Paper 10- Cost & Management Accounting and Financial Management

Paper-10: Cost & Management Accounting and Financial Management

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

PART – A (Cost and Management Accounting)
Section I

1. Answer the following questions:

(a) Choose the correct answer from the given four alternatives. **[1x6=6]**

(i) Planning and control are done by
- **(a) top management**
- **(b) lowest level of management**
- **(c) all levels of management**
- **(d) None of the above**

(ii) The use of management accounting is
- **(a) Compulsory**
- **(b) Optional**
- **(c) Mandatory as per the law**
- **(d) None of the above**

(iii) The budgets are classified on the basis of
- **(a) Time**
- **(b) Function**
- **(c) Flexibility**
- **(d) All of the above**

(iv) Which of the following departments is most likely responsible for a price variance in direct materials?
- **(a) Warehousing**
- **(b) Receiving**
- **(c) Purchasing**
- **(d) Production**

(v) Idle time variance is always:
- **(a) Favourable**
- **(b) Adverse**
- **(c) Favourable (or) Adverse**
- **(d) None of these**

(vi) In marginal costing, stock is valued at _____
- **(a) Fixed Cost**
- **(b) Variable Cost**
- **(c) Inventory**
- **(d) sales**

(b) Match the statement in Column I with the most appropriate statement in Column II : **[1× =4]**

	Column I		Column II
i.	Transfer pricing	A	Opportunity cost

ii.	**Budgetary Control**	**B**	**Divisional Profits**
iii.	**Learning Curve**	**C**	**An Executive Function**
iv.	**Relevant Cost**	**D**	**A mathematical or Statistical Technique**

(c) State whether the following statements are True or False [1x4=4]

(i) It is optional for a company to have financial accounting.
(ii) There is no difference between standard costing and budgeting.
(iii) Contribution is the difference between the selling price and the variable cost.
(iv) Constraint on various resources is also known a key factor or limiting factor.

Answer:

(a) Choose the correct Answer:

(i) (a) top management
(ii) (b) Optional
(iii) (d) All of the above
(iv) (c) Purchasing
(v) (b) Adverse
(vi) (b) Variable cost

(b) Matching

	Column I		Column II
i.	Transfer pricing	B	Divisional Profits
ii.	Budgetary Control	C	An Executive Function
iii.	Learning Curve	D	A mathematical or Statistical Technique
iv.	Relevant Cost	A	Opportunity cost

(c) True and False

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

Section II

Answer any three Question from Q. No 2, 3, 4 and 5. Each Question carries 12 Marks

2. A market gardener is planning his production for next season and he asked you, as a cost consultant, to recommend the optimum mix of vegetable production for the coming year. He has given you the following data relating to the current year:

	POTATOES	TOMATOES	PEAS	CARROTS
Area occupied in acres	**25**	**20**	**30**	**25**
Yield per acre in tons	**10**	**8**	**9**	**12**
Selling Price per ton ₹	**1,000**	**1,250**	**1,500**	**1,350**
Variable Cost per acre:				
Fertilizer	**300**	**250**	**450**	**400**
Seeds	**150**	**200**	**300**	**250**
Pesticides	**250**	**150**	**200**	**250**
Direct Wages	**4,000**	**4,500**	**5,000**	**5,700**

Fixed Overhead per annum: ₹ 5,40,000

The land which is being used for the production of carrots and peas can be used for either crop but not for potatoes and tomatoes. The land being used for potatoes and tomatoes can be used for either crops but not carrots and peas .In order to provide an adequate market service, the gardener must produce each year at least 40 tons of each of potatoes and tomatoes and 36 tons of each peas and carrots .You are required to present a statement to show :

(a) (1) The profit for the current year:

(2) The profit for the production mix you would recommend;

(b) Assuming that the land could be cultivated in such a way that any of the above crops could be produced and there was no market commitment. You are required to:

(1) Advice the market gardener on which crop he should concentrate his production.

(2) Calculate the profit if he were to do so, and

(3) Calculate in rupees the breakeven - point of sales. [3 +4 +1 +2 +2 =12]

Answer:

Statement showing computation of contribution and determination of priority for profitability:

	Particulars	**Potatoes**	**Tomatoes**	**Peas**	**Carrots**
(i)	Sales per acre (₹)	10,000	10,000	13,500	16,200
(ii)	Variable cost (₹)	4,700	5,100	5,950	6,600
(iii)	Contribution (₹)	5,300	4,900	7,550	9,600
(iv)	Priority	III	IV	II	I

(a)

(1) Statement showing computation of profit for current year:

Sl. No.	Particulars	Potatoes	Tomatoes	Peas	Carrots	Total
I	No. of acres	25	20	30	25	100
II	Contribution per acre (₹)	5,300	4,900	7,550	9,600	
III	Total contribution (₹)	1,32,500	98,000	2,26,500	2,40,000	6,97,000
IV	Fixed cost (₹)					5,40,000
V	Profit (₹)					1,57,000

(2) Statement showing optimum mix under given conditions and computation of profit at that mix:

Sl. No.	Particulars	Potatoes	Tomatoes	Peas	Carrots	Total
	Minimum production in tons	40	40	36	36	100
	Area required for this (acre)	4	5	4	3	16
	Remaining area (acre)	36	---	---	48	84
I	No. of acres	40	5	4	51	

II	Contribution per acre (₹)	5,300	4,900	7,550	9,600	
III	Total contribution (₹)	2,12,000	24,500	30,200	4,89,600	7,56,300
IV	Fixed cost (₹)					5,40,000
V	Profit (₹)					2,16,300

(b) (1) If the land is suitable for growing any of the crops and there is no market commitment, the gardener is advised to concentrate his production on carrots.

(2) & (3):

Sl. No.	Particulars	₹
I	Sales (16,200 x 100)	16,20,000
II	Contribution (9,600 x 100)	9,60,000
III	Fixed cost	5,40,000
IV	Profit	4,20,000

Break even sales = (5,40,000 x 16,20,000) / 9,60,000 = ₹ 9,11,250

3.(a)

Item	Budget	Actual
No. of working days	**20**	**22**
Output per man hour	**1.0 Units**	**0.9 Units**
Overhead cost	**₹ 1,60,000**	**₹ 1,68,000**
Man-hours per day	**8,000**	**8,400**

Calculate Overhead Variances. **[8]**

Answer:

(1) SRSH (₹)	(2) SRAH (₹)	(3) SRRBH (₹)	(4) SRBH (₹)	(5) ARAH (₹)
1 x 166320 ₹ 166320	1 x 184800 ₹ 184800	1 x 176000 ₹ 176000	₹ 160000	₹ 168000

Working Notes:

SR = budgeted FOH/budgeted hours = 1,60,000/1,60,000 = 1

RBH = (22/20) x 1,60,000 = 1,76,000

AH = 22 x 8,400 = 1,84,800

AQ = 1,84,800 x 0.9 = 1,66,320

SH = 1,66,320/1 = 1,66,320

(i) SRSH = Standard Cost of Standard Fixed overheads = ₹1,66,320

(ii) SRAH = Standard Cost of Actual Fixed overheads (or)
Fixed overheads Absorbed or Recovered = ₹ 1,84,800

(iii) SRRBH = Revised Budgeted Fixed overheads = ₹ 1,76,000

(iv) SRBH = Budgeted Fixed overheads = ₹ 1,60,000

(v) ARAH = Actual Fixed overheads = ₹ 1,68,000

a. FOH efficiency Variance = 1-2 = ₹ 18,480(A)

b. FOH Capacity Variance = 2-3 = ₹ 8,800(F)

c. FOH Calendar Variance = 3-4 = ₹ 16,000(F)
d. FOH Volume Variance = 1-4 = ₹ 6,320(F)
e. FOH Budget Variance = 4-5 = ₹ 8,000(A)
f. FOH Cost Variance = 1-5 = ₹ 1,680(A)

(b)

Standard			Actual		
Quantity	**S.P.**	**Total**	**Quantity**	**A.P.**	**Total**
A - 1600	**24**	**38,400**	**A - 2400**	**20**	**48,000**
B - 1400	**18**	**25,200**	**B - 1400**	**18**	**25,200**
C - 600	**12**	**7,200**	**C - 750**	**14**	**10,500**
D - 400	**15**	**6,000**	**D - 450**	**14**	**6,300**
4000		**76,800**	**5000**		**90,000**

From the above data calculate various sales variances [4]

Answer:

Material	AQAP (1) (₹)	AQSP (2) (₹)	RSQSP (3) (₹)	SQSP (4) (₹)
A		2,400 x 24	2,000 x 24	
B		1,400 x 18	1,750 x 18	
C		750 x 12	750 x 12	
D		450 x 15	500 x 15	

A	48,000	57,600	48,000	38,400
B	25,200	25,200	31,500	25,200
C	10,500	9,000	9,000	7,200
D	6,300	6,750	7,500	6,000
	90,000	98,550	96,000	76,800

$$RSQ = \frac{SQ \text{ for that product}}{SQ \text{ for all products}} \times AQ \text{ for all products}$$

e.g. = [1,600/ 4,000] × 5,000 = 2,000 units

(i) AQAP = Actual Sales = ₹ 90,000

(ii) AQSP = Actual Quantity of Sales at Standard Prices = ₹ 98,550

(iii) RSQSP = Revised Standard on Budgeted Sales = ₹ 96,000

(iv) SQSP = Standard or Budgeted Sales ₹ 76,800

a.	Sales Sub-Volume Variance	3 -4	₹19,200 (F)
b.	Sales Mix Variance	2–3	₹2,550 (F)
c.	Sales Volume Variance	2 -4	₹21,750 (F)
d.	Sales Price Variance	1- 2	₹8,550 (A)
e.	Sales Volume Variance	1-4	₹13,200 (F)

4. (a) Sintex Ltd. has prepared its expense budget for 25,000 units in its factory for the year 2016 as detailed below:

	₹ per unit
Direct Materials	**45**
Direct Labour	**20**
Variable overhead	**15**
Direct Expenses	**6**
Selling Expenses (80% Variable)	**15**
Factory Expenses (100% fixed)	**7**
Administration Expenses (100% fixed)	**4**
Distribution Expenses (25% fixed)	**12**
Total	**₹124**

Prepare Flexible budget for the production of 15,000 units and 20,000 units. **[8]**

Answer:

In the books of Sintex Ltd.
Flexible Budget

	Production	
Particulars	**15,000 units**	**20,000 units**
	₹	₹
Direct material @ ₹45 per unit	6,75,000	9,00,000
Direct Labour @ ₹20 per unit	3,00,000	4,00,000
Direct Expenses @ ₹6 per unit	90,000	1,20,000
Variable Overhead @ ₹15 per unit	2,25,000	3,00,000
Selling Expenses:		
Fixed: (₹15 × 25,000 units × 20%)	75,000	75,000
Variable: (₹15 × 25,000 units × 80%) ÷ 25,000 units = ₹12 per unit	1,80,000	2,40,000
Factory Expenses (100% Fixed)		
Fixed: (₹7 × 25,000 units)	1,75,000	1,75,000
Administration Exp. (100% Fixed)		
Fixed: (₹4 × 25,000 units)	1,00,000	1,00,000
Distribution Expenses		
Fixed: (₹12 × 25,000 × 25%)	75,000	75,000
Variable: (₹12 × 25,000 × 75%) ÷ 25,000 units = ₹12 per unit	1,35,000	1,35,000
Total Cost	20,30,000	25,20,000

(b) A company fixes the inter-divisional transfer prices for its products on the basis of cost plus an estimated return on investment in its divisions. The relevant portion of the budget for the Division A for the year 2015-16 is given below.

Particulars	**Amount in (₹)**
Fixed Assets	**5,00,000**
Current Assets (other than debtors)	**3,00,000**
Debtors	**2,00,000**
Annual fixed cost for the division	**8,00,000**
Variable cost per unit of product	**10**
Budgeted volume of production per year (units)	**4,00,000**
Desired Return on Investment	**28%**

You are required to determine the transfer price for Division A. **[4]**

Answer:

Computation of Transfer Price per unit for division X

Particulars	Amount in (₹)
Variable cost	10.00
Fixed cost (8,00,000 / 4,00,000)	2.00
Total Cost	12.00
Add: Desired return (10,00,000 × 28%) ÷ 4,00,000	0.70
Transfer Price	12.70

5. Write shorn note on any three. **[3 x 4=12]**

(a) Write any four causes of Material Price variance.

(b) Requisites for Installation of a Uniform Costing System

(c) Factors Affecting Learning Curve

(d) Process of Zero-Base Budgeting Or Steps Involved In Zero-Base Budgeting

Answer:

(a) Causes of Material Price Variance:

- Change in basic purchase price of material.
- Change in quantity of purchase or uneconomical size of purchase order.
- Rush order to meet shortage of supply, or purchase in less or more favourable market.
- Failure to take advantage of off-season price, or failure to purchase when price is cheaper

(b) Requisites for Installation of a Uniform Costing System:

The organisational set up for implementing the principles and methods of uniform Costing may take different forms. It may range from a small association of a number of concerns who agree to have uniform information regarding a few specific cost accounting respects, to be a large organisation which has a fully developed scheme covering all the aspects of costing.

The success of a uniform costing system will depend upon the following:

- There should be a spirit of mutual trust, co-operation and a policy of give and take amongst the participating members.
- There should be a free exchange of ideas and methods.
- The bigger units should be prepared to share with the smaller ones, improvements, achievements of efficiency, benefits of research and know-how.
- There should not be any hiding or withholding of information.
- There should be no rivalry or sense of jealousy amongst the members.

(c) Factors Affecting Learning Curve:

- While pricing for bids, general tendency is to set up a very high initial labour cost so as to show a high learning curve. This should the learning curve useless and sometimes misleading.
- The method of production, i.e. whether it is labour oriented or machine oriented influences the slop of the learning.
- When labour turnover rate is high management has to train new workers frequently. In such situations the company may never reach its maximum efficiency potential. One of the important requisites of the learning curve concept is that there should be uninterrupted flow of work. The fewer the interruptions, the grater will be the improvement in efficiency.

- Changes in a product or in the methods of production, designs, machinery, or the tools/used affect the slope of the learning curve. All these have the effect of starting learning a fresh because of new conditions If the changes are frequent, there may be no learning at all.

(d) Process of Zero-Base Budgeting Or Steps Involved In Zero-Base Budgeting:

The process of Zero-Base Budgeting involves the following steps:

1. Identification of 'Decision units'
2. Preparation and development of decision packages.
3. Ranking of priority.
4. Approval and Funding

Identification of 'Decision units'- A decision unit refers to a tangible activity or group of activities for which a single manager has the responsibility for successful performance. Thus, decision unit is a programme or a project or a segment of the organisation for which separate budgets are to be prepared.

Preparation of Decision Packages: Preparation of decision packages is a set of documents which identify and describe activities of the unit in such a way that the management can evaluate and rank them against others competing for resources (limited) and decide whether to approve or disapprove.

Ranking of Priority: The third step involved in Z.B.B. is the ranking of proposed alternatives included in decision packages for various decision units or of various decision packages for the same decision unit.

Funding: Funding involves the allocation of available resources of the organisation to various decision units keeping in mind the alternative which has been selected and approved through ranking process.

PART – B (Financial Management)
Section III

6. Answer the following questions:

(a) Choose the correct answer from the given four alternatives. [1x6=6]

(i) Present value of inflows ₹ 10 lakhs from a project and initial investment is ₹ 7.5 lakhs. The NPV is:
(a) ₹ 17.5 lakhs
(b) ₹ 7.5 lakhs
(c) ₹10 Lakhs
(d) ₹ 2.5 lakhs

(ii) Cash & Bank ₹ 20,000; Debtors ₹ 2,00,000; Stock ₹ 2,80,000 and Current Liabilities: Creditors ₹ 1,00,000; Bills Payable ₹ 50,000. Then the working capital is:
(a) ₹ 4,00,000
(b) ₹ 3,80,000
(c) ₹ 3,50,000
(d) ₹ 70,000

(iii) 1,00,000; 10% Debentures of ₹100 each of company, the interest payable for quarter is:

(a) ₹ 10,00,000
(b) ₹ 2,50,000
(c) ₹ 5,00,000
(d) None of these

(iv) Gross margin is added to cost of sold goods for calculating

(a) revenues
(b) selling price
(c) unit price
(d) bundle price

(v) Cash Flow Statement is also known as

(a) Statement of Changes in Financial Position on Cash basis
(b) Statement accounting for variation in cash
(c) Both a and b
(d) None of the above.

(vi) Degree of financial leverage of business indicates.

(a) Total risk
(b) Operating risk
(c) Financial risk
(d) None of these

(b) Match the statement in Column I with the most appropriate statement in Column II :

[1× =4]

	Column I		Column II
i.	Liquid Ratio	A	Operations Statement
ii.	Funds Flow Statement	B	Quick Assets / Current Liability
iii.	IRR	C	Permissable Finance
iv.	Tandon Committee	D	PVs of inflows minus outflows is ZERO.

(c) State whether the following statements are True or False [1x4=4]

(i) ARR is the Accounting Rate of Return or Average Rate of Return.
(ii) Capital Budgeting is the short term financial planning
(iii) Risk free interest rate and cost of capital are same things.
(iv) Financial leverage depends upon the operating leverage

Answer:

(a) <u>Choose the correct answer:</u>

(i) (d) ₹2.5 lakhs
(ii) (c) ₹3,50,000
(iii) (b) ₹2,50,000
(iv) (a) Revenue
(v) (c) Both a and b
(vi) (c) Financial risk

(b) Matching

	Column I		Column II
i.	Liquid Ratio	B	Quick Assets / Current Liability
ii.	Funds Flow Statement	A	Operations Statement
iii.	IRR	D	PVs of inflows minus outflows is ZERO.
iv.	Tandon Committee	C	Permissable Finance

(c) True and False

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

Section IV

Answer any three Question from Q. No 7, 8, 9 and 10. Each Question carries 12 Marks

7.(a) A company has a profit margin of 20% and asset turnover of 4 times. What is the company's return on investment? How will this return on investment vary if?
(i) Profit margin is increased by 5%?
(ii) Asset turnover is decreased to 3 times? [2+2]

Answer:

Net profit ratio = 20% (given)
Assets turnover ratio = 4 times (given)
Return on Investment (ROI) = Net Profit ratio x Assets turnover ratio
= 20% × 4 times = 80%

(i) If net profit ratio is increased by 5%:
Then Revised Net Profit Ratio = 20 + 5 = 25%
Asset Turnover Ratio (as before) = 4 times
ROI = 25 % x 4 times = 100%

(ii) If assets turnover ratio is decreased to 3 times:
NP Ratio (as before) = 20%
Revised Asset Turnover Ratio = 3 times
ROI = 20% × 3 times = 60%∴

(b) The Balance Sheets of a company as on 31st March, 2015 and 2016 are given below:

					₹
Liabilities	**31.03.15**	**31.03.16**	**Assets**	**31.03.15**	**31.03.16**
Equity Share Capital	**14,40,000**	**19,20,000**	**Fixed Assets**	**38,40,000**	**45,60,000**
Capital Reserve	**-**	**48,000**	**Less: Depreciation**	**(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 Payable	**26,000**	**34,000**	**Cash in hand**	**4,000**	**-**
Proposed Dividend	**1,44,000**	**1,72,800**	**Preliminary Expenses**	**96,000**	**48,000**

Provision for tax	**4,32,000**	**4,08,000**		
Unpaid dividend	**-**	**19,200**		
	46,56,000	**51,84,000**	**46,56,000**	**51,84,000**

Additional Information:

During the year ended 31st March, 2016 the company:

a) Sold a machine for ₹ 1,20,000; the cost of machine was ₹ 2,40,000 and depreciation provided on it was ₹ 84,000.

b) Provided ₹ 20,000 as depreciation on fixed assets.

c) Sold some investment and profit credited to capital reserve.

d) Redeemed 30% of the debenture @ ₹ 105.

e) Decided to write off fixed assets costing ₹ 60,000 on which depreciation amounting to ₹ 48,000 has been provided.

You are required to prepare Cash Flow Statement as per AS-3. [8]

Answer:

Cash Flow Statement for the year ending 31st March, 2016

	Particulars	Amount (₹)	Amount (₹)
A	Cash flow from Operating Activities		
	Profit and Loss A/c (3,60,000 – 2,88,000)		72,000
	Adjustments:		
	Increase in General Reserve	1,44,000	
	Depreciation	4,20,000	
	Provision for Tax	4,08,000	
	Loss on Sale of Machine	36,000	
	Premium on Redemption of Debentures	14,400	
	Proposed Dividend	1,72,800	
	Preliminary Expenses written off	48,000	
	Fixed Assets written of	12,000	
	Interest on Debentures	60,480	13,15,680
	Funds from Operations		13,87,680
	Increase in Sundry Creditors	40,000	
	Increase in Bills Payable	8,000	
		48,000	
	Increase in Sundry Debtors	(2,00,000)	
	Increase in Stock	(44,000)	(1,96,000)
	Cash before tax		11,91,680
	Less: Tax paid		4,32,000
	Cash in flows from Operating Activities		7,59,680
B	Cash in flows from Investing Activities		
	Purchase of Fixed Assets	(10,20,000)	
	Sale of Investment	1,44,000	
	Sale of Fixed Assets	1,20,000	
	Cash out flows from Investing Activities		(7,56,000)
C	Cash Flows from Financing Activities		
	Issue of share capital	4,80,000	
	Redemption of Debentures	(3,02,400)	
	Dividend Paid (1,44,000 – 19,200)	(1,24,800)	
	Interest on Debentures	(60,480)	
	Cash outflow from Financing Activities		(7,680)
	Net Increase in Cash and Cash Equivalents		(4,000)
	Cash and Cash Equivalents at the beginning of the year		4,000

	Cash and Cash Equivalents at the end of the year		Nil

Working Note:

(i) It is presumed that the 30 percent debentures have been redeemed at the beginning of the year.

(ii) Fixed Assets Account

Dr. **Cr.**

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	27,36,000	By Cash	1,20,000
To Purchases (balance figure)	10,20,000	By Loss on sales	36,000
		By Depreciation	4,20,000
		By Assets written off	12,000
		By Balance c/d	31,68,000
	37,56,000		37,56,000

8. (a) The following are the details regarding the operations of a firm during a period of 12 months.

Sales	**₹12,00,000**
Selling price per unit	**₹10**
Variable cost price per unit	**₹ 7**
Total cost per unit	**₹9**

Credit period allowed to customers one month. The firm is considering a proposal for a more liberal extension of credit which will result in increasing the average collection period from one month to two months. This relaxation is expected to increase the sales by 25% from its existing level.

You are required to advise the firm regarding adoption of the new credit policy, presuming that the firm's required return on investment is 25%. [5]

Answer:

Appraisal of Credit policy (₹)

Particulars	Present	Proposed	Incremental
Credit period(ACP)	1 month	2 months	1 months
Sales (units)	1,20,000	1,50,000	30,000
Sales @ 10(in ₹)	12,00,000	15,00,000	3,00,000
Total Cost	10,80,000	12,90,000	2,10,000
Profit	1,20,000	2,10,000	90,000
Investment in receivables	10,80,000 / 12 = 90,000	12,90,000 / 6 = 2,15,000	1,25,000

Required return on Incremental Investment (1,25,000 @ 25%) = 31,250
Actual return on Investment = 90,000
(or)
(90,000 / 1,25,000) x 100 = 72%
Since the Incremental return is greater than required return on Incremental investment advised to adopt new credit policy.

(b) Calculate the level of earnings before interest and tax (EBIT) at which the EPS indifference point between the following financing alternatives will occur.

Combination-I

Equity share capital of ₹ 6,00,000 and 12% Debentures of ₹ 4,00,000.

Combination-II

Equity share capital of ₹ 4,00,000, 14% Preference share capital of ₹ 2,00,000 and 12% Debentures of ₹ 4,00,000.

Assume the corporate tax rate is 30% and par value of equity share is ₹ 100 in each case.

[3+4=7]

Answer:

Computation of Level of Earnings before Interest and Tax (EBIT)

EPS in Alternative (i)

$$= \frac{(EBIT - Interest)(1 - tax\ rate)}{No.\ of\ equity\ shares}$$

$$= \frac{(EBIT - 0.12 \times ₹4,00,000)(1 - 0.30)}{6,000}$$

EPS in Alternative (ii)

$$= \frac{(EBIT - 0.12 \times ₹4,00,000)(1 - 0.30) - (0.14 \times ₹2,00,000)}{4,000}$$

The Indifference level of EBIT under both the Alternatives:

$$= \frac{(EBIT - 0.12 \times ₹4,00,000)(1 - 0.30)}{6,000} = = \frac{(EBIT - 0.12 \times ₹4,00,000)(1 - 0.30) - (0.14 \times ₹2,00,000)}{4,000}$$

$$\frac{0.70EBIT - 33,600}{3} = \frac{0.70EBIT - 61,600}{2}$$

1.40 EBIT – 67,200 = 2.10 EBIT – 1,84,800

0.70 EBIT = 1,17,600

EBIT = 1,17,600 /0.70

= ₹1,68,000

9.(a) From the following interest calculate the total market value of each firm under Net Income Approach.

Interest (I) at 12% and equity capitalization rate (K_e) given below:

Firms	EBIT	I	K_e
	₹	₹	₹
A	3,00,000	60,000	16%
B	6,00,000	2,40,000	18%
C	5,00,000	2,00,000	15%

[6]

Answer:

Calculation of valuation of each firm under Net Income Approach

Value of firm = Value of equity + Value of debt

Firm	A	B	C
EBIT	3,00,000	6,00,000	5,00,000

Less: Interest	60,000	2,40,000	2,00,000
Equity Earnings	2,40,000	3,60,000	3,00,000
Cost of Equity (ke)	16%	18%	15%
Capitalized Value of equity	15,00,000	20,00,000	20,00,000
Add: MV of Debt	5,00,000	20,00,000	16,66,667
Value of firm	20,00,000	40,00,000	36,66,667

(b) PKJ Ltd. is considering two mutually – exclusive projects. Both require an initial cash outlay ₹ 10,000 each for machinery and have a life of 5 years. The Company's required rate of return is 10% and it pays tax at 50%. The projects will be depreciated on a straight line basis. The net cash flows (before taxes) expected to be generated by the projects and the present value (PV) factor (at 10%) are as follows:

	Year				
	1	**2**	**3**	**4**	**5**
	(₹)	**(₹)**	**(₹)**	**(₹)**	**(₹)**
Project 1	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**
Project 2	**6,000**	**3,000**	**2,000**	**5,000**	**5,000**
PV factor (at 10%)	**0.909**	**0.826**	**0.751**	**0.683**	**0.621**

You are required to compute NPV of each project. **[6]**

Answer:

Project 1

Calculation of NPV

Year	Cash flow before tax (₹)	Depreciation (₹)	Income before tax (₹)	Tax (₹)	Net Income (₹)	Net cash flow after tax (₹)
1	4,000	2,000	2,000	1,000	1,000	3,000
2	4,000	2,000	2,000	1,000	1,000	3,000
3	4,000	2,000	2,000	1,000	1,000	3,000
4	4,000	2,000	2,000	1,000	1,000	3,000
5	4,000	2,000	2,000	1,000	1,000	3,000
Present Value = 3,000 × 3.790						₹11,370
Less: Initial Cash outlay						₹10,000
Net Present Value (NPV)						₹1,370

Project 2

Calculation of NPV

Year	Cash flow before tax (₹)	Depreciation (₹)	Income before tax (₹)	Tax (₹)	Net Income (₹)	Net cash flow after tax (₹)	PV factor	Present Value (₹)
1	6,000	2,000	4,000	2,000	2,000	4,000	0.909	3636.00
2	3,000	2,000	1,000	500	500	2,500	0.826	2065.00
3	2,000	2,000	-----	-----	-----	2,000	0.751	1502.00
4	5,000	2,000	3,000	1,500	1,500	3,500	0.683	2390.50
5	5,000	2,000	3,000	1,500	1,500	3,500	0.621	2173.50
Total								11,767.00

Less: Initial Cash outlay	10,000.00
Net Present Value (NPV)	1,767.00

10. Write short note on any three [3 x 4=12]

(a) Objectives of SEBI

(b) Global Depository Receipt (GDR)

(c) Capital Asset Pricing Model

(d) Significance of Capital Budgeting

Answer:

(a) Objectives of SEBI:

The overall objective of the SEBI, as enshrined in the preamble of the SEBI Act, 1992 is –to protect the interests of investors in securities and to promote the development of, and to regulate the securities market and for matters connected therewith or incidental thereto. To carry out its objectives, the SEBI performs the following functions:-

(i) Regulate the business in stock exchanges and other securities markets;

(ii) Registering and regulating the working of stock brokers, sub-brokers, share transfer agents, bankers to an issue, merchant bankers, underwriters, portfolio managers, investment advisor and such other intermediaries who be associated with the securities market in any manner;

(iii) Registering and regulating the working of depositories, custodians of securities, FIIS, credit rating schemes, including mutual funds;

(iv) Promoting and regulating Self-Regulatory Organisations (SROs);

(b) Global Depository Receipt (GDR):

A GDR is a negotiable instrument, basically a bearer instrument which is traded freely in the international market either through the stock exchange or over the counter or among Qualified International Buyers (QIB). It is denominated in US Dollars and represents shares issued in the local currency.

Characteristics

- The shares underlying the GDR do not carry voting rights.
- The instruments are freely traded in the international market.
- The investors earn fixed income by way of dividend.
- GDRS can be converted into underlying shares, depository/custodian banks reducing the issue.

(c) Capital Asset Pricing Model:

The technique that can be used to estimate the cost of equity is the capital asset pricing model approach. The capital asset pricing model explains the behaviour of security prices and provides a mechanism whereby investors could assess the impact of a proposed security investment on their over – all portfolio risk and return. In other words, CAPM formally describes the risk –required return trade off for securities. The assumptions for CAPM approach are:

- The efficiency of the security
- Investor preferences. The capital asset pricing model describes the relationship between the required rate of return, or the cost of equity capital and the non-

diversifiable or relevant risk of the firm as reflected in its index of non-diversifiable risk. Symbolically, Ke = Rf + β (Rm– Rf) Where Ke = Cost of equity capital Rf = Risk – free rate of return Rm = Return on market portfolio β = Beta of Security

(d) Significance of Capital Budgeting

Capital Budgeting decisions are considered important for a variety of reasons. Some of them are the following:

- **Crucial decisions:** Capital budgeting decisions are crucial, affecting all the departments of the firm. So the capital budgeting decisions should be taken very carefully.
- **Long-run decisions:** The implications of capital budgeting decisions extend to a longer period in the future. The consequences of a wrong decision will be disastrous for the survival of the firm.
- **Large amount of funds:** Capital budgeting decisions involve spending large amount of funds. As such proper care should be exercised to see that these funds are invested in productive purchases.
- **Rigid:** Capital budgeting decision cannot be altered easily to suit the purpose. Because of this reason, when once funds are committed in a project, they are to be continued till the end, loss or profit no matter.