

Prime Academy
Cost Accounting and Financial Management
Model Test paper

Question Nos **1** and **6** are compulsory. Attempt any **three** questions out of the remaining **2,3,4** and **5** and attempt **two** questions from the remaining question numbers **7,8** and **9**
Working notes should form part of the answer

1a. ABC Ltd providing basic telephone services has three billing structures for three different customers, Low end , Medium end and High end customers. The cost and revenue structure is given below

	Low end	Medium end	High end
Number of subscriber in (000)	1,000	800	300
Cost of attending complaint Rs./complaint	80	50	30
No. of complaints/ subscriber	0.2	0.1	0.08
Billing and accounts Rs./ subscriber	3	8	15
Collection of bills Rs./bill	50	10	5
Cost of installation / subscriber Rs./subscriber	150	200	800
Monthly rental Rs./ subscriber	200	150	Nil
Average calls per month - Nos	250	500	1,500
Free calls allowed/month/customer - Nos	Nil	100	300
Revenue per call - Rs.	2	4	6

Work out the net revenue from each category of customer and comment (12 marks)

1b. Differentiate between job costing and Batch costing (3 marks)

1c. Distinguish between bin card and stores ledger (3 marks)

2.From the following information about JV company Ltd during a period, prepare process cost account for process III

Opening stock in process III	1,600 units valued at	Rs. 20,600
Transfer from process II	42,400 units valued at	Rs.3,29,200
Transfer to process IV	38,400 units	
Closing stock of process III	4,000 units	
Units scrapped	1,600 units	
Direct material added in process III		Rs.1,58,080
Direct wages		78,080
Production overhead		39,040
Degree of completion		

	Opg.Stock	Closing stock	Scrap
Material	80%	70%	100%
Labour	60%	50%	70%
Overhead	60%	50%	70%

The normal loss in the process was 5% of production and scrap was sold at Rs.3 per unit.
(14 marks)

3a. A manufacturing company has an installed capacity of Rs.1,20,000 units per annum. The cost structure of the product is as under:

	Rs.
Variable cost per unit	
Materials	8
Labour (subject to a minimum of Rs.56,000 per month)	8
Overheads	3

Fixed overheads Rs.1,68,750 per annum

Semi variable overheads - Rs.48,000 per annum at 60% capacity, which increases by Rs.6,000 per annum for increase of every 10% of the capacity utilization or any part thereof, for the year as a whole.

The capacity utilization is expected for next year is estimated at 60% for two months, 75% for six months and 80% for the remaining part of the year. If the company is planning to have a profit of 25% on selling price, calculate the selling price per unit assuming that there are no opening and closing stock. (10 marks)

3b. What are the conditions that favour the adoption of last in first out system of material pricing and indicate its advantages (4 marks)

4a. The data given relates to Gaurav theatre for the year ending 31.12.2006

Salaries

1 manager	Rs.30,000 per month	Carbon	- Rs.5,72,350
10 gate keepers	Rs. 5,000 per month	Misc.exp	- Rs. 3,15,420
2 operators	Rs. 8,000 per month	Advertisement	- Rs.5,84,510
4 clerks	Rs. 12,000 per month	Administration expenses	Rs.8,25,000
Hire of print	Rs.15,40,700.	Electricity & Oil	Rs.12,20,000

The premises is valued at Rs.6,00,00,000 and estimated life is 15 years. Projector and other equipment cost Rs.38,20,000 on which 10% depreciation is to be charged.

Daily three shows are run throughout the year. The total capacity is 625 seats which is divided into three classes as follows.

Janata class	- 225 seats
Premium class	- 125 seats
Kings circle	- 50 seats

Ascertain the cost per man show assuming that a) 20% of the seats remain vacant and b) Weightage to be given to three classes in the ration 1:2:3. Determine the rates for each class if the management expects 30% return on gross proceeds. Ignore entertainment tax. (10 marks)

4b. Enumerate the factors which are to be considered before installing a system of cost accounting in a manufacturing organization (4 marks)

5a. A company has three production departments and two service departments and the following details relating too overheads analysed to production and service departments is given.

		Rs.
Production Department	A	48,000
	B	42,000
	C	30,000
Service department	X	14,040

Y 18,000

The expenses of service department are apportioned as follows:

	Prodn. Departments			Service Departments	
	A	B	C	X	Y
Service Dept X	20%	40%	30%		10%
Service Dept Y	40%	20%	20%	20%	

Allocate service department costs to production departments using the simultaneous equation method (7 marks)

5b. The Costing profit and loss account and reconciliation statement is given. Prepare Manufacturing Trading and profit and loss account.

Opening raw materials	51,616
Add: Purchases	1,99,334
Less: Closing stock	47,804
Raw material consumed	2,03,146
Direct wages	80,072
Production overhead	1,90,680
Add: Opening Work in progress	24,146
Less: Closing Work in progress	<u>(24,020)</u>
Factory cost	4,74,024
Administration costs	53,058
Add: opening stock of finished goods	63,238
Less: Closing stock of finished goods	<u>(65,020)</u>
Cost of goods produced	5,25,300
Sales	<u>6,25,600</u>
Profit as per cost records	1,00,300

Reconciliation statement	
Profit as per cost records	1,00,300
Add: Discount received	1,790
Difference in stock valuation	
Opening Raw material	320
Closing finished goods	682
	<u>1,002</u>
	1,03,092
Less: Interest	2,000
Discount	2,964
Distribution costs	16,926
Selling costs	30,562
Difference in stock valuation	
Opening work in progress	350
Opening finished goods	652
Closing Raw material	422
Closing work in progress	<u>296</u>
	<u>1,720</u>
Profit as per financial books	<u>48,920</u>

(7 marks)

6. Major corporation is exploring the idea of replacing its existing machine and the relevant details are given below.

Existing machine

Purchased 2 years ago

Remaining life - 6 years

Salvage value - Rs.500

Depreciation on straight line basis

Current book value – Rs.2,600 and its realizable market value – Rs.3,000

Annual depreciation – Rs.350

Replacement machine

Capital cost -Rs.8,000

Estimated useful life – 6 years

Estimated salvage value – Rs.800

The replacement machine would permit an output expansion. As a result sales is expected to rise by Rs.1,000 per year, operating expenses would decline by Rs.1,500 per year. It would require an additional inventory of Rs.2,000 and would cause an increase in accounts payable by Rs.500. Assuming a corporate tax of 40% and cost of capital of 15 %, advise the company. PV factor at 15%

Year	1	2	3	4	5	6	
	0.8696	0.7561	0.6575	0.5718	0.4972	0.4323	(12 marks)

6b. Discuss the need for social cost benefit analysis (4 marks)

7. The following figures of Srishti Ltd are presented

Earnings before interest and tax		Rs.23,00,000
Less: Debenture interest @ 8%	80,000	
Long term loan interest@11%	2,20,000	<u>3,00,000</u>
		20,00,000
Less: Income tax		<u>10,00,000</u>
Earnings after tax		10,00,000
No.of equity shares of Rs.10 each		5,00,000
EPS	Rs. 2	
Market price of share	Rs.20	
P/E Ratio	10	

The company has undistributed reserves and surplus of Rs.20 lakhs. It needs Rs.30 lakhs to pay off debentures and modernize its plants. It seeks your advice on the following alternative modes of raising finance.

Alternative -1 – Raising entire amount as term loan from banks @ 12%

Alternative – 2 – Raising part of funds by issue of 1,00,000 shares of Rs.20 each and the rest as term loan at 12%

The company expects to improve its rate of return by 2 % as a result of modernization, but P/E ratio is likely to go down to 8 if the entire amount is raised as term loan.

(i) Advise the company on the financial plan to be selected

(ii) If it is assumed that there will be no change in the P/E ratio if either of the two alternatives are adopted, would your advice still hold good? (12 marks)

8a. Y Ltd sells goods at a gross profit of 20%. It includes depreciation as part of cost of production. The following figures for the 12 month ending 31st December '2006 are given. Calculate the requirements of working capital of the company on a cash cost basis.

- Assume (i) a safety margin of 15% will be maintained
(ii) cash is to be held to the extent of 50% of current liabilities
(iii) there will be no work in progress
(iv) tax is to ignored.

Stock of raw materials and finished goods are kept at one month's requirements

Sales at 2 months credit	Rs.27,00,000
Materials consumed (suppliers credit is for 2 months)	6,75,000
Wages paid at the beginning of next month	5,40,000
Manufacturing expenses outstanding at the end of the year (cash expenses are paid one month in arrear)	60,000
Total administrative expenses (paid as above)	1,80,000
Sales promotion expenses - paid quarterly in advance	90,000

(10 marks)

8b. Outline the methods and tools of financial management (2marks)

9a. Following information are available books of account of NPQ Ltd

Sales for the year	Rs.10,00,000
Gross profit rate	30%
Stock turnover ratio	5
Collection period for debts	30 days

It is proposed to enter an entirely new market with a product which has not been handled before. This will lead to an additional annual sales of rs.2,00,000 having a gross profit rate of 20%. Customers will expect 60 days credit and additional stock of raw materials equal to 3 months usage will be needed. Raw material costs, on existing products as with the new product account for 75% of cost of sales. If proposal is implemented, how will it affect company's key ratios of Stock Turn over ratio and Debt collection period?

(6 marks)

9b. Write short notes on any two

- (i) Bridge loan
- (ii) Packing credit
- (iii) Venture Capital Financing

(2x3 = 6 marks)

(Question and answers)

Prime Academy
Cost Accounting and Financial Management
Model Test paper

Question Nos **1** and **6** are compulsory. Attempt any **three** questions out of the remaining **2,3,4** and **5** and attempt **two** questions from the remaining question numbers **7,8** and **9**

Working notes should form part of the answer

1a. ABC Ltd providing basic telephone services has three billing structures for three different customers, Low end , Medium end and High end customers. The cost and revenue structure is given below

	Low end	Medium end	High end
Number of subscriber in (000)	1,000	800	300
Cost of attending complaint Rs./complaint	80	50	30
No. of complaints/ subscriber	0.2	0.1	0.08
Billing and accounts Rs./ subscriber	3	8	15
Collection of bills Rs./bill	50	10	5
Cost of installation / subscriber Rs./subscriber	150	200	800
Monthly rental Rs./ subscriber	200	150	Nil
Average calls per month - Nos	250	500	1,500
Free calls allowed/month/customer - Nos	Nil	100	300
Revenue per call - Rs.	2	4	6

Work out the net revenue from each category of customer and comment (12 marks)

Answer:

	Low end	Medium end	High end
Number of subscriber in	10,00,000	8,00,000	3,00,000
Chargeable calls	10 lakhx250	8lakhx400	3 lakhx1,200
	(Rs'000)	(Rs'000)	(Rs'000)
Revenue(Rs,000)	5,00,000	12,80,000	21,60,000
Rental	2,00,000	1,20,000	-
Total	7,00,000	14,00,000	21,60,000
Cost of attending complaints	16,000	4,000	720
Billing and accounts	3,000	6,400	4,500
Collection of bills	50,000	8,000	1,500
Cost of installation	1,50,000	1,60,000	2,40,000
Total costs	2,19,000	1,78,400	2,46,720
Net revenue	4,81,000	12,21,600	19,13,280
Net revenue/customer – Rs	481	1527	6,378

The net revenue per customer is highest in the case of High end customers and it is also more profitable. The company should focus on high end customers by promotional schemes to attract more customers in this category.

1b. Differentiate between job costing and Batch costing

(3 marks)

Answer:

(i) Job Costing and Process Costing

- In Job costing the production is by specific orders whereas in the case of Process costing it is in continuous flow, the production being homogeneous
- In Job costing costs are determined by jobs or batches of products whereas in process costing costs are compiled on time basis for each process or department
- Costs are calculated when jobs are completed in job costing whereas in process costing cost are calculated at the end of cost period
- There may or may not be any work-in-process at the beginning or end of accounting period in the case of job costing where as in process costing since the production is continuous some work-in-process will be there at the beginning and end of accounting period.
- As each product, unit is different and is not standardized more attention and supervision is needed for job costing whereas since the processes are standardized control of process activities is comparatively easy.
- In job costing the various jobs are separate and independent of each other where as in process costing since manufactured in a continuous flow, products lose their individual identity

1c. Distinguish between bin card and stores ledger

(3 marks)

Answer:

Both bin cards and stores ledger are perpetual inventory records. None of them is a substitute for the other. The difference between bin cards and stores ledger is listed below.

- 1) Bin card is maintained by the stores department whereas stores ledger is maintained by cost accounting department.
- 2) Bin card is a record for movement of goods in out of the stores whereas the cost ledger is an accounting record.
- 3) Bin card contains only quantitative details whereas stores ledger contains both quantitative and value information in respect of their receipts, issues and balance.
- 4) Inter departmental transfer do not find a place in bin card whereas the stores ledger records them.
- 5) Bin cards record each transactions but stores ledger records the same information in a summarized form.

2. From the following information about JV company Ltd during a period, prepare process cost account for process III

Opening stock in process III 1,600 units valued at Rs. 20,600

Transfer from process II	42,400 units valued at	Rs.3,29,200
Transfer to process IV	38,400 units	
Closing stock of process III	4,000 units	
Units scrapped	1,600 units	
Direct material added in process III		Rs.1,58,080
Direct wages		78,080
Production overhead		39,040
Degree of completion		

	Opg.Stock	Closing stock	Scrap
Material	80%	70%	100%
Labour	60%	50%	70%
Overhead	60%	50%	70%

The normal loss in the process was 5% of production and scrap was sold at Rs.3 per unit.
(14 marks)

Answer:

Statement of Equivalent Production

Input		Output		Equivalent Production					
				Material A		Material B		Labour & OH	
Item	Units	Item	Units	Units	%	Units	%	Units	%
Op.stock	1,600	Normal loss	2000						
Process II		Completed							
Transfer	42,400	(a) Work on op WIP	1,600			320	20	640	40
		(b) Introduced &							
		Completed	36,800	36,800	100	36,800	100	36,800	100
		Cl.WIP	4,000	4,000	100	2,800	70	2,000	50
		Less:Abn.Gain	400	400	100	400	100	400	100
	44,000		44,000	40,400		39,520		39,040	

Statement of cost for each element

Elements of cost	Cost	Equivalent	Cost per unit
	Rs.	Prodn.(units)	Rs.
Material A			
Transfer from previous	Rs.3,29,200		
Less: Value of normal scrap	<u>6,000</u>	3,23,200	40,400
			8
Material B			
Added in process III	1,58,080	39,520	4
Labour	78,080	39,040	2
Overhead	<u>39,040</u>	<u>39,040</u>	<u>1</u>
Total Cost		5,98,400	

Statement of apportionment of cost

Items	Elements	Equivalent	Cost/unit	Cost Rs.	Total
		Prodn.(units)	Rs.		Rs.
Opening WIP	Material A		8		
(For completion)	Material B	320	4	1,280	

	Wages	640	2	1,280	
	Overhead	640	1	<u>640</u>	3,200
Introduced &	Material A	36,800	8	2,94,400	
Completed during	Material B	36,800	4	1,47,200	
The period	Wages	36,800	2	73,600	
	Overhead	36,800	1	<u>36,800</u>	5,52,000
Closing WIP	Material A	4,000	8	32,000	
	Material B	2,800	4	11,200	
	Wages	2,000	2	4,000	
	Overhead	2,000	1	<u>2,000</u>	49,200
Abnormal gain	Material A	400	8	3,200	
	Material B	400	4	1,600	
	Wages	400	2	800	
	Overhead	400	1	<u>400</u>	<u>6,000</u>
					5,98,400

<u>Process III</u>					
Details	Units	Amount	Details	Units	Amount
To balance/d	1,600	20,600	By Normal loss	2,000	6,000
To Process II A/c	42,400	3,92,200	By process IV A/c	38,400	5,75,800
By Direct Materials		1,58,080	By Closing stock c/d	4,000	49,200
By labour		78,080			
By Overheads		39,040			
By abnormal gain	<u>400</u>	<u>6,000</u>			
	44,400	6,31,000		44,400	6,31,000

<u>Abnormal gain A/c</u>					
	Units	Amount	Units	Amount	
To process III Scrap	400	1,200	400	6,000	
To profit & loss A/c		<u>4,800</u>			
		6,000			

3a. A manufacturing company has an installed capacity of Rs.1,20,000 units per annum. The cost structure of the product is as under:

	Rs.
Variable cost per unit	
Materials	8
Labour (subject to a minimum of Rs.56,000 per month)	8
Overheads	3

Fixed overheads Rs.1,68,750 per annum

Semi variable overheads - Rs.48,000 per annum at 60% capacity, which increases by Rs.6,000 per annum for increase of every 10% of the capacity utilization or any part thereof, for the year as a whole.

The capacity utilization is expected for next year is estimated at 60% for two months, 75% for six months and 80% for the remaining part of the year. If the company is planning to have a profit of 25% on selling price, calculate the selling price per unit assuming that there are no opening and closing stock. (10 marks)

Answer:

Capacity Utilisation	60%	75%	80%	74.16
No.of months	2	6	4	
Production/month	6,000	7,500	8,000	
Total Prodn.	12,000	45,000	32,000	89,000
	Rs.	Rs.	Rs.	Rs.
Material	96,000	3,60,000	2,56,000	7,12,000
Wages	1,12,000	3,60,000	2,56,000	7,28,000
Overheads	36,000	1,35,000	96,000	2,67,000
Semivariable overheads				60,000
Fixed overheads				<u>1,68,750</u>
Total				19,35,750
Profit 25% on SP or 1/3 rd on cost				<u>6,45,250</u>
Total				25,81,000
Selling price per unit	$25,81,000 \div 89,000 = \text{Rs.}29 \text{ per unit}$			

3b. What are the conditions that favour the adoption of last in first out system of material pricing and indicate its advantages (4 marks)

Answer:

The LIFO method works well in process cost systems where individual material requisitions are seldom used and materials move into process in bulk lots. This method is based on the assumption that the most recent purchase costs are more significant in terms of matching cost with revenues in the process of determining net income. The advantages of this system are

- (i) The cost of the materials issued will be either nearer or will reflect the current market price. Thus, the cost of goods produced will be related to the trend of the market price of materials. Such a trend in price of materials enables the matching of cost of production with current sales revenues.
- (ii) During the period of rising prices this method does not reflect undue high profit in the income statement, as it was under the FIFO or average method. In fact, the profit shown here is relatively lower because the cost of production takes into account the rising trend of material prices.
- (iii) In the case of falling prices, profit tends to rise due to lower material cost, yet the finished products appear to be more competitive and are at market price.
- (iv) During the period of inflation, LIFO will tend to show the correct profit and thus, avoid paying undue taxes to some extent.

4a. The data given relates to Gaurav theatre for the year ending 31.12.2006

Salaries

1 manager Rs.30,000 per month Carbon - Rs.5,72,350

10 gate keepers Rs. 5,000 per month Misc.exp - Rs. 3,15,420
 2 operators Rs. 8,000 per month Advertisement - Rs.5,84,510
 4 clerks Rs. 12,000 per month Administration expenses Rs.8,25,000
 Hire of print Rs.15,40,700. Electricity & Oil Rs.12,20,000

The premises is valued at Rs.6,00,00,000 and estimated life is 15 years. Projector and other equipment cost Rs.38,20,000 on which 10% depreciation is to be charged.

Daily three shows are run throughout the year. The total capacity is 625 seats which is divided into three classes as follows.

Janata class - 225 seats
 Premium class - 125 seats
 Kings circle - 50 seats

Ascertain the cost per man show assuming that a) 20% of the seats remain vacant and b) Weightage to be given to three classes in the ration 1:2:3. Determine the rates for each class if the management expects 30% return on gross proceeds. Ignore entertainment tax. (10 marks)

Answer:

Operating Cost Sheet

Fixed cost	
Salaries	Rs.
Manager	30,000
Gate keepers Rs.5,000 x 10	50,000
Operators Rs. 8,000 x 2	16,000
Clerks Rs.12,000 x 4	48,000
Administration Expenses	8,25,000
Depreciation	
Premises Rs.6,00,00,000 ÷ 15	40,00,000
Projector & other equipments 38,20,000 x 0.10	3,82,000
Total Fixed Cost	53,51,000
Variable costs	
Electricity & Oil	12,20,000
Carbon	5,72,350
Misc.expenses	3,15,420
Advertisements	5,84,510
Hire of print	<u>15,40,700</u>
Total variable cost	42,32,980
Total Cost	95,83,980
Add:30% return on gross proceeds or 3/7 of cost	41,07,420
Gross proceed	1,36,91,400
Total man show	5,47,500
Cost per man show	Rs.25
Rate for each class	
Janata class - Rs.25	
Premium class 25x2 - Rs.50	
Kings circle - 25x3 - Rs.75	

Workings

No.of seats with weightage

Janata class	- 225 seats	x 1	= 225
Premium class	- 125 seats	x 2	= 250
Kings circle	- 50 seats	x 3	= <u>150</u>
			625

No of shows = 3

Total weighted seats = 625 x 3 = 1,875

Vacant 20% = 375

Seats per day = 1,500

Man show per annum = 1,500 x 365 = 5,47,500

30 % return on gross proceeds Gross Proceeds = 100

Return 30% = 30

Cost = 70

In relation to cost it is 3/7

4b. Enumerate the factors which are to be considered before installing a system of cost accounting in a manufacturing organization (4 marks)

Answer:

While designing a cost accounting system the following factors are to be considered.

- The objectives of the proposed system and the expectation of the management from the system should be identified first
- The size, layout and organization of the factory should be studied
- The methods of purchase, receipt, storage and issue of materials should be examined and modified wherever necessary
- The nature, method and stages of production, the number of varieties and the quantity of each product and such other technical aspects should be examined.
- The requirements of the management and the policy adapted by them towards cost control should be kept in view.
- A study of the organization structure is made to decide the scope of responsibility of various managers
- The forms should be so designed that it is simple to complete and user friendly and unnecessary details should be avoided
- The system should ensure proper flow of data to all levels of management regularly and promptly
- There should be a discussion at levels of management before introduction of the system to ensure active participation from all
- The system should facilitate reconciliation of data with financial records regularly

5a. A company has three production departments and two service departments and the following details relating too overheads analysed to production and service departments is given.

		Rs.
Production Department	A	48,000
	B	42,000

	C	30,000
Service department	X	14,040
	Y	18,000

The expenses of service department are apportioned as follows:

	Prodn. Departments			Service Departments	
	A	B	C	X	Y
Service Dept X	20%	40%	30%		10%
Service Dept Y	40%	20%	20%	20%	

Allocate service department costs to production departments using the simultaneous equation method (7 marks)

Answer:

$$X = 14,040 + 0.2 Y$$

$$X - 0.2 Y = 14,040 \quad \text{-----1}$$

$$Y = 18,000 + 0.1 X$$

$$-0.1 X + Y = 18,000 \quad \text{-----2}$$

$$2 \times 10 \quad -X + 10Y = 1,80,000$$

$$X - 0.2Y = 14,040$$

$$\text{Adding} \quad 9.8Y = 1,94,040$$

$$Y = 1,94,040/9.8 = 19,800$$

$$X - 0.2 \times 19,800 = 14,040$$

$$X = 14,040 + 3,960 = 18,000$$

	Prodn. Departments			Service Departments	
	A	B	C	X	Y
	Rs.	Rs.	Rs.	Rs.	Rs.
	48,000	42,000	30,000	18,000	19,800
X Dept	3,600	7,200	5,400	(18,000)	
Y Dept	7,920	3,960	3,960		(19,800)
	<u>59,520</u>	<u>53,160</u>	<u>39,360</u>		

5b. The Costing profit and loss account and reconciliation statement is given. Prepare Manufacturing Trading and profit and loss account.

Opening raw materials	51,616
Add: Purchases	1,99,334
Less: Closing stock	47,804
Raw material consumed	2,03,146
Direct wages	80,072
Production overhead	1,90,680
Add: Opening Work in progress	24,146
Less: Closing Work in progress	<u>(24,020)</u>
Factory cost	4,74,024
Administration costs	53,058
Add: opening stock of finished goods	63,238
Less: Closing stock of finished goods	<u>(65,020)</u>

Cost of goods produced	5,25,300
Sales	<u>6,25,600</u>
Profit as per cost records	1,00,300

Reconciliation statement

Profit as per cost records	1,00,300
Add: Discount received	1,790

Difference in stock valuation

Opening Raw material	320
Closing finished goods	682
	<u>1,002</u>
	1,03,092

Less: Interest	2,000
Discount	2,964
Distribution costs	16,926
Selling costs	30,562

Difference in stock valuation

Opening work in progress	350
Opening finished goods	652
Closing Raw material	422
Closing work in progress	<u>296</u>
	<u>1,720</u>

Profit as per financial books	<u>48,920</u>	(7 marks)
-------------------------------	---------------	-----------

Answer:

Manufacturing Trading and profit and loss account.

	Rs.		Rs.
Raw materials consumed		By sales	6,25,600
Opening stock	51,296	By Closing stock	
Purchases	1,99,334	Work in progress	23,724
Less: Closing stock	<u>(47,382)</u>	Finished goods	65,702
Direct wages	80,072		89,426
Production overheads	1,90,680		
Opening Work in progress	24,496		
Opening Finished goods	63,890		
Gross Profit	<u>1,52,640</u>		
	7,15,026		<u>7,15,026</u>
To Administration costs	53,058	By Grofit b/d	1,52,640
To Discount	2,964	By discount	1,790
To interest	2,000		
To distribution cost	16,926		
To selling costs	30,562		
To Net profit	<u>48,920</u>		
	<u>1,54,430</u>		<u>1,54,430</u>

6a. Major corporation is exploring the idea of replacing its existing machine and the relevant details are given below.

Existing machine

Purchased 2 years ago

Remaining life - 6 years

Salvage value - Rs.500

Depreciation on straight line basis

Current book value – Rs.2,600 and its realizable market value – Rs.3,000

Annual depreciation – Rs.350

Replacement machine

Capital cost -Rs.8,000

Estimated useful life – 6 years

Estimated salvage value – Rs.800

The replacement machine would permit an output expansion. As a result sales is expected to rise by Rs.1,000 per year, operating expenses would decline by Rs.1,500 per year. It would require an additional inventory of Rs.2,000 and would cause an increase in accounts payable by Rs.500. Assuming a corporate tax of 40% and cost of capital of 15 %, advise the company. PV factor at 15%

Year	1	2	3	4	5	6	
	0.8696	0.7561	0.6575	0.5718	0.4972	0.4323	(12 marks)

Answer:

Investment in new machine

Cost of new machine		8,000
Less : sales price	3,000	
Income tax 40 % on profit on sale of Rs.400	160	<u>2,840</u>
		5,160
Add: Additional working capital		
Inventory	- 2,000	
Less: Accounts payable	<u>500</u>	<u>1,500</u>
Net cash out go		6,660

Cash inflow every year	Rs.
Sales	1,000
Savings in expenses	<u>1,500</u>
	2,500
Less: Income tax on 2,500	<u>1,000</u>
Net cash inflow	1,500

Depreciation benefit	
Depreciation on new machine	- Rs.1,200
Depreciation on existing machine	<u>350</u>
Increase in depreciation	850
Tax benefit @ 40%	Rs.340

Cash flow

Year	0	1	2	3	4	5	6
Initial investment	(6,660)						
Incremental revenue		1,500	1,500	1,500	1,500	1,500	1,500
Depreciation benefit		340	340	340	340	340	340

Recovery of Wor.Cap							1,500
Salvage of new m/c							
Rs.800 – Tax of Rs.320							480
Salvage value of old m/c							(500)
	(6,660)	1,840	1,840	1,840	1,840	1,840	3,320
Present value	(6,660)	1,600	1,391	1,210	1,052	915	1,435
Net present value = (6,660) + 7,603 = Rs.943							

Since NPV of the proposal is positive the company may opt for replacement of the existing machine.

6b. Discuss the need for social cost benefit analysis (4 marks)

Answer:

Government spends crores of rupess in various public projects for the benefit of people which it is duty bound. Analysis of such projects has to done more on social cost and benefit angle rather than purely on financial angle. Such projects are not expected to yield adequate commercial return on the funds employed, at least during the short run. Even private enterprises have moral responsibility to undertake such socially desirable projects. The need for social cost benefit analysis arises due to

- (1) The reference of market prices and cost used to measure such projects may not represent social values due to market imperfections.
- (2) Monetary cost benefit analysis fails to consider the external positive and negative effects of a project.
- (3) The merit wants are important appraisal criteria for social cost benefit analysis/
- (4) Taxes and subsidies are transfer payments & hence irrelevant in national economic profitability analysis.
- (5) It is essential to find out the redistribution benefits because of project needs to be captured.

7. The following figures of Srishti Ltd are presented

Earnings before interest and tax		Rs.23,00,000
Less: Debenture interest @ 8%	80,000	
Long term loan interest@11%	2,20,000	<u>3,00,000</u>
		20,00,000
Less: Income tax		<u>10,00,000</u>
Earnings after tax		10,00,000
No.of equity shares of Rs.10 each		5,00,000
EPS	Rs. 2	
Market price of share	Rs.20	
P/E Ratio	10	

The company has undistributed reserves and surplus of Rs.20 lakhs. It needs Rs.30 lakhs to pay off debentures and modernize its plants. It seeks your advice on the following alternative modes of raising finance.

Alternative -1 – Raising entire amount as term loan from banks @ 12%

Alternative – 2 – Raising part of funds by issue of 1,00,000 shares of Rs.20 each and the rest as term loan at 12%

The company expects to improve its rate of return by 2 % as a result of modernization, but P/E ratio is likely to go down to 8 if the entire amount is raised as term loan.

(i) Advise the company on the financial plan to be selected

(ii) If it is assumed that there will be no change in the P/E ratio if either of the two alternatives are adopted, would your advice still hold good? (12 marks)

Answer:

Total Capital employed before modernization

Equity	Rs.50,00,000
Debentures 80,000/8 x 100	10,00,000
Reserves & Surplus	20,00,000
Term loan 2,20,000/11x100	20,00,000
	Rs.1,00,00,000

$$\text{Rate of return} = (23,00,000/1,00,00,000) \times 100 = 23\%$$

$$\text{Rate of return after modernization} = 23 + 2 = 25\%$$

$$\text{Total capital after modernization} = 1,00,00,000 + 30,00,000 - 10,00,000 = \text{Rs.1,20,00,000}$$

Alternative - 1

Return 25% of Rs.1,20,00,000	= 30,00,000
Less: Interest on 20 lakhs @ 11%	2,20,000
Interest on Rs.10 lakhs @ 12%	<u>1,20,000</u>
	24,20,000
Income tax	<u>12,10,000</u>
Earnings after interest and tax	12,10,000
EPS = 12,10,000/5,00,000	= Rs.2.42
PE ratio = 8	
Market price = Rs.8 x Rs.2.42	= Rs.19.36

Alternative - 2

Return 25% of Rs.1,20,00,000	= 30,00,000
Less: Interest on 20 lakhs @ 11%	2,20,000
Interest on Rs.10 lakhs @ 12%	<u>1,20,000</u>
	26,60,000
Income tax	<u>13,30,000</u>
Earnings after interest and tax	13,30,000
EPS = 13,30,000/6,00,000	= Rs.2.217
PE ratio = 10	
Market price = 10 x Rs.2.217	= Rs.22.17

Since the market price of equity share increases under alternative 2, company should opt for the 2nd alternative.

If PE ratio does not change in either of the alternatives, then market price in alternative 1 = 10 x Rs.2.42 = Rs.24.20

If PE ratio does not undergo any change then, alternative 1 is recommended.

8a. Y Ltd sells goods at a gross profit of 20%. It includes depreciation as part of cost of production. The following figures for the 12 month ending 31st December '2006 are given. Calculate the requirements of working capital of the company on a cash cost basis.

- Assume (i) a safety margin of 15% will be maintained
(ii) cash is to be held to the extent of 50% of current liabilities
(iii) there will be no work in progress
(iv) tax is to ignored.

Stock of raw materials and finished goods are kept at one month's requirements

Sales at 2 months credit	Rs.27,00,000
Materials consumed (suppliers credit is for 2 months)	6,75,000
Wages paid at the beginning of next month	5,40,000
Manufacturing expenses outstanding at the end of the year (cash expenses are paid one month in arrear)	60,000
Total administrative expenses (paid as above)	1,80,000
Sales promotion expenses - paid quarterly in advance	90,000

(10 marks)

Answer:

Working notes	Rs.
Sales	27,00,000
Gross margin @ 20%	5,40,000
Cost of sales	21,60,000
Less: Manufacturing cost	
Raw materials	6,75,000
Wages	<u>5,40,000</u>
Total manufacturing expense	<u>12,15,000</u>
Manufacturing in cash	9,45,000
60,000x12	<u>7,20,000</u>
Depreciation	2,25,000
Total cash cost of sales	21,60,000
Less: Depreciation	<u>2,25,000</u>
	19,35,000
Add: Admn Expenses	1,80,000
Sales promotion expenses	<u>90,000</u>
	22,05,000

Working capital requirements

Debtors @ 2 months (22,05,000/12)x2	= 3,67,500
Raw materials 6,75,000/12	56,250
Finished goods 19,35,000/12	1,61,250
Sales promotion expenses 90,000/4	22,500
Cash on hand 50% of Rs.2,32,500	<u>1,16,250</u>
	7,23,750

Less : Current liabilities

Sundry creditors (6,75,000/12)x2	1,12,500
Admn.expenses (1,80,000/12)	15,000

Wages 5,40,000 / 12	45,000	
Manufacturing expenses	<u>60,000</u>	<u>2,32,500</u>
Working capital		4,91,250
Add: margin @ 15%		<u>73,688</u>
Working capital required on cash cost basis		5,64,938

8b. Outline the methods and tools of financial management (2marks)

Answer:

Finance Manager has to decide the optimum capital structure so as to maximize the wealth of the shareholders by enhancing the earnings with optimal cost of capital. For this the judicious use of financing leverage or trading on equity is important to increase the return to shareholders. Proper mix of debt and equity is essential to keep the cost of capital at minimum level and thus increase the earnings. EPS analysis, PE ratios and mathematical models are used to determine the proper debt-equity mix to derive advantages to the owners and enterprise.

In the area of investment in capital assets, payback period, average rate of returns, profitability index are some of the methods in evaluating the proposals.

In the area of working capital management, certain techniques are adopted such as ABC analysis, Economic Order quantities, Cash management models etc to improve liquidity and to maintain adequate circulating capital.

For evaluating firms performances , ratio analysis is used. Funds flow statement and cash flow statement, cash flow statement and projected financial statements help a lot to the finance manager in providing funds in right quantities and at right time.

9a. Following information are available books of account of NPQ Ltd

Sales for the year	Rs.10,00,000
Gross profit rate	30%
Stock turnover ratio	5
Collection period for debts	30 days

It is proposed to enter an entirely new market with a product which has not been handled before. This will lead to an additional annual sales of rs.2,00,000 having a gross profit rate of 20%. Customers will expect 60 days credit and additional stock of raw materials equal to 3 months usage will be needed. Raw material costs, on existing products as with the new product account for 75% of cost of sales. If proposal is implemented, how will it affect company's key ratios of Stock Turn over ratio and Debt collection period?

(6 marks)

Answer:

Particulars	Current Rs.	Proposed additional Rs.	Projected Rs.
Sales	10,00,000	2,00,000	12,00,000
Cost of sales	<u>7,00,000</u>	<u>1,60,000</u>	<u>8,60,000</u>
Gross profit	3,00,000	40,000	3,40,000
Gross profit ratio	30%	20%	28.33%

Current stock = $(1/5) \times 75\% \times 7,00,000 = \text{Rs.}1,05,000$

Proposed addition = $(1/4) \times 75\% \times 1,60,000 = \text{Rs.} 30,000$

Projected Total stock = Rs. 1,35,000
Projected Stock turnover ratio = (75% of Rs.8,60,000) ÷ 1,35,000 = 4.78

Current Debtors = Rs.10,00,000x 1/12 = Rs.83,333
Proposed additional debtors = Rs.2,00,000x(2/12) = 33,334
Total projected Total debtors Rs.1,16,667
Debt collection period = (1,16,667/ 12,00,000) x 365 = 35 days

9b. Write short notes on any two

- (i) Bridge loan
- (ii) Packing credit
- (iii) Venture Capital Financing (2x3 = 6 marks)

Answer:

(i) Bridge loan : Bridge loan is normally taken by a company from commercial banks for very short period, pending distribution of loan sanctioned by the financial institutions. Often it takes time for lending institutions to disburse loans to companies. Once loans are approved by the term lending institutions companies take bridge loan to avoid time in starting projects. Bridge loans are, therefore for intermediate period. They are often repaid and adjusted out of the term loan, when disbursed by the concerned institutions. Such bridge loans are taken normally on the personal guarantees, hypothefication of movable assets and demand promissory notes.

(ii) Packing credit: Packing credit is an advance made by banks to an exporter. Any exporter having at hand firm export order placed with him by his foreign buyer on an irrevocable letter of credit opened in his favour can approach a bank for availing of packing credit. An advance so taken by the exporter is required to be liquidated within 180 days from the date of its commencement by negotiation of export bills or receipt of export proceeds in an approved manner. Thus packing credit is essentially a short term advance. Normally banks insists upon their customers

(iii) Venture Capital Financing : Under venture capital financing, venture capitalists make investment to purchase equity or debt securities from inexperienced entrepreneurs who undertake highly risky ventures with potential of success.

Equity participation .They make investment in equity by direct purchase with the objective of making capital gains by selling off the investment once the project becomes profitable.

Long term investment: Venture capital is a long term investment. It is not repayable on demand. It requires long term investment attitude that necessitates the venture capital firms to wait for a long period to make large profits.

Participation in management: This participation helps the venture capitalists to protect and enhance his investment by actively involving and supporting the entrepreneurs.

Concessions are given by the government to venture capitalists to encourage them in helping entrepreneurs.