

2024**COMMERCE****Paper : DSE-405A****[Financial Analysis (FA)]****Full Marks : 40***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.***Module - I**Answer *any two* questions.

1. (a) Describe how the subject 'financial analysis' has evolved in its present form.
- (b) Compute index numbers and increases (decreases) in per cents for both the years 2022 and 2023 by entering all missing data in the table below. Analyse and interpret any significant results revealed from such trend analysis.

| Particulars | 2023 | | 2022 | | 2021 |
|---------------------|-----------|--------------------|-----------|--------------------|-----------|
| | Index No. | Change in per cent | Index No. | Change in per cent | Index No. |
| Net Sales | ..... | 33 | 100 | ..... | 75 |
| Cost of Goods Sold | 120 | ..... | 100 | ..... | 80 |
| Gross Profit | ..... | 13 | 100 | ..... | 65 |
| Operating Expenses | ..... | (5) | 100 | ..... | 75 |
| Earnings before Tax | ..... | (2) | 100 | ..... | 60 |
| Net Income | 90 | ..... | 100 | ..... | 55 |

() implies negative change.

4+6

2. (a) Examine the difference in measures of Basic EPS and Diluted EPS.
- (b) Can a firm have a lower margin on sales but a higher return on assets? Give your argument.

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- (c) Compute liquidity index of Star Ltd. from the following information and interpret the change in liquidity position of the firm. In addition, it is reported that the average days to sell inventory is 45 days and average collection period is 30 days.

| Current Assets | Amount (₹ '000) | |
|-------------------|-----------------|--------|
| | 2022 | 2023 |
| Inventories | 50,000 | 30,000 |
| Trade Receivables | 40,000 | 50,000 |
| Cash | 20,000 | 15,000 |

4+2+4

3. (a) What is the significance of debt service coverage ratio?
 (b) Use an appropriate measure of statistic to examine the statistical significance of rankings of the following three variables over the six year period.

| Year | Return on Assets (in %) | Current Ratio (in times) | Interest Coverage Ratio (in times) |
|-----------|----------------------------|-----------------------------|---------------------------------------|
| 2017-2018 | 12.5 | 2.5 | 4.5 |
| 2018-2019 | 9.8 | 1.8 | 2.1 |
| 2019-2020 | 10.9 | 2.0 | 4.5 |
| 2020-2021 | 14.2 | 2.2 | 3.2 |
| 2021-2022 | 16.8 | 2.2 | 3.2 |
| 2022-2023 | 14.2 | 2.2 | 3.2 |

[Given $\chi^2_{5,0.05} = 11.07$ and $\chi^2_{5,0.01} = 15.09$]

2+8

4. The Balance Sheet of a manufacturing company X Ltd. as on 31st March of current year is given below.

| Particulars | Amount (₹) |
|--------------------------------------|--------------------|
| <u>EQUITY AND LIABILITIES</u> | |
| (I) Shareholders' Funds | |
| Equity Share Capital (₹ 10 each) | 50,00,000 |
| Reserves and Surplus | 18,00,000 |
| (II) Non-Current Liabilities | |
| 6% Debentures | 12,00,000 |
| (III) Current Liabilities | |
| Trade Payables | 20,00,000 |
| Total | 1,00,00,000 |

| <u>ASSETS</u> | |
|--------------------------------------|--------------------|
| (I) <u>Non-Current Assets</u> | |
| Fixed Assets (net) [Note] | 68,00,000 |
| (II) <u>Current Assets</u> | |
| Inventory | 12,00,000 |
| Trade Receivables | 16,00,000 |
| Cash and Cash Equivalents | 4,00,000 |
| Total | 1,00,00,000 |

Note : Gross Block of Fixed Assets is ₹ 80,00,000 and accumulated depreciation provided is ₹ 12,00,000.

The following additional information are available and certain forecasts are made for the coming year :

- (i) Fixed assets costing ₹ 10,00,000 to be purchased and installed on 1st April, and would become operative on that date.
- (ii) The fixed assets turnover ratio (on cost of fixed assets) would be 1.5.
- (iii) Stock turnover would be 12 based on sales.
- (iv) The break-up of cost and profit as % of sales is as follows.

| | | |
|--------------|---|--|
| Materials | – | 40% |
| Labour | – | 25% |
| Overhead | – | 20% |
| Depreciation | – | 5% |
| Profit | – | 10% (subject to payment of interest and 35% tax) |
- (v) Trade receivables would be $\frac{1}{9}$ th of turnover.
- (vi) Trade payables would be $\frac{1}{5}$ th of materials consumed.
- (vii) ₹ 10,00,000 6% Debentures would be issued on April 1.

Prepare a projected cash flow statement and interpret the liquidity and solvency position of X Ltd. based on ratios determined from such projected cash flow statement.

7+3

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Module - IIAnswer *any two* questions.

5. (a) (i) Skylark Ltd., a software company, is listed in New York Stock Exchange which is perceived to be efficient at large, at least in the semi-strong form. The management of Skylark Ltd. is planning for a follow-on public offer (FPO) of company's shares. However, the CEO of the company is of the opinion that the decision for FPO should be deferred as the overall mood of the market is negative because of the prediction of a possible recession in the US economy. Do you think that the CEO is correct in his opinion? Justify.
- (ii) Proton Ltd. is a Japanese auto major listed in Tokyo Stock Exchange, which is considered to be efficient at large. During the financial year ended on 31.03.2024, the profit figure of the company is likely to fall short of analysts' expectations and this may have a negative impact on the market value of the firm. The MD and CEO of the company is of the opinion that the company should reduce the rate of provision for doubtful debt by changing its policy and thereby increase the profit to meet the expectation. Do you think that the CEO is correct in his opinion? Justify.
- (b) You are given the Debt/Equity ratio of the estimation sample of the following 6 firms comprising 3 failed (F) and 3 Non-failed (NF) firms :

| Name of the Firm | Debt/Equity Ratio | Status |
|------------------|-------------------|--------|
| A | 3.0 | F |
| B | 2.5 | F |
| C | 2.0 | NF |
| D | 1.5 | NF |
| E | 1.0 | NF |
| F | 0.5 | F |

You are required to calculate the optimum cut-off score of the above estimation sample for prediction of corporate failure. (2+2)+6

6. (a) Mr. B, a technical analyst operating in India, is likely to open a portfolio consultancy firm in Malaysia. In order to evaluate the level of efficiency of Bursa Malaysia, he has decided to conduct a serial correlation coefficient test of KLCI, a prominent index of the exchange. For this purpose, he collected daily closing index value information of KLCI for the past 82 trading days and calculated daily percentage return for past 81 days. The serial correlation coefficient obtained at lag 1 from return data is found to be 0.657. Is Bursa Malaysia efficient in the weak form? What is the implication of the above test results to Mr. B as a technical analyst?

Critical value at 5% level is given as 2.245 for both tail test with 80 d.f. and critical value at 1% level is given as 2.813 for both tail test with 80 d.f.

If the daily returns are found to be non-normal, what equivalent non-parametric test can be suggested in the above case?

- (b) Explain how Altman on the basis of z score grouped non-manufacturing companies into sick zone, grey zone and non-sick zone. (5+1+1)+3

7. (a) "In a stock market, the prices appear to immediately reflect available information if the information is freely accessible and investors form similar expectation upon receipt of the information."— Identify the two conditions mentioned in the given statement. How does their existence improve market efficiency?
- (b) You are given the following information in respect of ten firms :

| Firm | Debt/TA (X) (%) | RE/TA (Y) (%) | Status |
|------|--------------------|------------------|--------|
| A | 12 | 6 | NF |
| B | 10 | 4 | F |
| C | 9 | 6 | NF |
| D | 8 | 4 | F |
| E | 13 | 9 | NF |
| F | 10 | 7 | NF |
| G | 14 | 8 | NF |
| H | 11 | 4 | F |
| I | 8 | 5 | F |
| J | 15 | 7 | F |

You are given the following Z score function :

$$Z = Y - 0.3 X$$

You are required to compute cut-off Z score.

(1+2)+7

8. (a) Mr. A, the manager of a leading mutual fund of India, wanted to investigate whether the Bombay Stock Exchange is efficient in the semi-strong form. He decided to conduct an event study based on the rights issue announcements by companies. Accordingly, he selected three companies namely X Ltd., Y Ltd. and Z Ltd. (listed under BSE 50 Index) that had made rights issue announcements during the year 2023-24. He calculated the characteristic line equations based on return data for a period of three years on a weekly basis up to fourth week before announcement. The relationship between returns of the three companies with that of the benchmark i.e., BSE 50 index are given below :

$$r_{X,t} = 1.70\% + 1.05 r_{m,t}$$

$$r_{Y,t} = 1.53\% + 1.08 r_{m,t}$$

$$r_{Z,t} = 1.92\% + 1.02 r_{m,t}$$

where $r_{X,t}$, $r_{Y,t}$, $r_{Z,t}$, $r_{m,t}$ are the respective returns of the companies and the market.

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The analyst considered a 7-week event window for which the following data are available :

| Week | Actual Return on Company Stocks (%) | | | Market Return (%) |
|------|-------------------------------------|-------|-------|-------------------|
| | r_X | r_Y | r_Z | r_m |
| -3 | 11.90 | 12.04 | 11.82 | 10.00 |
| -2 | 13.50 | 13.64 | 13.42 | 11.15 |
| -1 | 12.92 | 13.12 | 12.88 | 10.88 |
| 0 | 13.43 | 13.60 | 13.31 | 10.90 |
| +1 | 12.50 | 12.62 | 12.41 | 10.05 |
| +2 | 13.09 | 13.25 | 12.99 | 11.05 |
| +3 | 14.51 | 14.72 | 14.37 | 12.15 |

Conduct the event study and comment on the efficiency. Approximate expected return up to 2 decimal points. [Given, $t_{0.025} = 4.31$ and $t_{0.005} = 9.925$ for 2 d.f.]

- (b) Distinguish, with the help of a tabular representation, between Type I error and Type II error for prediction of corporate failure.
- (c) How many firms were selected by Beaver in his model for prediction of corporate failure and what were the composition of failed firms? 6+2+2
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