



**FINANCIAL MANAGEMENT AND BUSINESS DATA ANALYTICS**

Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

**SECTION – A (Compulsory)**

1. Choose the correct option from the four alternatives given:

[15 × 2 = 30]

- (i) How long it will take ₹ 60,000 to double at a compound rate of 12% per annum?
- A. 5 years
  - B. 6 years
  - C. 7 years
  - D. 8 years
- (ii) Relationship between annual effective rate of interest and annual nominal rate of interest is, if frequency of compounding is more than 1:
- A. Effective Rate < Nominal rate
  - B. Effective Rate > Nominal rate
  - C. Effective Rate = Nominal rate
  - D. None of the above
- (iii) Risk of two securities having different expected return can be compared with:
- A. standard deviation of securities
  - B. variance of securities
  - C. coefficient of variation
  - D. mean
- (iv) Prime duty of a merchant banker is:
- A. Maintaining records of clients
  - B. Giving loans to clients
  - C. Working as a Capital Market Intermediary
  - D. None of the above
- (v) The Term short selling means
- A. Selling shares less as need to sell in the contract.
  - B. Selling shares without owning them
  - C. Selling shares in anticipation of shares price rises.
  - D. Selling Shares without voting rights.
- (vi) Inventory Turnover measures the relationship of inventory with:
- A. Average sales
  - B. Cost of goods sold
  - C. Total purchases
  - D. Total assets



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- (vii) In the Dividend Yield Ratio the denominator is
- A. Earnings Per Share
  - B. Dividend Per Share
  - C. Market Price Per Share
  - D. Book value Per Share
- (viii) In Case of GDR issue the invitation to participate in the issue cannot be extended to \_\_\_\_\_ US investors.
- A. Institutional
  - B. Retail
  - C. Private Equity
  - D. All the above
- (ix) MJ Ltd. has issued 5000, 10% Debentures of ₹ 100 each. The rate of inflation is 6%. Calculate the real cost of debt.
- A. 3.77%
  - B. 3.90%
  - C. 4.10%
  - D. 4.57%
- (x) If the cost of the project is ₹22,84,000, the useful life is 5 years and the annuity is ₹8,00,000, then the Pay-Back Period is:
- A. 3 years
  - B. 2 years 11 months
  - C. 2 years 9 months
  - D. 2 years 8 months
- (xi) Evaluation of Capital Budgeting proposals is based on Cash Flows because:
- A. Cash Flows are easy to calculate
  - B. Cash Flows are suggested by SEBI
  - C. Cash is more important than profit
  - D. Cash Flows are suggested by RBI
- (xii) On the basis of \_\_\_\_\_, working capital is classified as gross working capital and net working capital.
- A. concept
  - B. time
  - C. future
  - D. work



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- (xiii) If the Annual demand of raw materials is 40,000 units, the price per unit is ₹ 2, the ordering cost per order is ₹ 1,000 and the carrying cost percentage of average inventory is 10%, then the number of orders based on EOQ will be:
- A. 3 orders  
B. 2 orders  
C. 1 order  
D. 4 orders
- (xiv) The abbreviation of NLP is
- A. National Language Processing  
B. Natural Language Processing  
C. National Linear Processing  
D. Natural Linear Processing
- (xv) A scatter plot displays several unique data points \_\_\_\_\_.
- A. on a single graph  
B. on two different graphs  
C. on four different graphs  
D. none of the above

## Section – B

(Answer any 5 questions out of 7 questions given. Each question carries 14 Marks) [5 × 14 = 70]

2. (a) Distinguish between the Primary Market and Secondary Market in the context of capital market. [7]
- (b) Describe Descriptive Analytics? Explain the information revealed by Descriptive Analytics. [7]
3. (a) The capital structure of X Ltd. is given below:

Particulars	₹ in lakh
Equity share capital (₹100 each)	40.00
12% Preference share capital (₹100 each)	20.00
15% Debentures	16.00
16% Long term loan from bank	14.00
Profit after tax @40%	12.00

Proposed equity dividend is 20%

Calculate (i) Interest Coverage Ratio (ii) Preference Dividend Coverage Ratio (iii) Equity dividend coverage ratio. [7]



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- (b) From the following summary of cash account of Y Ltd. for the year ended 31.03.2025, calculate Cash Flow from Operating Activities using Direct Method and prepare Cash Flow Statement.

Particulars	₹	Particulars	₹
To Balance b/d	10,00,000	By Cash Purchase	10,40,000
To Cash Sales	12,00,000	By Paid to creditors	11,52,000
To Collection from debtors	12,80,000	By Rent paid	4,00,000
To Dividend received	16,000	By Administrative Exp.	2,00,000
To Bank Loan	12,00,000	By Income Tax	2,40,000
To Proceeds from Sale of Investment		By Purchase of Investment	7,20,000
To Trade Commission	6,40,000	By Repayment of Loan	8,00,000
	3,20,000	By Interest on Bank Loan	56,000
		By Balance c/d	10,48,000
	56,56,000		56,56,000

[7]

4. (a) Z Ltd. provides you the following Income Statement for the year ended 31st March 2022 and 2023.

Particular	31.03.2022 (₹)	31.03.2023(₹)
Net Sales	12,50,000	15,60,000
Less: Cost of Goods Sold	5,50,000	7,60,000
<b>Gross Profit</b>	7,00,000	8,00,000
Less: Other Operating Expenses	2,00,000	2,60,000
<b>Operating Profit</b>	5,00,000	6,00,000
Less: Interest on Long-term Debt	50,000	60,000
<b>Profit Before Tax (PBT)</b>	4,50,000	5,40,000

Prepare a Common Size Income Statement and comment on the financial performance of the company. [7]

- (b) P Ltd. has the following capital structure:

Particulars	Book Value (₹)	Market Value (₹)
Equity Share Capital (50,000 shares of ₹ 10 each)	5,00,000	9,00,000
13% Preference Capital (1,000 shares of ₹ 100 each)	1,00,000	90,000
Reserve and Surplus	3,00,000	--
12% Debentures (3,000 debentures of ₹ 100 each)	3,00,000	2,90,000

The expected dividend per share is ₹ 1.40 and the dividend per share is expected to grow at a rate of 9 per cent forever. Preference shares are redeemable after 5 years at par whereas debentures are redeemable after 6 years at par. The tax rate for the company is 30 percent. Calculate the weighted average cost of capital for the existing capital structure using market value as weights. [7]



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5. (a) A firm proposes to market a cheaper variety of its existing brand to be sold for ₹20 per unit, estimated product-life being five years. The sales volume for the five years has been estimated to be 30,000 units for the first year, 40,000 units for each of the next two years and 20,000 units for each of the last two years. The variable cost p.u is ₹10. Production of the cheapest brand will entail an initial expenditure of ₹4,50,000 in purchasing and installing a new plant with estimated economic life of five years and scrap value of ₹50,000. The fixed cost of ₹2,00,000 per annum including depreciation on the plant on straight-line basis will be needed for producing and marketing the cheaper brand. Introduction of this cheaper variety is also likely to have an adverse impact on the demand of the existing dearer brand resulting in loss of contribution estimated at ₹20,000 per annum. Assuming cost of Capital to be 10% and marginal tax rate to be 40%, you are required to evaluate the proposal and give your reasoned recommendation as to its acceptance or rejection. The PV factors at 10% for five years are 0.909, 0.826, 0.751, 0.683 and 0.621. [7]

- (b) Seema Limited is considering investing in a project requiring a capital outlay of ₹2,00,000. Forecast for annual income after depreciation but before tax is as follows:

Year	₹
1	1,00,000
2	1,00,000
3	80,000
4	80,000
5	40,000

Depreciation may be taken as 20% of original cost and taxation at 50% of net income.

As a Cost and Management Accountant you are required to evaluate the project according to each of the following methods.

- Pay-back Period method.
- Rate of return (ARR) on original investment method.
- Rate of return (ARR) on average investment method.
- Discounted Payback Period method taking cost of capital as 10%. [7]

6. (a) From the following information prepare a statement showing the Estimated Working Capital Requirements:

Projected annual sales	36,000 units
Analysis of sales	₹
Raw materials	6 per unit
Labour	4 per unit
Overhead	3 per unit
Profit	<u>2 per unit</u>
Selling Price	<u>15 per unit</u>

Additional information:

- Raw materials in stock 1 month
- Production process 2 months
- Finished goods in store 3 months



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- (iv) Credit allowed to debtor 4 months  
(v) Credit allowed by suppliers 2 months  
(vi) Monthly wages and expenses are paid twice on 1st and 16th at each month.  
(vii) Production is carried on evenly during the year and expenses and wages accrue similarly.  
(viii) Cash is to be kept at 10% of the net working capital. [7]

- (b) A. Ltd. has a current annual sales of level of 20,000 units at ₹ 300 per unit. The variable cost per unit is ₹ 200 per unit and the fixed costs amount to ₹ 6,00,000 per annum. The present credit allowed by the company is one month. The company is considering a proposal to increase the credit period to two months and three months and has made the following estimates:

Credit Policy	Existing	Proposed	
	1 Month	2 Months	3 Months
Increase in sales	--	15%	30%
% of Bad debts	1%	3%	5%

There will be increase in fixed cost by ₹ 1,00,000 on account of increase in sales beyond 15 per cent of present level. The company plans on a pre-tax return of 20 per cent on investment in receivables. Prepare the policy to be accepted. [7]

7. (a) X Ltd. belongs to a risk class for which the appropriate price-earnings ratio is 10. It currently has 25,000 equity shares selling at ₹50 each. The company is contemplating the declaration of ₹4 as dividend per share at the end of the current financial year which has just started. Given the assumption of Modigliani and Miller, answer the following:
- (i) Calculate the price of the share at the end of the year if dividend is not declared and if dividend is declared?  
(ii) Assume that the firm paying the dividend has net profit of ₹2,50,000 and makes investment of ₹5,00,000 during the period, Calculate how many new shares must be issued?  
(iii) If the firm decides not to pay any dividend, Calculate how many new shares will it require to issue? [7]
- (b) B Ltd. has sales of ₹20,00,000, variable cost of ₹14,00,000 and fixed costs of ₹4,00,000 and debt of ₹10,00,000 at 10% rate of interest. Calculate the values of operating, financial and combined leverage? If the firm wants to double its earnings before interest and tax (EBIT), how much of a rise in sales would be needed on a percentage basis? [7]
8. (a) Discuss the six core steps that may turn the data into user friendly information. [7]
- (b) Discuss the various techniques of data mining. [7]