INTERMEDIATE EXAMINATION

June 2024

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 side indicate full marks.

Wherever considered necessary, suitable assumptions may be made and clearly indicated in the answer.

All workings must from part of your answer.

SECTION–A (Compulsory)

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

(i) Selling shares without owing them, to buy them back at a future date at a lower price in expectation that price will drop is known as ________.

(A) Call option

(B) Put option

(C) Long position

(D) Selling short

(ii) A 91-day Treasury Bill with face value of ₹ 100 is issued at ₹ 98. The annualized yield on the same would be _________. (Assume 365 days a year)

(A) 3.09 %

(B) 8.18%

(C) 14.09%

(D) 13.09%

(iii) ______________ shows that the current dividend depends partly on current earnings and partly on previous year's dividend.

(A) Gordon's Model

(B) M.M. Model

(C) Dividend Discount Model

(D) Lintner Model

(iv) Rajesh Polymers Ltd. issued ₹ 4,00,000, 9% perpetual debentures at a premium of 10%. The costs of floatation are 2%. The tax rate is 50%. What is the after-tax cost of debt?

(A) 4.15%

(B) 4.17%

(C) 14.17%

(D) 4.20%

(v) The pecking order theory has emerged as an alternative theory to _____________.

(A) Trade off theory

(B) The traditional approach

(C) Net income approach

(D) Net operating income approach

(vi) How long it will take for ₹ 1,00,000 to double at a compound rate of interest of 12% per annum approximately?

(A) Five years

(B) Six years

(C) Seven years

(D) Eight years

(vii) Which of the following is not an objective of Digitalization?

(A) Wide spread access of data

(B) Preservation of data

(C) Large Group of users

(D) Large physical storage space

(viii) Following information has been taken from the Balance Sheet of MJK Ltd. 8% debentures payable ₹ 15 Lakh, 12% preference shares ₹ 15 Lakh and ordinary shareholders' equity is ₹ 40 Lakh. You have to calculate the capital gearing ratio of the company.

(A) 4:2

(B) 4:3

(C) 4:7

(D) 4:9

(ix) Cluster analysis is the process of assigning a set of data to subset so that observations can be made. Cluster analysis is part of ___________.

(A) Supervised Learning

(B) Unsupervised Learning

(C) Semi Supervised Learning

(D) Reinforcement Learning

(x) Systematic risk of the firm is 1.5, 182 days treasury bills currently yield 9%, expected yield on the market portfolio of assets is 14%. Determine the cost of equity capital based on the given data.

(A) 15%

(B) 15.5 %

(C) 16%

(D) 16.5%

(xi) Which of the following is not a technique of data mining?

(A) KNN algorithm

(B) Neural network

(C) Decision tree

(D) Predictive analytics

(xii) The cash outlay for a project is ₹ 2 lakh. The cash inflows that are expected to be generated are ₹ 1,20,000 at the end of the first year and ₹ 1,60,000 at the end of the second year. If the discounting rate is 10%, then the profitability index is ________.

(A) 1.44

(B) 1.25

(C) 1.21

(D) 1.42

(xiii) Average collection period is 3 months, cash sales and average receivables are ₹ 3,00,000 and ₹ 4,00,000 respectively. The total amount of sales will be _______.

(A) ₹ 18,00,000

(B) ₹ 19,00,000

(C) ₹ 22,00,000

(D) ₹ 25,00,000

(xiv) Under ABC Analysis method of stock control, 'A' category items are _________.

(A) smaller in quantity but larger in value

(B) larger in quantity but smaller in value

(C) smaller in quantity and smaller in value

(D) larger in quantity and larger in value

(xv) If the profit after taxes of a company is ₹ 5,40,000, the preference dividend is ₹ 60,000 and the dividend payable to 1,60,000 equity shares is @ ₹ 2 per share, then the equity dividend coverage ratio is _______.

(A) 1.50 times

(B) 1.62 times

(C) 1.55 times

(D) 1.80 times

SECTION–B

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

14×5=70

2. (a) Briefly describe the primary functions of commercial banks in India. 7

(b) 'The implementation of data mining in Finance and Management is one of the important segment of Business Data Analytics'. In this context, briefly illustrate the data mining applications. 7

3. (a) The following ratio and information relate to the business of ABC Ltd.:

Credit period allowed to Debtors = 2 months;

Inventories Turnover ratio = 8 times;

Lag in payment to suppliers = 1 month;

Gross Profit ratio 25%;

Opening inventories = ₹ 1,05,000; and

Gross Profit for the year ended 31st March, 2024 amounted to ₹ 3,00,000.

Assume that all purchases and sales are on credit and closing values of debtors and creditors are not different from their opening values.

Calculate (a) Sales; (b) Sundry Debtors; (c) Closing Inventories; and (d) Sundry Creditors. 7

(b) The following information has been provided by B Ltd. for the year ended on 31.03.2024.

(i) Sales for the year ₹ 96,00,000 entirely made in cash.

(ii) Cost of goods sold was 75% of the sales.

(iii) Trade payables on 31.03.2024 was ₹ 2,00,000 more than the balance on 31.03.2023.

(iv) Closing inventory was higher than the opening inventory by ₹ 1,00,000.

(v) Suppliers were paid ₹ 71,00,000 during the year.

(vi) Operating expense of ₹ 7,20,000 were paid during the year.

(vii) Taxes paid during the year were ₹ 3,00,000.

(viii) The company paid equity dividend of ₹ 2,40,000 during the year.

(ix) The company acquired a land for ₹ 8,00,000 and bought a new machinery for ₹ 4,00,000 during the year.

(x) Interest was received on investment for ₹ 20,000.

(xi) Cash and cash equivalent on 01.04.2023 was ₹ 80,000.

(xii) Cash and cash equivalent on 31.03.2024 was ₹ 1,40,000.

You are required to prepare a Cash Flow Statement for the year ended on 31.03.2024 as per AS 3. 7

4. (a) The income statement of X Ltd. for the year ending on 31.03.2023 and 31.03.2024 are given below. Prepare a Comparative Income Statement for the year ended on 31.03.2023 and 31.03.2024. (Figures in '000)

Particulars	2022-23 ₹	2023-24 ₹
Net Sales	1890	2500
Cost of Goods Sold	1240	1570
Operating Expenses:		
Office, Administrative and Selling expenses	270	314
Non-operating Expenses:		
Interest on Loan	50	70
Income Tax	110	120

7

(b) PQR Ltd., has the following book value capital structure:

Particulars	₹ in crore
Equity capital (₹ 10 each fully paid)	15.00
11% Preference capital (₹ 100 each fully paid)	1.00
Retained earnings	20.00
13.5% Debentures (₹ 100 each)	10.00
15% Term loans	12.50

Additional Information:

(i) Expected equity dividend per share is ₹ 3.60. The dividend per share is expected to grow at the rate of 7 per cent. The market price per share is ₹ 40.

(ii) 11% Preference shares are redeemable after ten years at par. The current market price is ₹ 75 per share.

(iii) 13.5% Debentures are redeemable after six years at par. Current market price is ₹ 80 per debenture. Only interest is tax deductible.

(iv) The income-tax rate for the company is 40 per cent.

You are required to calculate the weighted average cost of capital using (i) Book value weights; and (ii) Market value weights. 7

5. (a) Boldwire Co. Ltd. produces a sophisticated integrated circuit chip. Last year, the research and development department of the company designed and prototyped an improved model of the chip. The marketing department of the company made a forecast that it would be able to sell 8,000 units of the new chip in the next year. However, additional investment would be required to buy and install new machinery

for production. The cost of the new machinery would be ₹ 25,00,000 and that would have an economic life of 4 years. The salvage value of the machine at the end of four years would be Nil. The marketing department also informed that during the period of four years there would be certain advertising and promotional expenditure necessary for selling the new chips. The details of such expenses are given below:

Year	1	2	3	4
Expenses (₹)				
Advertisement	1,00,000	75,000	60,000	30,000
Promotion	50,000	75,000	90,000	1,20,000

The variable costs of producing and selling each unit of the new chip would be ₹ 250. Additional fixed operating costs to be incurred because of this new product are budgeted at ₹ 75,000 per year. A discounted return of 15% (after tax) on investments in the new product is contemplated by the management. Advise as to what should be the selling price per unit of the new chip that may be fixed with a view to obtaining the desired return on investment. The tax rate of the company is 40% and depreciation is on straight line basis.

(Note: The present value of annuity of ₹ 1.00 received or paid throughout the period of four years in the future at 15% is 3.0079) 7

(b) C Ltd. is considering a proposal of installing a drying equipment. The equipment would involve a cash outlay of ₹ 12,00,000 and net working capital of ₹ 1,60,000. The expected life of the project is 5 years without any salvage value. Assume that C Ltd. is allowed to charge depreciation on straight-line basis for income-tax purpose. The estimated before-tax cash inflows are given below:

Year	1	2	3	4	5
Before-tax cash-inflows (₹ '000)	480	550	420	360	320

The applicable income-tax rate for C Ltd. is 35%. C Ltd.'s opportunity cost of capital is 12% p.a. The management has determined that acceptable payback period and discounted payback period for the equipment are 3.6 years and 4.5 years respectively. Advise the management on the proposal based on payback period and discounted payback period.

Year	1	2	3	4	5
PVIF (12%)	0.893	0.797	0.712	0.636	0.567

7

6. (a) MJK Ltd. has called for a statement showing the working capital needed to finance a level of activity of 30,000 units of output for the year. The cost structure for the company's product for the above-mentioned activity level is detailed below:

<u>Cost Per Unit</u>:

Raw Material = ₹ 20, Direct Labour = ₹ 5, Overheads = ₹ 15,

Total Costs = ₹ 40, Profit = ₹ 10, Selling Price = ₹ 50

Additional Information:

- Raw Materials are held in stock, on an average, for two months.
- Work in Progress (100% completed in regard to materials and 50% for labour and overheads) will approximately be half a month's production.
- Finished goods remain in warehouse, on an average, for a month.
- Suppliers of materials give a month's credit.
- Two months credit is allowed to Debtors. Calculation of debtors may be made at selling price.
- A minimum cash balance of ₹ 25,000 is expected to be maintained.
- 30% of the production is sold for cash.
- It may be assumed that production is continued evenly throughout the year.

Prepare the statement showing working capital requirement. 7

(b) The annual cash requirement of MJ Ltd. is ₹ 10 lakh. The company has marketable securities in lot sizes of ₹ 50,000, ₹ 1,00,000, ₹ 2,00,000, ₹ 2,50,000 and ₹ 5,00,000. Cost of conversion of marketable securities per lot is ₹ 1,000. The company can earn 5% annual yield on its securities. As a Cost and Management Accountant you are required to prepare a table indicating which lot size will have to be sold by the company. Also show that the Economic lot size can be obtained by the Baumol Model. 7

7. (a) Excel Ltd. has 1,00,000 outstanding shares of ₹ 10 each. The company earns a rate of 24% on its investments and retains 50% of earnings as a policy. If Cost of Capital is 18%, calculate price of the share according to Gordon's Model. The company has total investment of around ₹ 10,00,000 in assets. If payout ratio changes to 10%, 90%, analyze how will the share price change? Infer the optimal dividend policy for Excel Ltd. as per Gordon's Model. 7

(b) J Ltd. currently has an equity share capital of ₹ 40 Lakh consisting of 40,000 equity shares of ₹ 100 each. The management is planning to raise another ₹ 30 Lakh to finance a major programme of expansion through one of the four possible financing plans. The options are:

A. Entirely through equity shares.

B. ₹ 15 lakh in equity shares of ₹ 100 each and the balance through 8% Debentures.

C. ₹ 10 lakh in equity shares of ₹ 100 each and the balance through long-term borrowing at 9% interest p.a.

D. ₹ 15 lakh in equity shares of ₹ 100 each and the balance through preference shares with 5% dividend.

The company's expected earnings before interest and taxes (EBIT) will be ₹ 15 lakh. Assuming corporate tax rate of 50%, as a Cost and Management Accountant you are required to analyze the EPS and financial leverage that will be authorized under each of the above schemes of financing and comment on the best plan to be selected. 7

8. (a) Data plays a very important role in the study of finance and cost accounting. Explain the various ways of classifying the types of data. 7

(b) Describe the steps to include data visualization in report design. 7
