Allsw		edidie_3yiidbos	2012_Dec 2016_3e	
aper 8- C	ost Accountir	ng & Financia	l Management	

## Paper-8: Cost Accounting & Financial Management

Full Marks: 100 Time allowed: 3 hours

Sec-A: Answer Question No. 1 which is compulsory Carries 25 Marks

- 1. Answer the following questions
- (A) Each Question carries 2 Marks

 $[5 \times 2 = 10]$ 

- (i) A Ltd purchased 1000 Kgs of Material-X at ₹12/ per kg on 03-Jun-2016 from supplier Alpha Ltd. It purchased 2000 Kgs of Material-X at ₹12.5 Per kg on 09-Jun-2016 from Alpha Ltd. The Company also purchased the 3000 Kgs Material-X at ₹12.25 Per Kg from another supplier Delta Ltd on 28-Jun-2016. The closing stock of Material X for the month of June'2016 is 2500Kgs and A Ltd follows FIFO method of valuation for material issues, then what is the value of Closing Stock for the month of Jun'2016?
- (ii) Standard time allowed to complete a task is 48 Hours. A worker completed the task in 40 Hours. Time rate per hour is ₹15, Compute the total earnings of the worker under Halsey bonus plan?
- (iii) In an organization, total no of workers are 100. Working days in a year 300 days. No of working hours per day is 8. The factory overheads incurred by the company for the year is ₹240000. Compute the Factory Overhead recovery rate per hour based on the direct labour hours?
- (iv) Mr.VIP needs ₹10,00,000 for buying a Car exactly after one year from today. He can earn 10% on his money if deposited in a Bank. How much does he need to deposit today in Bank?
- (v) Optra Ltd Paid dividend of ₹2. Expected growth rate in dividend is 10%. Cost of Equity of Optra Ltd is 15%, then what is the share price of the Optra Ltd?
- (B) State whether the following statements are True or False

 $[5 \times 1 = 5]$ 

- (i) Under the average price method of valuing material issues, a new issue price is determined after each purchase
- (ii) Wages paid for abnormal idle time are added to wages for calculating prime cost.
- (iii) Fixed Overheads per unit remains fixed irrespective of volume of output.
- (iv) For an all equity company Cost of Capital is same as Cost of Equity.
- (v) Commercial Paper is a long term source of Finance.

(C) Fill in the Blanks

 $[5 \times 1 = 5]$ 

- (i) The Overtime worked at the request of Customer is treated as ......wages.
- (ii) The excess of Total Cost of production of an article over the direct material cost is known as ....... Cost
- (iii) Charging of identifiable items of Cost to Cost Centers is known as .........

- (iv) Quick Ratio is the ratio of Quick Assets to .....
- (v) Profit after Tax + Non Cash Expenses = .....

## (D) Match the Following

 $[5 \times 1 = 5]$ 

(i) Rowan	(A) Single Rate of overhead
(ii) JIT System	(B) Capital Budgeting
(iii) Blanket Overhead	(C) Capital Structure
(iv) Traditional Approach	(D) Bonus Plan
(V) Discounted Pay back	(E) Inventory Control

#### Answer:

(A)

(ii) Earning under Halsey Plan = Time x Rate + 50% (Time Saved) x Rate = 
$$40 \times 15 + 50\%$$
 [ $48 - 40$ ] 15 =  $600 + 60$  =  $660$ 

(iii) Number of working hrs in a yea = 
$$100 \times 300 \times 8$$
  
=  $2,40,000$  hours

Overhead for the year 
$$= 2,40,000$$

Recovery OH Rate = 
$$2,40,000/2,40,000$$
 Lab. hr

(v) 
$$P_o$$
 =  $D_1/K_e - g$ )  
=  $D_o$  (1+g)/ $K_e - g$   
= 2(1+0.1)/15% - 10%  
= 2.2/5%  
Share Price = ₹44

(B)

- (i) True
- (ii) False
- (iii) False
- (iv) True
- (v) False

(C)

- (i) Direct Wages
- (ii) Conversion
- (iii) Direct Cost
- (iv) Current Liabilities
- (v) Cash Inflow

#### (D) Match

Maion	
(i) Rowan	(D) Bonus Plan
(ii) JIT System	(E) Inventory Control
(iii) Blanket Overhead	(A) Single Rate of overhead
(iv) Traditional Approach	(C) Capital Structure
(V) Discounted Pay back	(B) Capital Budgeting

#### Sec-B

Answer any three Question from Q. No 2,3,4 and 5. Each Question carries 15 Marks

2.(A) From the following particulars with respect to a particular item of materials of a manufacturing company, calculate the best quantity to order:

Ordering quantities	Price per ton
(tonne)	₹
Less than 250	6.00
250 but less than 800	5.90
800 but less than 2,000	5.80
2,000 but less than 4,000	5.70
4.000 and above	5.60

The annual demand for the material is 4,000 tonnes.

Stock holding costs are 20% of material cost p.a.

The delivery cost per order is ₹6.00

[12]

(B) How do you treat the Packing Cost in Cost Accounting?

[3]

#### Answer:

### (A) Statement showing computation of total inventory cost at different order sizes

		Ordering Quantities				
	Particulars	200	250	800	2000	4000
(i)	Purchasing cost	24000	23600	23200	22800	22400
(ii)	No. of orders	20	16	5	2	1
(iii)	Ordering Cost	120	96	30	12	6
(iv)	Average size of order	100	125	400	1000	2000
(v)	Inventory Carrying cost per unit	1.2 (6x20%)	1.18 (5.9x20%)	1.16 (5.8x20%)	1.14 (5.7x20%)	1.12 (5.6x20%)
(vi)	Inventory carrying cost (iv x v)	120	147.5	464	1140	2240
(vii)	Total Inventory Cost (iii + i + vi)	24240	23843.5	23694	23952	24646

For the above computations the best quantity to order is 800 units.

#### (B) Treatment of Packing Cost in Cost Accounting

Packing materials is of two types - primary and secondary. Primary containers are essential to put the goods in a saleable condition like ink in a bottle, jam in a jar, etc. Secondary containers are required for delivery/transportation like crates, etc., they are returnable and reusable.

The cost of primary containers should be charged off as a production overhead and

included in production cost. On the other hand, the cost of secondary containers should charge as a selling and distribution overhead. The cost of reusable container should be charged when they could not be used any more due to damage, wear and tear, etc.

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.

3.(A) In a manufacturing concern bonus to workers is paid on a slab rate based on cost savings towards labour and overheads. The following are the slab rates:

Upto 10% saving 5% of the earning

Upto 15% Saving 9% of the earning

Upto 20% Saving 13% of the earning

Upto 30% Saving 21% of the earning

Upto 40% Saving 28% of the earning

Above 40% Saving 32% of the earning

The wage rate per hour of workers - P,Q R and S are respectively ₹1.00, ₹1.10, ₹1.20 and ₹1.40. Overheads is recovered on direct wages at the rate of 200%. Standard cost under wages and overhead per unit of production is fixed at ₹30. The workers have completed one unit each in 8, 7,  $5\frac{1}{2}$  and 5 hours respectively. Calculate in respect of each worker:

a) amount of bonus earned b) Total earnings; c) Total earnings per hour

#### (B) What are the causes for Labour Turnover?

[3]

[12]

#### Answer:

# (A) Statement showing computation of amount of bonus, total earnings and earnings per hour

₹

	Particulars	P	Q	R	s
1.	Standard cost	30	30	30	30
2.	Time taken in hours	8	7	5.5	5
3.	Rate per hour	1.0	1.1	1.2	1.4
4.	Actual wages (2 x 3)	8.0	7.7	6.6	7.0
5.	Overheads (200% of wages)	16.0	15.4	13.2	14.0
6.	Actual cost of Labour & Overhead (4 + 5)	24.0	23.1	19.8	21.0
7.	Savings (1 – 6)	6	6.9	10.2	9
8.	% of savings (7/1 x 100)	20%	23%	34%	30%
9.	% of bonus applicable	13%	21%	28%	21%
10.	Bonus (4 x 9)	1.04	1.62	1.85	1.47
11.	Total Earnings (4 + 10)	9.04	9.32	8.45	8.47
12.	Earnings per hour (11/2)	1.13	1.33	1.54	1.69

#### (B) Causes for Labour Turnover

The causes giving rise to high labour turnover 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.

# 4.(A) The following information relates to the activities of a production department of factory for a certain period.

	₹
Material used	36,000
Direct Wages	30,000
Labour hours	12,000
Hours of Machinery-operation	20,000
Overhead Chargeable to the Dept	₹ 25,000

On one order carried out in the department during the period the relevant data were:-

Material used ₹	6,000	
Direct Wages ₹	4,950	
Labour hours worked	1,650	Hrs.
Machine Hours	1.200	

Calculate the overheads chargeable to the job by four commonly used methods.

[12]

(B) Write a Short note on Supplementary Overhead Rate.

[3]

#### Answer:

(A) The four commonly used methods of absorbing or recovering overheads are as follows:

(i) % of overheads on material = (25,000 / 36,000) x 100 = 69.44%

(ii) % of overheads on direct wages =  $(25,000 / 30,000) \times 100 = 83.33\%$ 

(iii) Overhead rate per labour hour = 25,000 / 12,000 = 2.083

(iv) Machine hour rate method = 25,000 / 20,000 = 1.25

The overheads chargeable to job under the above methods is as follows:

(i) Material =  $6,000 \times 69.44\%$  = 4,166.40

(ii) Wages =  $4,950 \times 83.33\%$  = 4,125

(iii) Labour hour rate = 1650 x 2.083 = ₹ 3,437

(iv) Machine hour rate = 1,200 x 1.25 = ₹ 1,500

- (B) Use of supplementary rates to adjust the effect to the cost of sales, finished stocks and Work in Process stocks. This sounds logical as it does not carry forward the unabsorbed or over absorbed overheads to the next accounting period entirely. It aims at splitting the total effect between the cost of sale (which is charged to current year's profits) and stocks (which get carried forward to the next year).
- 5. Following data is available from the cost records of a company for the month of March 2010:
  - Opening stock of job as on 1st March 2010
     Job no. A 99: Direct material ₹ 80, Direct wages ₹ 150 and factory overheads ₹ 200
     Job no. A 77: Direct material ₹ 420, Direct wages ₹ 450 and factory overheads ₹ 400
  - 2) Direct material issued during the month of February 2007 was:

Job no A 99 ₹ 120

Job no A 77 ₹ 280

Job no A 66 ₹ 225

Job no A 55 ₹ 300

3) Direct labour details for March 2010 were

Job no	Hours	Amount
A 99	400	600
A 77	200	450
A 66	300	675
A 55	100	225

4) Factory overheads are applied to jobs on production according to direct labour hour rate which is ₹2 per hour.

(₹)

- 5) Factory overhead incurred in March 2010 were ₹2100
- 6) Job numbers A 99 & A 77 were completed during the month. They were billed to the customers at a price which included 15% of the price of the job for selling & distribution expenses and another 10% of the price for profit.

#### Prepare:

- a) Job cost sheet for job number A 77 and A 99
- b) Determine the selling price for the jobs
- c) Calculate the value of work in process.

[6+6+3=15]

#### Answer:

#### Remarks:

- 1. The Factory Overheads actually incurred are ₹2100. This amount to be apportioned on the basis of labour hours. So the rate to be considered as ₹2.1per unit =(2100/1000) and not ₹2 per unit. If we consider the above mentioned point the calculations for Job Sheets & for the work in progress will change accordingly.
- 2. Work in progress is to be calculated for the incomplete jobs hence job no. A 66 and A 55 should only be included in the calculations of work in progress.

#### Job Cost Sheets for the month of March 2010

₹

Cost Items	Job A 77	Job A 99
Direct Material issued Direct labour spent	280 450	120 600
Prime Cost	730	720
Factory Overheads @ ₹ 2.1 per hour Add: Opening WIP (Material + Labour + Overheads)	420 1,270	840 430
Factory Cost Add: Selling & Distribution Overheads (Note 1)	2,420 484	1,990 398
Cost of Sales Profit (Note 1)	2,904 323	2,388 265
Billing price for the job	3,227	2,653

Note 1			
S & D and profit are given in indirect	way.	480	300
Assume Selling price as	100	320	200
Less: S & D @ 15%	(15)		
Less: Profit @ 10%	<u>(10)</u>		
Balance has to be the Factory Cost	<u>75</u>		
S & D price will be 15/75 of Factory C	Costs		
Profit will be 10/75 of Factory Cost			

#### Computation of Work in Process for March 2010

₹

Items			
Opening balance as on 1st March	Job A 99	430	
	Job A 77	1,270	1,700
Material issued during the month of March	Job A 99	120	
	Job A 77	280	
	Job A 66	225	
	Job A 55	300	925
Direct Labour	Job A 99	600	
	Job A 77	450	

	Job A 66 Job A 55	675 225	1.950
Factory Overheads on 1000 hours @ ₹ 2.1	3007(33	225	2,100
Factory Cost			6,675
Less: Factory Cost of completed jobs	Job A 77	2,420	
	Job A 99	1,990	4,410
Closing work in process as on 28th March 2010			2,265

Another way to calculate WIP is

Job A 66 and A 55 are in progress & WIP includes only incomplete Jobs.

 Direct Material (225+300)
 525

 Direct Labour (675+225)
 900

 Factory Overheads [2.1 \*(300+100)]
 840

 Total WIP
 2,265

## Sec-C

### Answer any two Questions from Q. No 6, 7 and 8. Each Question carries 15 Marks

# 6.(A) With the help of the following ratios regarding Indu Films draw the Balance sheet of the company for the year 2011:

Current Ratio	2.5
Liquidity ratio	1.5
Net working capital	₹3,00,000
Stock turnover ratio (cost of sales /closing stock)	6 times
Gross profit ratio	20%
Fixed Assets turnover ratio (on cost of sales)	2 times
Debt collection period	2 months
Fixed Assets to share holders net worth	0.80
Reserve and surplus to capital	0.5
	[12]

[3]

(B) What are the differences between Cash flow statement and Funds flow statement?

Answer:

(A)

### Balance Sheet of Indu firms for the year 2011

Liabilities	Amount (₹)	Assets	Amount (₹)
Share capital	5,00,000	Fixed assets	6,00,000
Reserve and surplus	2,50,000	Stock	2,00,000
Long-term borrowings (Bal. fig)	1,50,000	Debtors	2,50,000
Current liabilities	2,00,000	Bank	50,000

11,00,000	11,00,000

## Working notes:

If Current Liabilities	1
Current Assets	2.5
It means difference on Working Capital	1.5
Working Capital is 1.5	₹ 3,00,000
Therefore, Current Assets	₹ 5,00,000
Current Liabilities	₹ 2,00,000
As Liquidity Ratio	1.5
And Current Liabilities	₹ 2,00,000
(Bank and Debtors) (2,00,000 x 1.5)	₹ 3,00,000
Stock (5,00,000-3,00,000) i.e., Current Assets-Liquid Assets	₹ 2,00,000
Cost of sales (as stock turnover ratio is 6)	₹ 12,00,000
Sales (as G.P. ratio is 20%, 1,200,000+20/80 x 1,200,000	₹ 15,00,000
Fixed Assets are ₹ 1,200,000/2, since Debtors collection	
Fixed Assets Turnover Ratio is 2 times	₹ 6,00,000
Debtors are ₹ 1,500,000/6 since debtors collection period Is 2 months	₹ 2,50,000
Shareholders' net worth 600,000 x 1/0.80	₹ 7,50,000
Out of shareholders' net worth Reserves and Surplus (7,50,000 x 0.5/1.5)	₹ 2,50,000
Therefore, Share capital	₹ 5,00,000

**(B)** The following are the main difference between a Fund Flow Statement and a Cash Flow Statement:-

	Funds Flow Statement	Cash Flow Statement	
1.	Funds Flow Statement reveals the change in working capital between two Balance Sheet dates	Cash Flow Statement reveals the changes in cash position between two balance sheet dates.	
2.	Funds Flow Statement is based on accounting	Cash Flow Statement is based on cash basis of accounting	
3.	In the case of Funds Flow Statement a schedule of changes in working capital is prepared.	No such schedule of changes in working	

7.(A) The following financial data have been furnished by A Ltd. and B Ltd. for the year ended 31.3.2005.

	A Ltd.	B Ltd.
Operating leverage	3:1	4:1
Financial Leverage	2:1	3:1
Interest charges per annum	₹ 12 lakhs	₹ 10 lakhs
Corporate tax rate	40%	40%
Variable cost as % of sales	60%	50%

Prepare Income statements of the two companies. Also comment on the financial position and structure of the two companies. [8]

- (B) Bisk-Farm Biscuits Ltd is considering the purchase of a delivery van, and is evaluating the following two choices:
  - a) The company can buy a used van for ₹ 20,000 and after 4 years sell the same for ₹ 2,500 (net of taxes) and replace it with another used van which is expected to cost ₹ 30,000 and has 6 years life with no terminating value,
  - b) The company can buy a new van for ₹ 40,000. The projected life of the van is 10 years and has an expected salvage value (net of taxes) of ₹ 5,000 at the end of 10 years.

The services provided by the vans under both the choices are the same. Assuming the cost of capital at 10 percent, which choice is preferable? [7]

#### Answer:

(A)

	A Ltd.	B Ltd.
Operating Leverage	3:1	4:1
Financial Leverage	2:1	3:1
Interest	12 Lakhs	10 Lakhs
Variable Cost	60%	50%
Contribution (P/v Ratio)	40%	50%
Financial Leverage	$\frac{\text{EBIT}}{2} = \frac{2}{3}$	$\frac{\text{EBIT}}{} = \frac{3}{3}$
	EBT 1	EBT 1
	EBIT _ 2	EBIT = 3
	EBIT - Interest 1	EBIT - Interest 1
	EBIT _ 2	EBIT 3
	EBIT - 12 1	EBIT - 10 1
	EBIT =24 Lakhs	EBIT = 15 Lakhs
Operating Leverage	C = 3	C _ 4
	EBIT 1	EBIT 1
	C _ 3	C _ 4
	24 1	15 1
	Contribution	Contribution
	= 72 Lakhs	= 60 Lakhs

## **Preparation of Income Statement**

(₹ in Lakhs)

Particulars	A Ltd.	B Ltd.
Sales	$72 = \frac{100}{40\%} = 180$	$60 = \frac{100}{50\%} = 120$
Less: Variable Cost	108	60
Contribution	72	60
Fixed Cost (Bal. in Fig.)	48	45

EBIT	24	15
Less: Interest	12	10
PBT	12	5
Less: Tax @ 40%	4.8	2
PAT	7.2	3

₹

(B) Calculation of mutually exclusive decision
Alternative I: Company purchased a used van

## Calculation of PV of cash outflow:

Year	Cash outflow	PV factor at 10%	Present Value
t <sub>0</sub>	20,000	1	20,000
†4	27,500 (30,000-2,500)	0.6830	18,783
PV of total cash outflow under Alternative I			38,783

### Alternative II: Company purchased a new van

Year	Cash outflow	PV factor at 10%	Present Value
t <sub>o</sub>	40,000	1	40,000
†10	(5,000)	0.3855	(1,928)
PV of net	cash outflow		38,072

#### Comment:

It is advised to select alternative II as it involves lower cash outflows.

# 8.(A) AB Ltd. estimates the cost of equity and debt components of its capital for different levels of debt: equity mix as follows:

Debt as % of total capital	Cost of Equity	Cost of debt % (before tax)
0	16	12
20	16	12
40	20	16
60	24	20

Suggest the best debt: equity mix for the company. Tax rate applicable to the company is 50%. Show workings. [6]

# (B) A company plans to manufacture and sell 400 units of a domestic appliance per month at a price of ₹ 600 each. The ratio of costs to selling price are as follows:

	(% of selling price)
Raw materials	30%
Packing materials	10%
Direct labour	15%
Direct expense	5%

Fixed overheads are estimated at ₹ 4,32,000 per annum.

The following norms are maintained for inventory management:

Raw materials	30 days
Packing materials	15 days
Finished goods	200 units
Work-in-progress	7 days

Other particulars are given below:

- (a) Credit sales represent 80% of total sales and the dealers enjoy 30 working days credit. Balance 20% are cash sales.
- (b) Creditors allow 21 working days credit for payment.
- (c) Lag in payment of overheads and expenses is 15 working days.
- (d) Cash requirements to be 12% of net working capital.
- (e) Working days in a year are taken as 300 for budgeting purpose.

Prepare a Working Capital requirement forecast for the budget year.

[9]

#### Answer:

(A)

Statement showing computation of composite cost of capital (KO) at different levels of debt-equity mix

Debt%	Cost of Debt after tax (Tax @50%	Equity %	Cost of Equity	K <sub>o</sub> =K <sub>e</sub> W <sub>e</sub> + K <sub>d</sub> W <sub>e</sub>
0	6%	100	16%	16%
20	6%	80	16%	14%
40	8%	60	20%	15.2%
60	10%	40	24%	15.6%

The most desirable or optional capital structure of the Company is 80% equity and 20% debt, as there is overall cost is minimum.

#### (B) Selling Price and Cost per unit

selling Frice and Cost	<u> </u>	
Raw materials	(₹ 600 x 30/100)	180
Packing materials	(₹ 600 x 10/100)	60
Direct labour	(₹ 600 x 15/100)	90
Direct expenses	(₹ 600 x 5/100)	30
Fixed overheads	[₹ 4,32,000 / (400 x 12)]	<u>90</u>
Total cost		450
Profit		<u>150</u>
Selling Price per unit		600
I		1

#### Forecast of Working Capital Requirement:

Current Assets		
Raw materials stock	(₹ 4800 x 180 x 30/300)	86,400
Packing materials stock	(₹ 4800 x 60 x 15/300)	14,400
Working in progress	(₹ 4800 x 285 x 7/300)	31,920
Finished goods stock	(₹ 450 x 200 units)	90,000
Debtors	(₹ 4800 x 80/100 x ₹ 600 x 30/300)	2,30,400

a)		4,53,120
Current Liabilities:		
Creditors for raw material suppliers	(₹ 4800 x 180 x 21/300)	60,480
Creditors for packing material	(₹ 4800 x 60 x 21/300)	20,160
Creditors for expenses and overheads	(₹ 4800 x 120 x 15/300)	28,800
(b)		1,09,440
Net Working Capital	(a) – (b)	3,43,680
Add: Cash required (12% of net working capital)		41,242
Total Working Capital Required		3,84,922

#### Note:

- ➤ Work in progress is valued with raw material cost at 100% and 50% of wages, overheads and expenses.
- Debtors are valued at selling price.