08 was paid during the year 2008-09.
(v) $9 \%$ Preference shares of Rs. $3,00,000$, which were due for redemption, were redeemed during the year 2008-09 at a premium of $5 \%$, out of the proceeds of fresh issue of $9 \%$ Preference shares.
(vi) Bonus shares were issued to the existing equity shareholders at the rate of one share for every five shares held on 31.3.2008 out of general reserves.
(vii) Debentures were redeemed at the beginning of the year at a premium of $3 \%$.
(viii) Interim dividend paid during the year 2008-09 was Rs. 50,000.

## Required :

(a) Schedule of Changes in Working Capital; and
(b) Fund Flow Statement for the year ended March 31, 2009.

$$
(5+10=15 \text { marks })
$$

Answer:
(a) Schedule of Changes in Working Capital

| Particulars | 31.3.08 | 31.3.09 | Effect on Working Capital |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Increase | Decrease |
|  | Rs. | Rs. | Rs. | Rs. |
| Current Assets: |  |  |  |  |
| Stock | 3,60,000 | 3,50,000 | - | 10,000 |
| Debtors | 3,00,000 | 3,90,000 | 90,000 | - |
| Cash and Bank | 1,00,000 | 95,000 | - | 5,000 |
| Prepaid Expenses | 15,000 | 20,000 | 5,000 | - |
| Total (A) | 7,75,000 | 8,55,000 |  |  |
| Current Liabilities: |  |  |  |  |
| Creditors | 2,05,000 | 3,00,000 | - | 95,000 |
| Bills Payable | +45,000 | 81,000 | - | 36,000 |
| Total (B) | $\underline{2,50,000}$ | 3,81,000 |  |  |
| Net Working Capital (A-B) | 5,25,000 | 4,74,000 | - |  |


| Net Decrease in Working <br> Capital | - | 51,000 | 51,000 | - |
| :--- | ---: | ---: | ---: | ---: |
|  | $5,25,000$ | $5,25,000$ | $1,46,000$ | $1,46,000$ |

(b) Funds Flow Statement for the year ended 31 ${ }^{\text {st }}$ March, 2009

| Particulars | Rs. |
| :--- | ---: |
| Sources of Fund |  |
| Funds from Operation | $7,49,000$ |
| Issue of 9\% Preference Shares | $5,00,000$ |
| Sales of Plant \& Machinery | 32,000 |
| Refund of Income Tax | 4,000 |
|  | $12,85,000$ |
|  |  |
| Applications of Fund | $1,50,000$ |
| Purchase of Land and Building | $3,60,000$ |
| Purchase of Plant \& Machinery | $2,06,000$ |
| Redemption of Debentures | $3,15,000$ |
| Redemption of Preference Shares | $1,05,000$ |
| Payment of Tax | 50,000 |
| Payment of Interim Dividend | $1,50,000$ |
| Payment of Dividend (2007-08) | $\mathbf{1 3 , 3 6 , 0 0 0}$ |
| Financial Resources Applied (B) | 51,000 |
| Net Decrease in Working Capital (A-B) |  |

## Working Notes:

Estimation of Funds from Operation

| Particulars | Rs. | Rs. |
| :--- | ---: | ---: |
| Profit and Loss A/c Balance on 31.3.2009 |  | $3,00,000$ |
| Add:Depreciation on Land and Building <br> Depreciation on Plant and Machinery | $1,20,000$ |  |
| $\quad$ Loss on Sale of Plant and Machinery | 8,000 |  |
| (40,000-32,000) | 5,000 |  |
| $\quad$ Preliminary Expenses written off |  |  |
| (40,000-35,000) | 50,000 |  |
| Transfer to General Reserve | $2,60,000$ |  |
| $\quad$ Proposed Dividend | $1,06,000$ |  |
| $\quad$ Provision for Taxation | 50,000 |  |
| $\quad$ Interim Dividend paid |  | $\underline{6,49,000}$ |
|  |  | $9,49,000$ |
| Less: Profit and Loss A/c balance on 31.3 .08 |  | $\underline{2,00,000}$ |
| Funds from Operation |  |  |


| Particulars | Rs. | Particulars | Rs. |
| :---: | :---: | :---: | :---: |
| To Balance b/d | 9,00,000 | By Depreciation | 1,20,000 |
| To Bank (Purchase) (Bal. Fig.) | 3,60,000 | By Bank (Sale) | 32,000 |
|  |  | By P/L A/c (Loss on Sale) | 8,000 |
|  |  | By Balance c/d | 11,00,000 |
|  | 12,60,000 |  | 12,60,000 |



Advance Tax Payment A/c

| Particulars | Rs. | Particulars | Rs. |
| :---: | :---: | :---: | :---: |
| To Balance b/d To Bank (paid for (08-09) |  | By Provision for taxation A/c <br> By Bank (Refund of tax) <br> By Balance c/d | $\begin{array}{r} 76,000 \\ 4,000 \\ 1,05,000 \end{array}$ |
|  | 1,85,000 |  | 1,85,000 |

8\% Debentures A/c

| Particulars | Rs. | Particulars | Rs. |
| :---: | :---: | :---: | :---: |
| To Bank ( $2,00,000 \times$ $103 \%$ )(redempti on) | $2,06,000$ | By Balance b/d <br> By Premium on redemption of Debentures A/c | $\begin{array}{r} 3,00,000 \\ 6,000 \end{array}$ |
| To Balance c/d | 3,06,000 |  | 3,06,000 |


| Particulars | Rs. | Particulars | Rs. |
| :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & 3,15,000 \\ & 5,00,000 \end{aligned}$ | By Balance b/d <br> By Premium on redemption of Preference shares A/c <br> By Bank (Issue) | $\begin{array}{r} 3,00,000 \\ \\ 15,000 \\ 5,00,000 \end{array}$ |
|  | 815000 |  | 815000 |

Securities Premium A/c

| Particulars | Rs. | Particulars | Rs. |
| :--- | ---: | :--- | ---: |
| ToPremium on <br> redemption of <br> debentures A/c | 6,000 | By Balance b/d | 25,000 |
| ToPremium on <br> redemption of <br> preference shares A/c <br> ToBalance c/d | 4,000 |  |  |
|  | 25,000 |  | 25,000 |


| General Reserve A/c |  |  |  |
| :---: | :---: | :---: | :---: |
| Particulars | Rs. | Particulars | Rs. |
| To Bonus to Shareholders A/c <br> To Balance $\mathrm{c} / \mathrm{d}$ | 2,00,000 <br> 2,00,000 | By Balance b/d <br> By P/LA/c (transfer) b/f | $\begin{array}{r} 3,50,000 \\ 50,000 \end{array}$ |
|  | 4,00,000 |  | 4,00,000 |

Land \& Building A/c

| Particulars | Rs. | Particulars | Rs. |
| :--- | ---: | :--- | ---: |
| To Balance b/d  <br> To Bank (Purchase) <br> (Bal. Fig.)  | $6,00,000$ | By Depreciation <br> By Balance c/d | 50,000 |
|  | $1,50,000$ |  | $7,00,000$ |
|  | $7,50,000$ |  | $7,50,000$ |

2009-May [8] \{C\} Answer the following :
(iv) Discuss the composition of Return on Equity (ROE) using the DuPont model.
(3 marks)

## Answer:

## Composition of Return on Equity using the DuPont Model

There are three components in the computation of return on equity using the traditional DuPont model - the net profit margin, asset turnover, and the equity multiplier. By examining each input individually, the sources of a company's return on equity can be discovered and compared to its competitors.
(i) Net Profit Margin: The net profit margin is simply the after-tax profit a company generates for each rupee of revenue.
Net profit margin $=$ Net Income + Revenue
Net profit margin is a safety cushion; the lower the margin, lesser the room for error.
(ii) Asset Turnover: The asset turnover ratio is a measures of how effectively a company converts its assets into sales. It is calculated as follows:
Asset Turnover $=$ Revenue + Assets
The asset turnover ratio tends to be inversely related to the net profit margin; i.e., the higher the net profit margin, the lower the asset turnover.
(iii) Equity Multiplier: It is possible for a company with terrible sales and margins to take on excessive debt and artificially increase its return on equity. The equity multiplier, a measure of financial leverage, allows the investor to see what portion of the return on equity is the result of debt. The equity multiplier is calculated as follows:
Equity Multiplier $=$ Assets + Shareholders' Equity

## Computation of Return on Equity

To calculate the return on equity using the DuPont model, simply multiply the three components (net profit margin, asset turnover, and equity multiplier.)
Return on Equity $=$ Net profit margin $\times$ Asset turnover $\times$ Equity multiplier
Chapter-4 : Cost of Capital \& Capital Structure
2009-May [5] \{C\} Answer the following :
(v) Discuss the concept of Debt-Equity or EBIT-EPS indifference point, while determining the capital structure of a company. (2 marks)

## Answer:

Concept of Debt-Equity or EBIT-EPS Indifference Point while Determining the Capital Structure of a Company
The determination of optimum level of debt in the capital structure of a company is a formidable task and is a major policy decision. It ensures that the firm is able to service its debt as well as contain its interest cost. Determination of optimum level of debt involves equalizing between return and risk.

EBIT-EPS analysis is a widely used tool to determine level of debt in a firm. Through this analysis, comparison can be drawn for various methods of financing by obtaining indifference point. It is point to the EBIT level at which EPS remain unchanged irrespective of debt level equity mix. For example
indifference point for the capital mix (equity share capital and debt) can be determined as follows:

| $\left(\text { EBIT }-I_{1}\right)(1-T)$ | $\left.\underline{(E B I T ~-~} \mathrm{I}_{2}\right)(1-\mathrm{T})$ |
| :---: | :---: |
| $\mathrm{E}_{1}$ | $\mathrm{E}_{2}$ |
| Where, |  |
| EBIT = | Indifference point |
| $\mathrm{E}_{1}$ | Number of equity shares in Alternative 1 |
| $\mathrm{E}_{2}=$ | Number of equity shares in Alternative 2 |
| $\mathrm{I}_{1}$ | Interest charged in Alternative 1 |
| $\mathrm{I}_{2}$ | Interest charged in Alternative 2 |
| $\mathrm{T}=$ | Tax-rate |
| Alternative | $1=$ All equity finance |
| Alternative | $2=$ Debt-equity finance |

2009-May [7] $\{\mathbf{C}\}$ (a) The capital structure of MNP Ltd. is as under :

| $9 \%$ Debentures | Rs. $2,75,000$ |
| :--- | :--- |
| $11 \%$ Preference shares | Rs. $2,25,000$ |
| Equity shares (face value : Rs. 10 per share) | Rs. $5,00,000$ |

Additional information :
(i) Rs. 100 per debenture redeemable at par has $2 \%$ floatation cost and 10 years of maturity. The market price per debenture is Rs. 105.
(ii) Rs. 100 per preference share redeemable at par has $3 \%$ floatation cost and 10 years of maturity. The market price per preference share is Rs. 106.
(iii) Equity share has Rs. 4 floatation cost and market price per share of Rs. 24. The next year expected dividend is Rs. 2 per share with annual growth of $5 \%$. The firm has a practice of paying all earnings in the form of dividends.
(vi) Corporate Income-tax rate is $35 \%$.

Required:
Calculate Weighted Average Cost of Capital (WACC) using market value weights.
(9 marks)
Answer:
Calculation of weighted average cost of capital by using market value might.

| Particulars | Market Value <br> (Rs.) | Weight | Cost | WACC |
| :--- | ---: | ---: | ---: | ---: |
| m\% Debenture | $2,88,750$ | 0.167 | $6.11 \%$ | 1.020 |
| $11 \%$ Preference share | $2,38,500$ | 0.138 | $11.47 \%$ | 1.583 |
| Equity share @ reach | $12,00,000$ | 0.695 | $15.00 \%$ | 10.425 |
|  | $17,27,250$ | 1 |  | $13.028 \%$ |

WACC using market value weight $=13.02 \%$

Working Notes:
Calculation of cost of Redeemable debenture:

$$
\begin{aligned}
& \mathrm{Kd}=\frac{\text { Interest (1-tax rate) }+\left[\frac{\text { Redeemable value }- \text { Issue price }}{\text { No. of years }}\right]}{\left[\frac{\text { Redeemablevalue }+ \text { Issue Price }}{\text { No. of years }} \begin{array}{l}
\text { OR }
\end{array}\right]} \times 100 \\
& \begin{array}{r}
\mathrm{k} \varnothing=\frac{(\mathrm{I}-\mathrm{t})+(\mathrm{R}}{(\mathrm{RV}+} \\
\mathrm{Kd}=\frac{9(1-.35)+\left[\frac{100-98}{10}\right]}{\left[\frac{100+98}{2}\right]} \times 100
\end{array}
\end{aligned}
$$

$\frac{\text { Preference dividend }+\left[\frac{\text { Redeemable value- Issueprice }}{\text { No. of years }}\right]}{} \times 100$
$\left[\frac{\text { Redeemablevalue }+ \text { IssuePrice }}{2}\right]$

$$
K p=\frac{P D+(R V-N P) / N}{(R V+N P) 2}
$$

$$
\frac{K p=\frac{11+\frac{100-97}{10}}{100+97}}{K p=11.47 \%} \times 100
$$

Cost of equity:
$\mathrm{Ke}=\frac{D_{1}}{P o}+g$
$\mathrm{Ke}=\frac{2}{(24-4)}+0.05$
$=15 \%$
$\mathrm{Ke}=\frac{\text { Expected Dividend }}{\text { Current market price }}+$ Growth rate
Chapter-6: Types of Financing
2009-May [5] \{C\} Answer the following:
(vi) Discuss the benefits to the originator of Debt Securitisation

## Answer:

## Benefits to the Originator of Debt Securitization

The benefits to the originator of debt securitization are as follows:
(a) The assets are shifted off the balance sheet, thus giving the originator recourse to off balance sheet funding.
(b) It converts illiquid assets to liquid portfolio.
(c) It facilitates better balance sheet management as assets are transferred off balance sheet facilitating satisfaction of capital adequacy norms.
(d) The originator's credit rating enhances.

## Chapter-7:International Financing

2009-May [5] \{C\} Answer the following:
(ii) Discuss the concept of American Depository Receipts. (2 marks) Answer:
American depository receipt :- Deposit receipt issued by an Indian company in USA is known as American depository receipt (ADRs). Such receipt have to be issued in accordance with the provisions stipulated by the security and exchange commission of USA. An ADR is generally created by the deposit of the securities of a outsider company with a custodian bank in the country of incorporation of issuing company. The custodian bank informs the depository in USA that the ADRs can be issued. ADRs are dollar denominated and are traded in the same way as are security of U.S. company.

ADRs can be traded either by trading existing ADRs or purchasing the shares in the issuer's home market and having new ADRs created, based upon availability and market conditions. When trading in existing ADRs, the trade is executed on the secondary market on the New York Stock Exchange through Depository Trust Company (DTC) without involvement from foreign brokers or custodians.

## Chapter-8:Capital Budgeting

2009-May [7] \{C\} (b) A company is required to choose between two machines A and B . The two machines are designed differently, but have indentical capacity and do exactly the same job. Machine A costs Rs. 6,00,000 and will last for 3 years. It costs Rs. 1,20,000 per year to run.
Machine B is an 'economy' model costing Rs. 4,00,000 but will last only for two years, and cost Rs. 1,80,000 per year to run. These are real cash flows. The costs are forecasted in Rupees of constant purchasing power. Opportunity cost of capital is $10 \%$. Which machine company should buy? Ignore tax .
$\mathrm{PVIF}_{0.10,1}=0.9091, \mathrm{PVIF}_{0.10,2}=0.8264$, PVIF $_{0.10,3}=0.7513$. (7 marks)
Answer:
Advise to the Management Regarding Buying of Machines Statement Showing Evaluation of Two Machines

| Machines | A | B |
| :--- | ---: | ---: |
| Purchase cost (Rs.): (i) | $6,00,000$ | $4,00,000$ |
| Life of machines (years) | 3 | 2 |
| Running cost of machine per year (Rs.): (ii) | $1,20,000$ | $1,80,000$ |
| Cumulative present value factor for 1-3 years  <br> @ 10\%: (iii) 2.4868 | - |  |

Cumulative present value factor for 1-2 years @ $10 \%$ : (iv)

| - | 1.7355 |
| ---: | ---: |
|  |  |
| $2,98,416$ | $3,12,390$ |
| $[(\mathrm{ii)} \times(\mathrm{iii})]$ | $[(\mathrm{ii}) \times(\mathrm{iv})]$ |
| $8,98,416$ | $7,12,390$ |
| $3,61,273.93$ | $4,10,481.13$ |
| $[(\mathrm{vi}) \div(\mathrm{iii})]$ | $[(\mathrm{vi})+(\mathrm{iv})]$ |

Present value of running cost of machines (Rs.): (v)

Alternatively:
Calculation of Annualized cash outflow of machine ' $A$ '
Calculation of Annualized cash outflow of machine 'A'

| Year | Cash of | D.F @ $10 \%$ | DF |
| :---: | ---: | ---: | ---: |
| 0 | $6,00,000$ |  | 1 |
| 1 | $1,20,000$ | $6,00,000$ |  |
| 2 | $1,20,000$ | 0.9091 | $10,90,92$ |
| 3 | $1,20,000$ | 0.8264 | 99,168 |
|  |  |  |  |
|  |  |  | 8,7513 |

Annulized cash outflow $=\frac{\mathbf{8 , 9 8 , 4 1 6}}{2.4868}=3,61,274 /-$
Note: $0.9091+0.8264+0.7513=2.4868$

| Calculation of Annualized cash outflow of machine 'B' |
| :--- |
| Year Cash of D.F @ $10 \%$ DF <br> 0 $4,00,000$ 1 $4,00,000$ <br> 1 $1,80,000$ 0.9091 $1,63,638$ <br> 2 $1,80,000$ 0.8264 $1,48,752$ <br>    $7,12,390$ |
| Annulized cash outflow $=\frac{7,12,390}{}=4,10,481 /-$ |

Note: $0.9091+0.8264=1.7353$
Recomendation: Machine ' A 's Annulized cash out flow is lower than machine ' B '. Therefore machine ' A ' should be adopted.
Recomendation: The Company should buy Machine A since its equivalent cash outflow is less than Machine B.
2009-May [8] \{C\} Answer the following:
(iii) Explain the concept of discounted payback period. (3 marks)

Answer:
Concept of Discounted Payback Period

- Payback period is time taken to recover the original investment from project cash flows. It is also termed as break even period. The focus of
the analysis is on liquidity aspect and it suffers from the limitation of ignoring time value of money and profitability.
- Discounted payback period considers present value of cash flows, discounted at company's cost of capital to estimate breakeven period i.e. it is that period in which future discounted cash flows equal the initial outflow.
- The shorter the period, better it is. It also ignores post discounted payback period cash flows.
- It takes care of the time value of money.

Chapter-10: Treasury \& Cash Management
2009-May [5] \{C\} Answer the following:
(i) Write a short note on functions of Treasury department. (3 marks) Answer:
Please refer 2002 - Nov [7] (a) on page no. 647
2009-May [8] \{C\} Answer the following :
(i) A firm maintains a separate account for cash disbursement. Total disbursements are Rs. 2,62,500 per month. Administrative and transaction cost of transferring cash to disbursement account is Rs. 25 per transfer. Marketable securities yield is $7.5 \%$ per annum.
Determine the optimum cash balance according to William J Baumol model. .
(3 marks)

## Answer:

Detemination of Optimal Cash Balance according to William J. Baumol Model

Optimum Cash Balance $=\sqrt{\frac{2 \mathrm{AB}}{\mathrm{C}}}$
Where,
A = Annual disbursement
$\mathrm{B}=$ Administrative and transaction cost
$\mathrm{C}=$ Marketable securities yeild .
$\begin{aligned} C & =\sqrt{\frac{2 \times 2,62,500 \times 12 \times 25}{0.075}} \\ & =\sqrt{\frac{15,75,00,000}{0.075}} \\ & =\sqrt{2,10,00,00,000}\end{aligned}$
Optimum Cash Balance, $\mathbf{C}$, $=$ Rs. 45,826
6. Verification:

| Debtors A/c |  |  |  | Creditors A/c |  |  |  | Cash A/c |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| To bal b/d | $\begin{array}{r} 3,00,000 \\ 21,60,000 \end{array}$ | $\|$By Cash  <br> (bal fig) $19,65,000$ <br> By bal c/d $4,95,000$$\|$ |  | To bal b/dTo cash $16,25,000$ <br> (bal fig)  <br> Total c /d $4,15,000$ |  | By bal b/d $\quad 3,00,000$ <br> By Purchase 17,40,000 |  | $\begin{array}{lr}\text { To bal b/d } & 3,00,000 \\ \text { To Debtors } & 19,65,000 \\ \text { To Asset } & 90,000\end{array}$ |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | 24,60,000 |  | 24,60,000 |  | 20,40,000 |  | 20,40,000 |  | 23,55,000 |  | 23,55,000 |

## Chapter - 12 : Management of Receivables

2009 - May [8] \{C\} Answer the following :
(ii) A firm has a total sales of Rs. $12,00,000$ and its average collection period is 90 days. The past experience indicates that bad debt losses are $1.5 \%$ on sales. The expenditure incurred by the firm in administering receivable collection efforts are Rs. 50,000. A factor is prepared to buy the firm's receivables by charging $2 \%$ commission. The factor will pay advance on receivables to the firm at an interest rate of $16 \%$ p.a. after withholding $10 \%$ as reserve. Calculate effective cost of factoring to the firm. Assume 360 days in a year.


## Answer:

## Computation of Effective Cost of Factoring

Average level of Receivables $=12,00,000 \times 90 / 360 \quad 3,00,000$
Factoring Commission $\quad=\quad 3,00,000 \times 2 / 100 \quad 6,000$
Factoring Reserve $\quad=3,00,000 \times 10 / 100 \quad 30,000$

Amount Available for
Advance $=$ Rs. 3,00,000-(6,000+30,000) 2,64,000
Factor will deduct his interest @ 16\%:-

$$
\text { Interest }=\frac{\text { Rs. } 2,64,000 \times 16 \times 90}{360 \times 100}=\text { Rs. } 10,560
$$

Advance to be paid $=$ Rs. $2,64,000-$ Rs. $10,560=$ Rs. $2,53,440$

Annual Cost of Factoring to the Firm:
Factoring Commission (Rs. $6,000 \times 360 / 90$ ) 24,000
Interest Charges (Rs. $10,560 \times 360 / 90) \underline{42,240}$
Total
Firm's Savings on taking Factoring Service:
Cost of Administration Saved
Cost of Bad Debts (Rs. 12,00,000 x $1.5 / 100$ ) avoided

## Total

Net Benefit to the Firm (Rs. 68,000-Rs. 66,240) $\frac{\underline{1,760}}{\underline{1,760}}$
Effective Cost of Factoring $=\frac{\text { Rs. } 66,240 \times 100}{2,53,440} \quad 26.136 \%$
Effective Cost of Factoring $=\mathbf{2 6 . 1 3 6} \%$
Note: In the same manner we can also calculate effective rate of cost saving to the firm.
$=\frac{1760 \times 100}{2,53,440}=0.694 \%$

# SCANER' Appendix PCC Gr. II Paper - 4 <br> November - 2009 

## Paper-4A : Cost Accounting

## Chapter-1 : Basic Concepts

2009-Nov [1] Answer the following :
(i) Define the following :
(a) Imputed cost
(b) Capitalised cost.
(2 marks)

## Chapter-2: Material

2009-Nov [4] Answer the following :
(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.
(3 marks)

## Chapter-3 : Labour

2009-Nov [4] Answer the following :
(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.
(3 marks)

## Chapter-6 : Reconciliation of Cost and Financial Accounts

2009-Nov [1] Answer the following:
(iii) List the Financial expenses which are not included in cost. (2 marks)
(vi) When is the reconciliation statement of Cost and Financial accounts not required?
(2 marks)

## Chapter-8: Contract Costing

2009-Nov [1] Answer the following :
(iv) Mention the main advantage of cost plus contracts. (2 marks)

## Chapter-9 : Operating and Multiple Costing

2009-Nov [4] Answer the following:
(ii) Explain briefly, what do you understand by Operating Costing. How are composite units computed?
(3 marks)

## Chapter-10 : Process Costing

2009-Nov [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 scraped 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:
(a) Statement of equivalent production.
(b) Statement showing the cost of finished goods, abnormal loss and closing work-in-progress.
(c) Process II account and abnormal loss account. (8 marks)

## Chapter-12 : Standard Costing

2009-Nov [3](b) The following information is available from the cost records of Vatika \& Co. For the month of August, 2009 :

Material purchased $24,000 \mathrm{~kg}$ Rs. $1,05,600$
Material consumed $22,800 \mathrm{~kg}$
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.

## Chapter-13 : Marginal Costing

2009-Nov [1] Answer the following :
(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.
2009-Nov [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. $6=\frac{18.00}{100.00}$
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)

## Chapter-14 : Budgets \& Budgetary Control

2009-Nov [1] Answer the following :
(ii) Calculate efficiency and activity ratio from the following data:
Capacity ratio $\quad=\quad 75 \%$
Budgeted output $=\quad 6000$ units

Actual output $=5000$ units
Standard Time per unit $=\quad 4$ hours (2 marks)
2009-Nov [4] Answer the following :
(iv) List the eight functional budgets prepared by a business. (3 marks)

## Paper-4B: Financial Management

Chapter-1 : Scope and Objectives of Financial Management
2009-Nov [5] Answer the following :
(iv) Differentiate between Financial Management and Financial Accounting.
(2 marks)
2009-Nov [8] Answer the following :
(i) Explain the two basic functions of Financial Management. (3 marks)

Chapter-3 : Financial Analysis and Planning
2009-Nov [5] Answer the following :
(i) Explain briefly the limitations of Financial ratios. (2 marks)
(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
(2 marks)
2009 - Nov [6] The Balance Sheets of a Company as on 31st March, 2008 and 2009 are given below :

| Liabilities | 31.3 .08 | 31.3 .09 | Assets | 31.3 .08 | 31.3 .09 |
| :--- | ---: | ---: | :--- | ---: | ---: |
|  | Rs. | Rs. |  | Rs. | Rs. |
| Equity share capital | $14,40,000$ | $19,20,000$ | Fixed assets | $38,40,000$ | $45,60,000$ |
| Capital reserve | - | 48,000 | Less depreciation | $\underline{11,04,000}$ | $13,92,000$ |
| 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 | $9,60,000$ | $6,72,000$ | Sundry 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 |  |  |
| Provision for tax | $4,32,000$ | $4,08,000$ | Expenses | 96,000 | 48,000 |
| Unpaid dividend | - | 19,200 |  |  |  |
|  | $\overline{46,56,000}$ | $\underline{51,84,000}$ |  | $\underline{46,56,000}$ | $\overline{51,84,000}$ |

Additional informations :
During the year ended 31 st March, 2009 the company :
(i) 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 .
(ii) Provided Rs. 4, 20,000 as depreciation fixed assets.
(iii) Sold some investment and profit credited to capital reserve.
(iv) Redeemed $30 \%$ of the debenture @ 105
(v) 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)
Chapter-4 : Cost of Capital \& Capital Structure
2009-Nov [5] Answer the following :
(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.
2009-Nov [8] Answer the following :
(iii) What do you understand by Weighted average cost of Capital?
(3 marks)
(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.
(3 marks)

## Chapter-5 : Business Risk, Financial Risk \& Leverage

2009-Nov [5] Answer the following:
(ii) What do you understand by Business Risk and Financial Risk ?
(2 marks)
2009-Nov [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 | - | 105000 |

## Chapter-6 : Types of Financing

2009-Nov [8] Answer the following :
(ii) Explain the following terms :
(a) Ploughing back of profits
(1.5 marks)

## Chapter-8 : Capital Budgeting

2009 - Nov [7](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 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

2009-Nov [8] Answer the following :
(ii) Explain the following terms:
(b) Desirability factor.
(1.5 marks)

New Chapter : Financing of working Capital
2009-Nov [5] Answer the following :
(iii) Differentiate between Factoring and Bills discounting. (2 marks)

## Shuchita Prakashan (P) Ltd.

25/19, L.I.C. Colony, Tagore Town,
Allahabad-211002
Visit us : www.shuchita.com

