Paper – 8: Cost Accounting & Financial Management

Time Allowed: 3 Hours **Full Marks: 100**

Section A-Cost Accounting

(Answer Question No. 1 which is compulsory and any three from the rest in this section)
Working Notes should form part of the answer.

Question.1

(a) A factory makes use of component purchased from the market for assembling its final product. Current usage varies between 300 and 450 units per week and replenishment time is normally two weeks but, can go up to five weeks. What will be the minimum stock level of component in units? [2]

Answer:

Reorder level = Maximum usage x Maximum reorder period
= 450 x 5
= 2250 units
Minimum level = Reorder level – (Normal usage x Avg. lead time)
= 2250 - (375 x 2)
= 1500 units

(b) XYZ Co. Ltd. is having 400 workers at the beginning of the year and 500 workers at the end of the year. During the year 20 workers were discharged and 15 workers left the Company. What will be the labour turnover rate under "Separation Method? [2]

Answer:

Average number of workers = (400 + 500)/2
= 450
Labour Turnover according to the Separation Method
= (No. of employees left during a period/Avg. No. of employees during a period) x 100
= (20 +15)/450 x 100
= 35/450 x 100
= 7.78%

(c) The monthly cost of maintenance of machinery for 12,000 machine hours run is ₹1,70,000 and for 18,500 hours it is ₹2,02,500. What will be the cost of maintenance for 14,000 hours? [2]

Answer:

Variable cost = (2,02,500 -1,70,000)/(18,500 - 12,000)
= ₹5
Total fixed cost = ₹1,70,000 - ₹(12,000x5)
= ₹1,10,000
Cost of maintenance for 14,000 hours
= ₹[1,10,000 +(14,000 x 5]
= ₹1,80,000

(d) Define Direct Expenses with example. [2]

Answer:

Direct Expenses are "expenses which can be allocated to cost centres or cost units"
Examples are:

(i) Hire of special or single purpose tool or equipment for a particular production order or product.

(ii) Cost of special layout, design or drawings.
(iii) Maintenance cost of such equipment.
(iv) Experimental costs and expenditure in connection with model and pilot schemes.
(v) Fees paid to architects, surveyors and other consultants in connection with a job.

(e) The cost per unit of a product manufactured amounts to ₹160 (75% variable) when production is 10,000 units. If production increases by 25%, what will be the cost of production per unit? [2]

Answer:

Variable cost per unit = (₹160 x 75%) = ₹ 120
Fixed cost per unit = (₹160 - ₹120) = ₹ 40
Hence, Total fixed cost=10,000 x ₹40 = ₹ 4,00,000
Hence, cost per unit when production is 12,500 units is = ₹ 120 + (4,00,000/12,500)
= ₹ 152

(f) Compute the Inventory Turnover Ratio from the following:
Opening stock = ₹17,000
Closing stock = ₹13,000
Material consumed = ₹90,000 [2]

Answer:

Inventory Turnover Ratio= (Value of material consumed during the period /Value of average stock held during the period)
Average Stock = (Opening stock+ Closing stock)/2
= (17,000+13,000)/2
=15,000
Inventory Turnover Ratio = 90,000/15,000
= 6

Question.2

(a) The particulars relating to 1,200 kgs. of a certain raw material purchased by a company during June, were as follows:-
Lot prices quoted by supplier and accepted by the Company for placing the purchase order:
Lot up to 1,000 kgs. @ ₹ 22 per kg.
Between 1,000- 1,500 kgs, @ ₹ 20 per kg.
Between 1,500-2,000 kgs. @ ₹ 18 per kg.
Trade discount – 20%.
Additional charge for containers @ ₹ 10 per drum of 25 kgs.
Credit allowed on return of containers, @ ₹ 8 per drum.
Sales tax at 10% on raw material and 5% on drums.
Total freight paid by the purchaser ₹ 340/-
Insurance at 2.5% (on net invoice value) paid by the purchaser.
Stores overhead applied at 5% on total purchase cost of material.
The entire quantity was received and issued to production.
The containers are returned in due course. Draw up a suitable statement to show:-
(a) Total cost of material purchased and
(b) Unit cost of material issued to production. [3+3]

Answer:

Statement showing computation of total cost of material purchased and unit cost of material issued for production.

Particulars	Unit Cost	Total Cost

		(₹) (1,200 kgs)
Basic price of material	20.00	24,000.00
(-) Trade discount	4.00	4,800.00
	16.00	19,200.00
(+) Drum charges (1,200/25 ×10)	0.40	480.00
(+) Sales tax 19,200 × 10% =1,920 480 ×5%=24 =1,944	1.62	1,944.00
Net invoice Value	18.02	21,624.00
(+) Insurance (21,624 ×2.5%)	0.4505	540.60
(+) Freight paid	0.2833	340.00
	18.7538	22,504.60
(-) Credit for drums returned (1,200/25 × 8)	0.3200	384.00
Total cost of material purchased	18.4338	22,120.60
(+) Stores overhead (22,120.60 × 5%)	0.9216	1,106.03
Material cost issued to production	19.3551	23,226.63

(b) A and B are two workers working in a manufacturing Company and their output during a particular 40 hours week was 96 and 111units respectively. The guaranteed rate per hour is ₹ 12 per hour, low piece rate is ₹ 4 per unit, and high piece rate is ₹6 per unit. High task is 100 units per week. Compute the total earnings and labour cost per unit under Taylor and Gantt Task Bonus plan. [2+2]

Answer:

Taylor Plan:

Worker A =Actual output is 96 units, which is less than the standard. This means he is inefficient and will get 80% of the normal piece rate i.e. @ ₹ 4.80 per unit. His wages will be = ₹ 4.80 × 96 units= ₹ 460.80.

Worker B = Actual output is 111 units which is more than the standard. This means he is efficient and will get 120% of the normal piece rate i.e. ₹ 7.20 per unit. His wages will be = ₹ 7.20 × 111 units = ₹ 799.20

Gantt Task and Bonus Plan:

Worker A =₹ 12 × 40 hours=₹ 480 [A will get guaranteed time rate as his output is below the high task]

Worker B =₹ 6 × 111 units =₹ 666 [High piece rate as output is above standard]

(c) State the treatment of the following items in cost records [2x3=6]

(i) Interest on Borrowing for Working Capital

(ii) Incentives to indirect Workers

(iii) Rectification Cost/ Re-Work Cost

Answer:

(i) Interest on Borrowing for Working Capital

Inclusion of interest as an item of overhead in the cost is controversial and will depend upon circumstances. The general opinion is that interest on capital whether for working capital fund or otherwise, should not burden the product costs. If extra working capital funds are required for some specific gainful purpose, viz., to purchase bulk material in view of emergency, the interest may be included as an element of the material cost.

(ii) Incentives to indirect workers

Incentives to indirect workers means the monetary inducements extended to those category of workmen who are not directly involved in the production operations. The

main pre-requisite of a good incentive plan is to measure the time taken for completing a job as compared to standard time. It is not always possible to set time standards for indirect workers engaged in activities like maintenance and repairs work, materials handling department, inspection, warehousing, transportation, etc. However, in case where an incentive scheme is in operation for Direct Workmen, it is necessary to provide incentives to indirect workers because it inculcates a spirit of teamwork and goodwill amongst direct and indirect worker.

(iii) Rectification Cost/Re-Work Cost

In the course of manufacturing/process, there is likely to be some defective which can be rectified or brought up to the standard by incurring some extra material, labour and overheads. The cost is booked under 'cost on rectification of defectives or re-processing cost'. The defectives should be classified under (i) normal (ii) abnormal for the purpose of control and treatment as:

Normal Defectives:-Rectification cost may be treated as part of the product cost if this is identifiable with any specific product or process, otherwise this may be treated as manufacturing overhead.

Abnormal Defectives:-Such defectives should not normally have arisen and therefore, rectification cost is not to be charged in Cost Accounts but to Profit and Loss Account.

Question.3

(a) XYZ Ltd. manufactures four products A, B, C and D. whose data are given below:

	A	B	C	D
Direct Materials (₹)	**3,000**	**6,000**	**9,000**	**18,000**
Direct Labour (₹)	**1,500**	**3,000**	**4,500**	**9,000**
Direct Labour Hours	**50**	**100**	**150**	**300**
Machine Hours	**30**	**15**	**10**	**5**

Your are required to prepare a statement showing the allocation of factory overheads (Which amount to ₹1,08,000) using the basis of allocation as under:

(i) Direct Material Cost
(ii) Direct Labour Cost
(iii) Direct Labour Hours
(iv) Machine Hours

Out of these four bases of allocation, which you prefer and why? [2+2+2+2+2]

Answer:

Allocation of Factory overheads of 1,08,000 on the basis of

(i) Direct Material Cost

	A	B	C	D
Factory overhead	$\left(\frac{3000}{36000}\text{x}108000\right)$	$\left(\frac{6000}{36000}\text{x}108000\right)$	$\left(\frac{9000}{36000}\text{x}108000\right)$	$\left(\frac{18000}{36000}\text{x}108000\right)$
	= ₹9,000	= ₹18,000	= ₹27,000	= ₹54,000

(ii) Direct Labour Costs

	A	B	C	D
Factory overhead	$\left(\frac{1500}{18,000}\text{x}108000\right)$	$\left(\frac{3000}{18000}\text{x}108000\right)$	$\left(\frac{4500}{18000}\text{x}108000\right)$	$\left(\frac{9000}{18000}\times 108000\right)$
	= ₹9,000	= ₹18,000	= ₹27,000	= ₹54,000

(iii) Direct Labour Hours

	A	B	C	D

Factory overhead	$\left(\frac{50}{600}x108000\right)$	$\left(\frac{100}{600}x108000\right)$	$\left(\frac{150}{600}x108000\right)$	$\left(\frac{300}{600}x108000\right)$
	= ₹9,000	= ₹18,000	= ₹27,000	= ₹54,000

(iv) Machine Hours

	A	**B**	**C**	**D**
Factory overhead	$\left(\frac{30}{60}\times 108000\right)$	$\left(\frac{15}{60}x108000\right)$	$\left(\frac{10}{60}x108000\right)$	$\left(\frac{5}{60}x108000\right)$
	= ₹54,000	= ₹27,000	= ₹18,000	= ₹9,000

The best method for allocation of factory overhead is machine hours as it represents the machine hours used in production of each item, whereas the other basis of factory overheads provides wrong allocation of the factory overheads. Hence, XYZ Ltd. should allocate factory overheads on the basis of Machine Hour.

(b)

Trial Balance as on 31.3.2013

Particulars	**Amount (₹)**	**Particulars**	**Amount (₹)**
Material consumed	**25,00,000**		
Salaries	**15,00,000**	**Special subsidy received from Government towards Employee salary**	**2,75,000**
Employee Training Cost	**2,00,000**	**Recoverable amount from Employee out of perquisites extended**	**35,000**
Perquisites to Employees	**4,50,000**		
Contribution to Gratuity Fund	**4,00,000**		
Lease rent for accommodation provided to employees	**3,00,000**		
Festival Bonus	**50,000**		
Unamortised amount of Employees cost related to a discontinued operation	**1,90,000**		

Compute the Employee Cost as per CAS-7. **[6]**

Answer:

Computation of Employee Cost as per CAS-7

	Particulars	**Amount (₹)**
	Salaries	15,00,000
Add	Net Cost of perquisites to Employees =Cost of perquisites(-) amount recoverable from employee =4,50,000(-)35,000	4,15,000
Add	Lease rent paid for accommodation provided to employee	3,00,000
Add	Festival Bonus	50,000
Add	Contribution to gratuity Fund	4,00,000
Less	Special subsidy received from Government towards employee	(2,75,000)

	salary	
		23,90,000

Note:

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

(ii) Employee training cost is not an employee cost. It is to be treated as an Overhead, hence, not included.

(iii) Special subsidy received is to be excluded, as it reduces the cost of the employer.

(iv) Unamortized amount of employee cost related to a discontinued operation is not an includible item of cost.

Question.4

(a) ABC Ltd. has three production departments X, Y, Z and two service departments S and C. The following details are extracted from the books of accounts in respect of indirect expenses incurred during April 2012:

Indirect Cost	Amount (₹)
Indirect wages	9,000
Lighting and heating	1,200
Rent and rates	12,000
Electric power	6,000
Depreciation	24,000
Sundry expenses	7,800
	60,000

Following further details are collected for distribution of the above costs:

Particulars	Departments				
	X	Y	Z	S	C
Value of machinery (in ₹ '000)	60	50	80	10	—
Horse power (H.P.) of machines	40	45	60	5	—
Light points (Nos.)	20	30	40	20	10
Floor space (sq. meters)	150	200	250	100	50
Direct wages (in ₹ '000)	30	20	40	4	6
Machine hours worked	4,250	3,380	7,120		

The cost of the service departments are apportioned percentagewise as follows:

Departments	X	Y	Z	S	c
S	20	30	40	—	10
C	40	20	30	10	—

Calculate:

(a) Overhead Recovery rates showing the basis of apportionment.

(b) Total cost of job 321 (with element wise and department wise cost break down), the job card of which contain the following details:

Particulars	Dept X	Dept Y	Dept Z
Direct materials used	₹268	₹ 131	₹102
Direct wages	₹300	₹250	₹300
Machine hours worked	10	12	12

[9+3=12]

Answer:

ABC Ltd.

(a) Overhead recovery Rate

Departmental Overhead distribution Summary (Fig. in ₹)

Items	Basic of apportionment	Total	Prodn. Dept			Service Dept.	
			X	Y	Z	S	C
Indirect wages	Direct wages (30 :20:40 : 4: 6)	9,000	2,700	1,800	3,600	360	540
Lighting and heating	No. of light points (20:30:40:20:10)	1,200	200	300	400	200	100
Rent and Rates	Floor space (15:20:25:10:5)	12,000	2,400	3,200	4,000	1,600	800
Electric power	HP. of machines (40 :45 : 60 : 5)	6,000	1,600	1,800	2,400	200	-
Depreciation	Value of machines (60:50:80:10)	24,000	7,200	6,000	9,600	1,200	-
Sundry expenses	Direct wages (30:20:40 :4: 6)	7,800	2,340	1,560	3,120	312	468
Direct wages	As given	10,000	-	-	-	4,000	6,000
Total		70,000	16,440	14,660	23,120	7,872	7,908
Service Dept S	20:30:40:10		1,574	2,362	3,149	(7,872)	787
Service Dept C	40:20:30:10		3,478	1,739	2,609	869	(8,695)
Service Dept S	20:30:40: 10		174	261	347	(869)	87
Service Dept C	40:20:30:10		35	17	26	9	(87)
Service Dept S	20:30:40:10		2	3	4	(9)	-
Total			21,703	19,042	29,255	-	-
Machine hours worked (Hrs)			4,250	3,380	7,120		
Overhead recovery rate (₹) (Rate/Machine hr.)			5.11	5.63	4.11		

(b) Computation of total cost of job 321

Particulars	Dept X	Dept Y	Dept Z	Total
Machine hours worked	10	12	12	34
	₹	₹	₹	₹
Direct material used	268	131	102	501
Direct wages	300	250	300	850
Overhead cost	51	68	49	168
Total	619	449	451	1519

(b) Write a short note on Bill of Material. [4]

Answer:

Bill of Material is a complete schedule of parts and materials required for a particular order prepared by the Drawing Office and issued by it together with necessary blue prints of drawings. For standard products, printed copies of Bill of Material are kept with blank spaces for any special details of modification to be filled in for a particular

job/order. The schedule details everything, even to bolts and nuts, sizes and weights. The document solves a number of useful purposes, such as:

(a) It provides a quantitative estimate of budget of material required for a given job, process or operation which might be used for control purposes.

(b) It substitutes material requisitions and expedite issue of materials.

(c) The store-keeper can draw up a programme of material purchases and issue for a given period.

(d) It provides the basis for charging material cost to the respective job/process.

Question.5

(a) A manufacturer requires 9,600 units of a certain component annually. This is currently purchased from a regular supplier at ₹50 per unit. The cost of placing an order is ₹60 per order and the annual carrying cost is ₹5 per piece. What is the economic order quantity (EOQ) for placing order?

Recently the supplier has expressed his willingness to reduce the price to ₹48, if the total requirements are obtained from him in two equal orders and to ₹47, if the entire quantity required is purchased in one lot. Analyse the cost of the three options and recommend the best course. What other factors should also be considered before the decision is taken? [3+3+2]

Answer:

Economic order Quantity (EOQ)

$$= \sqrt{\frac{2 \times \text{Annual Consumption} \times \text{Cost of placing an order}}{\text{Cost of carrying one unit of inventory for one year}}}$$

$$= \sqrt{\frac{2 \times 9600 \times 60}{5}}$$

$$= \sqrt{2,30,400}$$

= 480 units

Analysis of costs of three options

	Option I	Option II	Option III
Size of order (Units)	480	4800	9600
No. of order (Options)	20	2	1
Price per unit of components (₹)	50	48	47
Average stock (units)	240	2400	4800
Total ordering cost (₹) @ ₹60	1200	120	60
Total Carrying cost (₹) @ ₹5	1200	12000	24000
Total cost of components (₹)	480000	460800	451200
Grand total cost (annual)	482400	472920	475260

Recommendation:

From the above analysis it is observed that the most economic order quantity is 4800 units of components. Therefore, placing 2 orders is marginally best.

Other factors to be considered are:

- Availability of sufficient storage space
- Possible deterioration in quality due to long storage
- Opportunity cost of funds required for investment in the inventory.

(b) Purchase of Materials ₹ 3,00,000 (inclusive of Trade Discount ₹ 3,000); Fee on Board ₹ 12,000; Import Duty paid ₹ 15,000; Freight inward ₹ 30,000 ; Insurance paid for import by sea ₹ 12,000; Rebates allowed ₹ 4,000; Cash discount ₹ 3,000; CENVAT Credit refundable

₹ 7,000; Subsidy received from the Government for importation of these materials ₹ 18,000. Compute the landed cost of material (i.e. value of receipt of material). [4]

Answer:

Computation of Landed cost of Material

	Particulars	**Amount (₹)**
	Purchase price of Material	3,00,000
Add	Fee on Board	12,000
Add	Import Duties of purchasing the material	15,000
Add	Freight Inward during the procurement of material	30,000
Add	Insurance paid	12,000
	Total	**3,69,000**
Less	Trade Discount	3,000
Less	Rebates	4,000
Less	CENVAT Credit refundable	7,000
Less	Subsidy received from the Government for importation of materials	18,000
	Value of Receipt of Material	**3,37,000**

Note:

(i) Cash discount is not allowed, as it is a financial item.

(ii) Subsidy received, rebates and CENVAT Credit refundable are to be deducted for the purpose of computing the material cost.

(c) What are the factors influencing the selection of Overhead Recovery Rate? [4]

Answer:

The particular method or methods selected for application in a company would depend upon the factors mentioned below. Selection of the most equitable method is of paramount importance since a method that is not suitable will distort costs and thus make them useless for control and decision making purpose.

Selection of Overhead Recovery Rate depends on the following factors:-

(a) Nature of the product and process of manufacture.

(b) Nature of overhead expenses.

(c) Organizational set-up of the undertaking into departments and or cost centers.

(d) Individual requirements with regard to the circumstances prevailing.

(e) Policy of the Management.

(f) Accuracy vis-a-vis cost of operating the method. Some of the methods are comparatively more accurate and provide equitable bases for overhead absorption.

Section B–Financial Management

(Answer Question no.6 which is compulsory and any two from the rest in this section.)

Question.6

(a) Ascertain the future value of an amount of ₹ 70,000 at 8% compounded semi annually for 5 Years. [2]

Answer:

Amount invested= ₹ 70,000
Rate of interest= 8%
No. of compound=2 x 5=10 times
Rate of interest for half year=8 /2= 4%
Compound value or future value= $p(1+i)^n$
Where,
p=Principle amount
i=Rate of interest (in the given case half year interest)
n=No. of years
$=70,000(1 + 4\%)^{10}$
=70,000 x 1.4802
=₹ 1,03,614

(b) A Company has a profit margin @ 25% and assets turnover of 3 times. What is the company's return on investment? [2]

Answer:

Net profit ratio=25% (given)
Assets turnover ratio=3 times (given)
Return on investment (ROI) =Net profit ratio x Assets turnover ratio
=25% x 3
=75%

(c) Chennai Cotton Mills Limited makes a right issue at ₹ 5.50 a share of one new share for every four shares held. Before the issue, there were 10 million shares outstanding and the share price was ₹ 6. Based on the above information you are required to compute-
(i) The total amount of new money raised
(ii) How many rights are required to buy one new share? [1+1]

Answer:

(i) Right issue price=₹ 5.50
No. of right shares issued=100 lakhs x (1/4)= 25 lakh
Additional funds raised=25 x 5.50=137.5 lakhs

(ii) No. of right required to buy one share=4 rights (given)

(d) Mann & Co. earns ₹ 5 per share having capitalization rate of 10 percent and has a return on investment @ 20 percent. According to Walter's model, what should be the price per share at 30 percent dividend payout ratio? [2]

Answer:

Walter model is $V_C = \dfrac{D + \dfrac{R_a}{R_C}(E - D)}{R_C}$

Where,
V_c= Market value of the share
R_a= Return on Retained earnings
R_c= Capitalisation Rate
E= Earning per share
D=Dividend per share
Hence, if Walter model is applied

$$\text{Market value of the share } V_c = \frac{1.50 + \frac{0.20}{0.10}(6 - 1.50)}{0.10}$$

$$= ₹\ 85$$

Question.7

(a) The Global Instrument Corporation is trying to determine the effect of its Inventory Turnover Ratio and Days Sales Outstanding (DSO) on its cash-flow cycle. The Global Corporation's sales last year (all on credit) were ₹ 1,50,000 and it earned a net profit of 6%. Its Inventory Turnover Ratio was 5 and DSO was 36.5 days. Global had fixed assets totaling ₹ 35,000 and its payable deferral period is 40 days. Calculate Global Instrument Corporation's

(i) Cash Conversion cycle.

(ii) Total Asset Turnover and ROA, if it holds negligible amounts of cash and marketable securities.

(iii) Cash Conversion Cycle, Total Asset Turnover and Return on Assets, if it's Inventory Turnover can be raised to 7.3. [2+4+4]

Answer:

GLOBAL INSTRUMENT CORPORATION:

(i) Inventory conversion period = 365/Inventory Turnover Ratio
= 365/5 = 73 days
Receivable collection period = DSO = 36.5 days

Cash Conversion Cycle	=	Inventory Conversion Period	+	Receivable Collection Period	—	Payable Deferral Period

= 73 + 36.5 – 40 = 69.5 days

(ii) Total assets = Inventory + Receivable + Fixed assets
= 150000/5 + [(150,000/365) x 36.5] + 35,000
= 30,000 + 15,000 + 35,000 = 80,000 (₹)
Total Assets Turnover = Sales/Total Assets
= 150,000/80,000 = 1.875
ROA = Profit margin x Total Assets Turnover
= 0.06 x 1.875 = 0.1125 = 11.25%.

(iii) Inventory Conversion Period = 365/7.3 = 50 days
Cash Conversion Cycle = 50 + 36.5 - 40 = 46.5 days
Total Assets = Inventory + Receivable + Fixed Assets
= 150,000/7.3 + 15,000+35,000
= 20,548 + 15,000 + 35,000 = 70,548
Total Assets Turnover = 150,000/70,548 = 2.1262
ROA = 9,000/70,548 = 12.76%

(b) What are the commonly employed measures of financial performance? [6]

Answer:

The Commonly employed measures of financial performance are:

- Return on Capital employed

- Return on Investment
- Return on Equity
- Return on Sales
- PBDIT, PBIT, PAT
- Net operating profit after tax
- Cash Flow
- Free cash flow
- Economic Value Added
- Residual Income
- Economic Profit
- Earnings per share
- Dividend Yield
- Market Capitalization
- Total Shareholder return
- Market Value Added

Question.8

(a) State the functions performed by the Securities & Exchange Board of India (SEBI). **[6]**

Answer:

The functions performed by the Securities and Exchange Board of India (SEBI) are enumerated below:

- Regulate the business in stock exchanges and other securities markets;
- Registering and regulating the working of stock brokers, sub-brokers, share transfer agents, banker to an issue, merchant bankers, underwriters, portfolio managers, investment adviser and such other intermediaries, who are associated with the securities market in any manner;
- Registering and regulating the working of depositories, custodians of securities, FIIS, credit rating schemes, including mutual funds;
- Promoting and regulating self-Regulatory Organizations (SROs)
- Prohibiting fraudulent and unfair trade practices relating to the securities market;
- Providing investors education and training of intermediaries in securities market;
- Prohibiting & Regulating substantial acquisition of shares and takeovers of companies;
- Calling of information from, undertaking inspection, conducting inquiries and audits of the stock exchanges and intermediaries and self-regulatory organizations in the securities market;
- Performing such functions and exercising such powers under the securities contract (Regulation) Act, (SCRA) 1956 as may be delegated to it by the central Government;
- Levying fees & other charges for carrying out its work;
- Conducting research for the above purpose;

(b) Pioneer Technology Ltd. is foreseeing a growth rate of 12% per annum in the next 2 years. The growth rate is likely to fall to 10% for the third year and fourth year. After that the growth rate is expected to stabilize at 8% per annum. If the last dividend paid was ₹1.50 per share and the investors' required rate of return is 16%, what would be the intrinsic value per equity share of Pioneer Technology Ltd. as of date?
Note: You may use the following table:

Years	0	1	2	3	4	5
P.V Interest factors at 16%	1.00	0.86	0.74	0.64	0.55	0.48

[10]

Answer:

PIONEER TECHNOLOGY LTD.

(i) Calculation of Present value of Dividend Stream:
@ 12% p.a in the first two years:
= [1.50 x (1.12)x 0.86] + 1.50 x$(1.12)^2$ x 0.74
= 1.44 + 1.39
= ₹2.83

(ii) @ 10% p. a in the next two years (i.e. 3rd & 4th years)
1.50 x$(1.12)^2$ = ₹ 1.88
Therefore,
[1.88 x (1.10) x 0.64] + [1. 88 x $(1.10)^2$ x 0.55]
= 1.32 + 1.25 =₹ 2.57

(iii) Market value of Equity shares at the end of 4th year applying the constant dividend growth model:
$P_4 = D_5/(K_e - g)$

Where,
P_4 = Market price of Equity shares at the end of 4th yr.
D_5 = Dividend in 5th yr.
K_e = Required rate of return
g = Growth rate
Now we get,
K_e =0.16, g = 0.08, D_4 = 1.50 $(1.12)^2$ x $(1.10)^2$
= 2 .28
$D_5 = D_4 (1+g)$
= 2.28 x (1.08) =₹ 2.46
P_4 = 2.46/ (0.16 - 0.08) =2.46/0.08 = ₹ 30.75
Present Market value of P_4 = 30.75 x 0.55
= ₹16.91
Hence, the intrinsic value per Equity Shares of Pioneer Technology Ltd. would be:
(i)+ (ii) + (iii) = 2.83 + 2.57 + 16.91 = ₹22.31

Question.9

(a) A Company is currently facing working capital crunch. You are required to discuss the various areas that you would like to look into and suggest the ways by which the company can overcome the problem. [4]

Answer:

The following aspects are to be considered to overcome the problem (facing working capital crunch).

(i) Proper estimate of working capital requirement.
(ii) Preparation of cash flow statement and cash budgets on a monthly basis.
(iii) Introduction of a proper and scientific inventory and stock management system.
(iv) Introduction and monitoring of proper credit management policy.
(v) Analysis of fund flow, analysis of WIP.
(vi) All the above steps should be taken on a collective manner.

(b) Project A and B are analysed and you have determined the following parameters. Advise the investor on the choice of a project:

Particulars	Project A	Project B
Investment	₹8 cr.	₹6 cr.
Project Life	8 years	10 years

Construction period	**4 years**	**4 years**
Cost of capital	**15%**	**18%**
N.P.V. @ 12%	**₹3,700**	**₹4,565**
N.P.V. @ 18%	**₹425**	**₹425**
I.R.R.	**45%**	**32%**
Rate of return	**20%**	**27%**
Payback	**5 years**	**7 years**
B.E.P.	**45%**	**35%**
Profitability index	**1.70**	**1.30**

[4]

Answer:

Determination of priority of the project

	A	**B**
NPV at 12%	II	I
NPV at 18%	Same	Same
IRR	I	II
ARR	II	I
Pay back	I	II
PI	I	II

Decision:

(i) As the outlays in the projects are different, NPV is not suitable for evaluation.

(ii) As there is a different life period, ARR is not appropriate method for evaluation.

On the basis of remaining evaluation methods [IRR, PBP, PI] project A is occupied first priority. Hence, it is advised to choose project A

(c) The annual turnover of VIBGYOR Limited is ₹ 12 million of which 80% is on credit. Debtors are allowed one month to clear off the dues. ALLBANK Factors Ltd. (a factor company) is willing to advance 90% of the bill raise on credit for a fee of 2% a month plus a commission of 3% on the total amount of debts. Vibgyor Ltd. as a result of this arrangement is likely to save ₹43,200 annually in management costs and avoid bad debts at 1% on the credit sales. A scheduled bank has come forward to make an advance equal to 90% of the debts at an interest rate of 12% p.a. However its processing fee will be at 2% on the debts. Should the company avail of the factoring service or the offer of the bank? Give reasons. [5]

Answer:

VIBGYOR LIMITED

Cost of factoring :	₹
Fee of 2% on 90% of ₹ 8 lakh (80% of 120 lakhs = 96 lakh /12 = 8 lakh monthly credit sales)	14,400
Commission at 3% on ₹ 8 lakh	24,000
	38,400
Less : Saving in cost:	
Savings in management cost is ₹ 43,200 p.a.	
Hence for a month : (43200 /12)	(3,600)
1% saving of Bad debts on ₹ 8 lakh	(8,000)
	(11,600)
Net cost in factoring	26,800

Cost of Bank Advance:

	₹

Interest at 12% p.a. for one month on 90% of ₹ 8 lakh	7,200
Processing fee at 2% on ₹ 8 lakh	16,000
Add: Bad debts loss that cannot be avoided (1%)	8,000
	31,200

RECOMMENDATION:
Since cost of Bank advance (₹31,200) is higher than the effective cost of factoring (₹26,800), the company should avail of factoring service.

(d) XYZ Ltd. Wants to raise ₹ 5,00,000 as additional capital. It has two mutually exclusive alternative financial plans. The current EBIT is ₹ 17,00,000 which is likely to remain unchanged. The relevant information is –
Present Capital Structure: 3,00,000 Equity of ₹ 10 each and 10% Bonds of ₹ 20,00,000.

Tax Rate	**50%**
Current EBIT	**₹ 17,00,000**
Current EPS	**₹ 2.50**
Current Market Price	**₹ 25 per share**
Financial Plan I	**20,000 Equity Shares at ₹ 25 per share**
Financial Plan II	**13% Debenture of ₹ 5,00,000**

What is the indifference level of EBIT? **[3]**

Answer:
Computation of EBIT – EPS Indifference Point

Particulars	Financial Plan I - Equity	Financial Plan II – Debt
Owner's Fund	(3,00,000 × 10 + 20,000 × 25) = ₹ 35,00,000	3,00,000 × 10 = ₹ 30,00,000
Borrowed Funds (given)	₹ 20,00,000	20,00,000 + 5,00,000=₹ 25,00,000
Total Capital Employed	₹ 55,00,000	₹55,00,000
EBIT (let it be ₹ X)	X	X
Less: Interest	20,00,000 × 10% = ₹2,00,000	(20,00,000 × 10% + 5,00,000 × 13% =₹2,65,000
EBT	X – 2,00,000	X – 2,65,000
Less: Tax at 50%	1/2X – 1,00,000	1/2X – 1,32,500
EAT	1/2X – 1,00,000	1/2X – 1,32,500
Number of Equity Shares	3,00,000 + 20,000 = 3,20,000	3,00,000 (given)
EPS	[1/2X – 1,00,000] ÷ 3,20,000	[1/2X – 1,32,500] ÷ 3,00,000

For indifference between the above alternatives, EPS should be equal. Hence, we have

$$\frac{\frac{1}{2}X - 1,00,000}{3,20,000} = \frac{\frac{1}{2}X - 1,32,500}{3,00,000}$$

On Cross Multiplication, 15X – 30 Lakhs = 16X – 42.40 Lakhs
Hence EBIT should be ₹ 12.40 Lakhs and at that level, EPS will be ₹ 1.625 under both alternatives.