



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:

[15 x 2 = 30]

- (ii) The main objective of a firm's dividend policy is to:
- Maximise the market value of debt
 - Maximise the market value of equity shares
 - Minimise tax liability
 - Increase production efficiency
- (iii) If ₹5,000 is receivable 30 years hence at a 10% discount rate, its present value is approximately:
- ₹500
 - ₹246.45
 - ₹286.49
 - ₹100.5
- (iv) To create a minimum variance portfolio, in what proportion should the two securities be mixed if the following information is given $S_1 = 10\%$, $S_2 = 12\%$, $P_{12} = 0.6$?
- 0.72 and 0.28
 - 0.70 and 0.30
 - 0.60 and 0.40
 - 0.50 and 0.40
- (v) In India, NIFTY and SENSEX are calculated on the basis of
- Market Capitalization
 - Paid up Capital
 - Authorized Share Capital
 - Free-float Capitalization
- (vi) A company issue commercial paper for 3 crores with a maturity period of 90 days. The interest rate is 11% p.a. The net amount received by the company will be :
- 2.94 crores
 - 2.92 crores
 - 2.85 crores
 - 3.08 crores



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- (vii) ABC Ltd. has a Current Ratio of 1.5: 1 and Net Current Assets of ₹5,00,000. What are the Current Assets?
- ₹5,00,000
 - ₹10,00,000
 - ₹25,00,000
 - ₹15,00,000
- (viii) IG Ltd. has a gearing of 30%. Its cost of equity is 21% and the cost of debt is 15%. The company's WACC is:
- 14.3%
 - 19.2%
 - 14.7%
 - 4.5%
- (ix) Company X issues 11% bonds of 100 for an amount aggregating 200,000 at 10% premium, redeemable at par after 5 years. Corporate tax rate is 35%. The cost of bonds would be:
- 4.9%
 - 5.0%
 - 5.2%
 - 6.0%
- (x) A firm is said to be financially unlevered if the firm has
- only external equity in its capital structure.
 - only owner's equity in its capital structure.
 - both external equity and owner's equity in its capital structure
 - only equity share capital in its capital structure.
- (xi) Annual Cost Saving 4,00,000; Useful life 4 years; Cost of the Project 11,42,000. The Payback period would be -
- 2 years 8 months
 - 2 years 11 months
 - 3 years 2 months
 - 3 year 10 months
- (xii) Investment in a project is ₹ 200 lakhs and Net Present Value is ₹ 50 lakhs. Then the amount of inflows is :
- ₹ 150 lakhs
 - ₹ 200 lakhs
 - ₹ 100 lakhs
 - ₹ 250 lakhs



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- (xiii) Conversation of marketable securities into cash entails a fixed cost of 1,000 per transaction. What will be the optimal conversation size as per Baumol model of cash management?
- 315,628
 - 316,228
 - 317,678
 - 318,426
- (xiv) X Ltd. distributes its products to more than 500 retailers. The company's collection period is 30 days and keeps its inventory for 20 days. The operating cycle would be
- 40 Days
 - 43 Days
 - 45 Days
 - 50 Days
- (xv) Ensuring a date is in the format "YYYY-MM-DD" is an example of:
- Uniqueness check
 - Format check
 - Range check
 - Consistency check
- (xvi) Following is a widely used graph for data Visualisation
- Bar chart
 - Pie chart
 - Histogram
 - All of the above

Section – B

(Answer any five questions out of seven questions given. Each question carries 14 Marks)

[5 x 14 = 70]

2. (a) Explain the different types of NBFCs registered with RBI. [7]
(b) Explain the process of data mining and its main steps. [7]
3. (a) Using the following data, Prepare the Balance Sheet of F Limited as at 31.3.2024:
- Gross Profit 25% of Sales
 - Gross Profit = ₹. 2,40,000
 - Shareholders' equity = ₹. 40,000
 - Credit sales to total sales = 80%



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- Total turnover to total assets = 4 times
- Cost of sales to Inventory = 10 times
- Average collection period = 5 days, assume 365 days in a year.
- Long-term debt =?
- Current ratio = 1.5
- Sundry Creditors = ₹. 1,20,000.

[7]

(b) QR Ltd. gives you the following information for the year ended 31st March, 2024:

- Sales for the year totalled ₹96,00,000. The company sells goods for cash only.
- Cost of goods sold was 60% of sales. Closing inventory was higher than opening inventory by ₹20,000.
- Tax paid amounted to ₹8,00,000. Other expenses totalled ₹21,45,000. Outstanding expenses on 31st March, 2023 and 31st March, 2024, totalled ₹82,000 and ₹91,000 respectively.
- New machinery and furniture costing ₹10,50,000 in all were purchased. One equipment was sold for ₹20,000.
- A right issue was made of 50,000 shares of ₹10 each at a premium of ₹3 per share. The entire money was received with application.
- Dividends totalling ₹4,00,000 were distributed among the shareholders.
- Cash in hand and at Bank as at 31st March, 2023 and 31st March, 2024 totalled ₹2,10,000 and ₹3,14,000 respectively.

You are required to prepare cash flow statement for the year ended 31stMarch,2024 using the direct method.

[7]

4. (a) The income statements of T & Co. for the year ended on 31.12.2024 and 2025 are given below. Prepare a Comparative Income Statement and comment.

Particulars	2024 (₹)	2025 (₹)
Net Sales	1,890	2,500
Cost of Goods Sold	1,240	1,570
Operating expenses:		
Office and administrative expenses	180	210
Selling and distribution expenses	90	104
Non-operating expense:		
Interest on loan	50	70
Income tax	110	120

[7]



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- (b) While considering the most desirable Capital Structure of a company, the following estimates of the cost of debt and Equity Capital (after tax) have been made at various levels of the debt-equity mix:

Debt as Percentage of Total Capital Employed	Cost of Debt (%)	Cost of Equity (%)
0	-	15
10	7	15
20	7	16
30	8	17
40	9	18
50	10	21
60	11	24

What is composite Cost of Capital at different levels of debt-financing? Can you suggest an optimal debt–equity mix in the above case? [7]

5. (a) From the following information, Evaluate Net Present Value of the following business proposal and suggest whether the proposal should be accepted or rejected:

Initial Investment in Fixed Assets	₹	10,00,000
Initial Investment in Working Capital	₹	2,00,000
Salvage Value of Fixed Assets after 3 years	₹	4,00,000
Annual Cash inflows before tax	₹	6,00,000
Income tax rate (on profit and capital gain)		30%

Cost of capital 18%

Depreciation is to be charged on WDV method @40%. Present

Values of Re. 1.00 at 18% are as follows:

Year	1	2	3
PVIF	0.8475	0.7182	0.6086

[7]

- (b) Pioneer Ltd. is considering two mutually-exclusive projects. Both require an initial cash outlay of ₹ 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:



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	(₹ in '000)				
	2020 (Year 1)	2021 (Year 2)	2022 (Year 3)	2023 (Year 4)	2024 (Year 5)
Project 1 (₹)	4,000	4,000	4,000	4,000	4,000
Project 2 (₹)	6,000	3,000	3,000	5,000	5,000
PV factor (at 10%)	0.909	0.826	0.751	0.683	0.621

You are required to evaluate the Payback Period of each project.

[7]

6. (a) SRM Ltd. produces a product with the following revenue cost structure:

Particulars	Cost per unit (₹)
Raw materials	115
Direct labour	80
Overheads	37
Total Cost	232
Profit	58
Selling Price	290

The following additional information is available:

- (i) Average raw materials in stock: One month.
- (ii) Average materials in process: Half-a-month, Raw material 100%, Direct labour 50%, overheads 50% complete.
- (iii) Average finished goods in stock: One month.
- (iv) Credit allowed by suppliers: One month
- (v) Credit allowed to debtors: Two months.
- (vi) Time lag in payment of wages: Half a month.
- (vii) Overheads: One month
- (viii) One-fourth of sales are on cash basis.
- (ix) Cash balance is expected to be ₹ 1,60,000.

You are required to prepare a statement showing the working capital needed to finance a level of activity of 60,000 units of annual output. The production is carried throughout the year on even basis and wages and overheads accrue uniformly. Debtors are to taken at cost.

[7]

(b) ABC Corporation is considering relaxing its present credit policy and is in the process of evaluating two proposed policies. Currently the firm has annual credit sales of ₹ 50 lakhs and accounts receivable turnover ratio of 4 times a year. The current level of loss due to bad debts is ₹1,50,000. The firm is required to give a return of 25% on the investment in new accounts receivables. The company's variable costs are 70% of the selling price. Given the following information, compare which is the better option?



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(Amount in ₹)

Particulars	Present Policy	Policy Option I	Policy option II
Annual credit sales	50,00,000	60,00,000	67,50,000
Accounts receivable turnover ratio	4 times	3 times	2.4 times
Bad debt losses	1,50,000	3,00,000	4,50,000

[7]

7. (a) The existing capital structure of XYZ Ltd. is as under: (₹)

Equity Shares of ₹100 each	40,00,000
Retained Earnings (₹)	10,00,000
9% Preference Shares (₹)	25,00,000
7% Debentures (₹)	25,00,000

The existing rate of return on the company's capital is 12% and the income-tax rate is 50%.

The company requires a sum ₹ 25,00,000 to finance an expansion programme for which it is considering the following alternatives:

- (i) Issue of 20,000 equity shares at a premium of ₹ 25 per share.
- (ii) Issue of 10% preference shares.
- (iii) Issue of 8% debentures.

It is estimated that the P/E ratios in the cases of equity preference and debenture financing would be 20, 17 and 16 respectively. Assess the above alternatives and determine the best option. [7]

- (b) Calculate (i) the operating leverage, (ii) financial leverage and (iii) combined leverage from the following data under situations I and II and financial plans, A and B.

Installed capacity- 4,000 units

Actual production and sales- 75 % of the capacity.

Selling price- ₹ 300 per unit

Variable cost- ₹ 150 per unit

Fixed cost:

Under situation I - ₹ 1,50,000

Under situation II - ₹ 2,00,000

Particulars	Plan A (₹)	Plan B (₹)
Equity	1,00,000	1,50,000
Debt (Interest 20%)	1,00,000	50,000
Total	2,00,000	2,00,000

[7]



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8. (a) Explain the qualitative and quantitative types of data used in finance and costing. [7]
- (b) Explain the process of data analytics. [7]