INTERMEDIATE EXAMINATION

December 2025

P–11(FMDA)
Syllabus 2022

FINANCIAL MANAGEMENT AND BUSINESS DATA ANALYTICS

Time Allowed: 3 Hours *Full Marks: 100*

The figures in the margin on the right-hand side indicate full marks.
Where considered necessary, suitable assumptions may be made
and clearly indicated in the answer.
All working notes should form part of your answer.

Section-A (Compulsory)

1. Choose the correct option from the four alternatives given: **2×15=30**

(i) "Shareholders' wealth" of a company is represented by
   (A) the number of equity shares held by the shareholders of the company.
   (B) the number of equity shares owned multiplied by the current market price per equity share.
   (C) the amount of dividend paid to the shareholders.
   (D) the market price per share of the company on the last day of each month.

(ii) According to Horne and Wachowicz the greater the variability in returns, the ________ the security is said to be.
   (A) safe
   (B) liquid
   (C) riskier
   (D) default

(iii) If the nominal rate of interest is 12 per cent per annum and frequency of compounding is 4 i.e. quarterly compounding, the effective rate of interest will be __________.
   (A) 12.55% p.a.
   (B) 12.75% p.a.
   (C) 12.95% p.a.
   (D) 13.05% p.a.

(iv) ____________ refers to the use of instruments under the control of central bank to regulate the availability, cost and use of money and credit.
   (A) Fiscal Policy
   (B) Monetary Policy
   (C) Credit Policy
   (D) Banking Regulation

(v) GDRs (Global Depository Receipts) are issued to
   (A) Foreign banks as a security to raise foreign currency loans.
   (B) persons of Indian origin residing in a foreign country.
   (C) Indian investors who want to subscribe to IPOs of foreign companies.
   (D) non-resident investors against publicly traded shares of the issuing companies and denominated in dollars.

(vi) A firm wants to increase its current ratio from 1.5:1 to 2:1. Which action would be most prudent from the viewpoint of a financial manager?
(A) Delaying payment of wages and salaries
(B) Charging depreciation at higher rates for plant and machinery
(C) Making cash payment to creditors
(D) Selling obsolete furniture and fixture of the firm at cash

(vii) MJ Ltd. provides you the following information where you have to calculate interest coverage ratio. Net profit after interest and tax is ₹ 2,10,000, rate of income tax is 30% and there is 15% debentures of ₹ 3,00,000.
(A) 8.03 times
(B) 7.67 times
(C) 9.55 times
(D) 12.43 times

(viii) If risk free rate of return is 8%, return on market portfolio is 12%, beta = 1.5, then the expected rate of return according to CAPM is equal to __________.
(A) 10%
(B) 14%
(C) 18%
(D) 24%

(ix) Which of the following cost of capital require tax adjustment?
(A) Cost of equity shares
(B) Cost of preference shares
(C) Cost of retained earnings
(D) Cost of debentures

(x) Kartikay Ltd. provides you the following information:
Payback period is 3.76 years, discounted payback period is 3.95, present value of cash inflow is ₹15,83,892 and present value of cash outflow is ₹ 14,00,000.
What is the profitability index of the project?
(A) 1.13
(B) 1.05
(C) 1.83
(D) 1.95

(xi) A project with an initial investment of ₹ 60,00,000 with life of 12 years, generates CFAT of ₹ 15,00,000 per annum. You have to calculate Payback reciprocal in percentage of the project.
(A) 18 %
(B) 21 %
(C) 22 %
(D) 25 %

(xii) In ____________ records are maintained by the controlling department which reflects the physical movements of stocks and their current balance.
- (A) ABC analysis
- (B) economic order quantity
- (C) FSN analysis
- (D) perpetual inventory system

(xiii) X Ltd. distributes its products to more than 500 retailers. The company's collection period is 35 days and it keeps its inventory for 15 days. The operating cycle would be __________.
- (A) 50 days
- (B) 35 days
- (C) 20 days
- (D) 15 days

(xiv) The probability density function describes
- (A) the characteristics of a random variable.
- (B) the characteristics of a non-random variable.
- (C) the characteristics of a random constant.
- (D) the characteristics of a non - random constant.

(xv) ____________ is neither an IT nor a business skill set but exists as a separate field of expertise.
- (A) Data visualization
- (B) Data presentation architecture
- (C) Data mining
- (D) Data analytics

SECTION – B

Answer *any five* questions from the following. Each question carries 14 marks. 14×5=70

2. (a) What do you mean by the term 'Repo'? Discuss its features. 7

   (b) Briefly discuss the process of data mining. 7

3. (a) Venus Co., listed in National Stock Exchange, provides the following information as extracted from its financial statements for the year 2024-25. A financial institution is interested in investing in the shares of the company and requires some ratios to be calculated.

   Dividend per share = ₹0.40
   Market price per share = ₹ 10.00
   Annual earning after interest and tax = ₹ 2,00,000
   Number of equity shares = 4,00,000
   Book Value per equity share = ₹ 30
   Face Value of each equity share = ₹ 2
   Number of Debentures = 1,00,000
   Face Value of each Debenture = ₹ 8

Calculate:

(i) Dividend yield; (ii) Earnings Per Share (EPS); (iii) Price-Earnings (P/E) ratio; (iv) Payout Ratio; (v) Valuation Ratio; (vi) Return on Capital Employed (ROCE); (vii) Debt-Equity Ratio. 7

(b) The following informations are extracted from the financial statements of X Ltd. for the years ended on 31st December, 2024 and 2025.

Particulars	31.12.2024 (₹)	31.12.2025 (₹)
Land (at cost)	18,00,000	16,00,000
Building	20,00,000	19,80,000
Machinery	15,00,000	18,00,000
Long-term Investments	90,000	2,10,000
Furniture	1,00,000	1,20,000

Additional information is available as follows:

- Depreciation charged on furniture during the year 2025 was ₹ 10,000.
- Depreciation charged on building was ₹ 20,000.
- Depreciation on machinery charged during the year 2025 was ₹ 25,000.
- Machinery, the book value of which was ₹ 80,000, was sold for ₹ 75,000 in 2025.
- Land was sold at a profit of ₹ 90,000 in 2025.

Calculate the net cash flow from investing activities in 2025. Show necessary workings. 7

4. (a) Complete the following Trend Analysis Statement of D Ltd. 7

Particulars	31/12/23 (₹)	31/12/24 (₹)	31/12/25 (₹)	31/12/23 (%)	31/12/24 (%)	31/12/25 (%)
Sales	10,000	15,000	20,000	100	?	?
Less: Cost of Goods Sold	7,000	?	?	100	125	200
Gross Profit	3,000	?	?	100	?	?
Less: Administrative Expenses	1,000	1,250	1,500	100	125	150
Finance Expenses	500	625	750	100	?	?
Selling Expenses	250	375	500	100	?	?
Net Profit before Tax	1,250	4,000	3,250	100	320	260
Less: Income Tax	250	800	1,000	100	?	?
Net Profit after Tax	1,000	3,200	2,250	100	320	225

(b) Jai Ltd., having an ambitious plan for further expansion, is currently considering the possibility of raising ₹ 25,00,000 by issuing Equity Shares, Preference Shares and Debentures. The Book Value and Market Value of the sources are as follows:

Sources	**Book Value (₹)**	**Market Value (₹)**
Equity Shares	10,00,000	15,00,000
Preference Shares	5,00,000	6,00,000
Debentures	10,00,000	9,00,000
	25,00,000	**30,00,000**

Jai Ltd. provides you further information regarding the costs which are expected to be incurred on the above-mentioned issues of capital.

(i) The equity share of the company is currently selling for ₹ 150. It is expected that the company will pay a dividend of ₹ 12 per share at the end of next year which is expected to grow at a rate of 7%. The company has to incur ₹ 2 per share as floatation cost.

(ii) The 11%, ₹ 100 face value Preference share will be sold for ₹ 120. However, the company will have to pay ₹ 4 per share as underwriting commission.

(iii) The company can sell a 10-year, ₹ 500 face value Debenture with a 9% rate of interest. An underwriting fee of 2% on issue price would be incurred on issue. Only interest is tax deductible.

(iv) Corporate tax rate is 35%.

As a Cost and Management Accountant you have to calculate the weighted average cost of capital using Book Value Weights and Market Value Weights. 7

5. (a) Five Projects A, B, C, D and E are available to a company for consideration. The investment required for each project and the cash flows it yields are tabulated below. Projects B and E are mutually exclusive. Taking the cost of capital @ 10%, advice which combination of projects should be taken up for a total capital outlay not exceeding ₹ 3 lakhs on the basis of NPV? Assume that the projects are not divisible. 7

Project	**Investment (₹)**	**Cash flow p.a. (₹)**	**No. of years**	**PVIFA @10%**
A	50,000	18,000	10	6.145
B	1,00,000	50,000	4	3.170
C	1,20,000	30,000	8	5.335
D	1,50,000	40,000	16	7.824
E	2,00,000	30,000	25	9.077

(b) Following data has been available for a capital project:

Annual cash inflows	₹ 1,00,000
Useful life	4 years
Salvage value	0
Internal rate of return	12%
Profitability index	1.064

You are required to calculate the following for this project: 7

i. Cost of project
ii. Cost of capital
iii. Net present value
iv. Payback period

PV Factors at different rates are given below:

Discount	12%	11%	10%	9%
1 Year	0.893	0.901	0.909	0.917
2 Years	0.797	0.812	0.826	0.842
3 Years	0.712	0.731	0.751	0.772
4 Years	0.636	0.659	0.683	0.708
Cumulative discount factor	3.038	3.103	3.169	3.239

6. (a) MJK Ltd. provides you the following information and you are required to prepare a statement showing Working Capital Requirements: 7

Estimates for the next year:	₹
Raw Material Cost	31,20,000
Wages	18,72,000
Overheads (including depreciation of ₹1,20,000)	7,44,000
Total Cost	57,36,000
Profit	12,64,000
Sales	70,00,000

Additional Information:

- Inventory norms: Raw Materials: 2 months, Work-in-progress: 3 weeks, Finished goods: 1 month
- 50% of the sales is for cash; for the remaining, 2 weeks credit is normal.
- The company enjoys 4 weeks credit facilities on only 30% of the purchases and lag in payment of overheads is one month.
- Lag in payment of wages is half month.
- Cash is to be held to the extent of 50% of current liabilities.

There is a regular production and sales cycle and wages and overheads accrue evenly. Material is introduced in the beginning of the production cycle.

(b) Mritunjay Ltd. requires 90,000 units of a certain item annually. The cost per unit is ₹ 3, the cost per purchase order ₹ 300 and the inventory carrying cost ₹ 6 per unit per year. What is the Economic Order Quantity? Examine what will be Mritunjay Ltd.'s decision regarding the optimal quantity if the supplier, Anjali Ltd., offers discount as below: 7

For Order Quantity 4500-5999 units, discount is 2%; and
For Order Quantity 6000 units and above, discount is 3%.

7. (a) Apex Ltd. provides you the following information:

Net operating income	₹75,000
Total investment	₹5,00,000
Cost of equity:	
If the firm uses no debt	15%
If the firm uses ₹ 2,00,000 debentures	18%
If the firm uses ₹ 3,00,000 debentures	20%

Assume that ₹ 2,00,000 debentures can be raised at 10% rate of interest whereas ₹ 3,00,000 debentures can be raised at 12% rate of interest. You are required to calculate the market value of the firm and the overall Cost of Capital using Traditional Approach. Which debt-equity mix should the company select? 7

(b) Modern Chemicals Ltd. requires ₹ 25,00,000 for a new plant. This plant is expected to yield earnings before interest and taxes of ₹ 5,00,000. While deciding about the financial plan, the company considers the objective of maximizing earnings per share. It has three alternatives to finance the project—by raising debt of ₹ 2,50,000 or ₹ 10,00,000 or ₹ 15,00,000 and the balance, in each case, by issuing equity shares. Company's shares are currently selling at ₹ 150, but it is expected to decline to ₹ 125 in case the funds are borrowed in excess of ₹ 10,00,000. The funds can be borrowed at the rate of 10% up to ₹ 2,50,000 and at 15% for ₹ 2,50,001 up to ₹ 10,00,000 and at 20% for amount over ₹ 10,00,000. The tax rate applicable to the company is 50%. Analyse the EPS and advise which form of financing the company should choose. 7

8. (a) Discuss the core steps to be followed in transforming data into decision relevant information. 7

(b) What do you mean by data analytics? Briefly discuss its steps. 7