



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

Ramapuram, Chennai-600089

FACULTY OF MANAGEMENT

MBG23BA06L – FINANCIAL ANALYTICS

Record Work

Academic Year 2024-2025

STUDENT NAME	
REGISTER NUMBER	
NAME OF THE PROGRAMME	M.B.A.
YEAR&SEMESTER	II YEAR & III SEMESTER
SECTION	



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Registration No. _____ of Second Year

M.B.A. Degree Course MBG23BA06L – Financial Analytics in SRM Institute of Science and Technology, Faculty of Management, Ramapuram during the academic year 2024-2025.

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SRM Institute of Science and Technology, Faculty of Management, Ramapuram.

Examiner-I

Examiner-II

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Exercise No: 1	COMPARISON OF RATIOS
Date:	

AIM:

To compare the difference between the ratios of 5 years of a company in excel with bar diagrams.

PROCEDURE:

1. Choose a company and get data for 5 years and inter those data into a Excel spreadsheet
2. Now enter the data with the headings of year and ratios
3. Check whether all the data or correct and arranged accordingly
4. Now select the table data which you entered with mouse
5. Go to the insert and go to the charts
6. Select any chart that represent in a meaningful way
7. Thus, the comparison of the ratio and the chart created

RESULT:

Thus, comparison of the ratios is done and represented with charts.

Exercise No: 2	COMPARATIVE INCOME STATEMENT
Date:	

AIM:

To create a representation of company's income statement with comparative income statement in Excel.

PROCEDURE:

1. Choose a company and gather data based on income statement of the company
2. Choose any two years for example 2023 and 2022 for comparative income statement
3. Create column heading as income statement year 1, year 2, increase or decrease and percentage
4. In income statement your one and two will have the data which we collected that need to be calculated the increase or decrease and percentage
5. In increase or decrease column we need to subtract the recent year with previous year
For example: 2023 – 2022
=B41 - C41
6. For calculating percentage, we need to divide the value of the increased amount to previous year which means 2022 multiplying with 100
=D41/C41*100
7. Now select all the data calculator and entered
8. Go to the insert and select the related chart to represent
9. Thus, we created a chart of comparative income statement

RESULT:

Thus, a chart representing comparative income statement for a company is created.

Exercise No: 3	COMPARATIVE BALANCE SHEET
Date:	

AIM:

To create a representation of company's income statement with comparative income statement in Excel.

PROCEDURE:

1. Choose a company and gather data based on balance sheet of the company
2. Choose any two years for example 2023 and 2022 for comparative balance sheet
3. Create column heading as balance sheet year 1, year 2, increase or decrease and percentage
4. In balance sheet your one and two will have the data which we collected that need to be calculated the increase or decrease and percentage
5. In increase or decrease column we need to subtract the recent year with previous year
For example: 2023 – 2022
=B41 - C41
6. For calculating percentage, we need to divide the value of the increased amount to previous year which means 2022 multiplying with 100
=D41/C41*100
7. Now select all the data calculator and entered
8. Go to the insert and select the related chart to represent
9. Thus, we created a chart of comparative balance sheet

RESULT:

Thus, a chart representing comparative balance sheet for a company is created.

Exercise No: 4	COMMON SIZE INCOME STATEMENT
Date:	

AIM:

To create a representation of company's income statement with common size income statement in Excel

PROCEDURE:

1. Choose a company and gather data based on income statement of the company
2. Choose any two years for common size income statement
3. Create column heading as income statement year 1, year 1- percentage, year 2, year 2 – percentage
4. In income statement we need to enter data carefully and need to calculate the percentage
5. Sales for each year is taken as 100 and each item of Expenditure or income in year concerned is shown as a percentage of sales of that year
6. All the receipts are divided with sales amount as
Example 1: $S_6 / S_6 * 100$
Example 2: $S_{13} / S_6 * 100$
7. And thus, the percentage calculated
8. Now select all the data calculated and entered
9. Go to insert and select related chart to represent

RESULT

Thus, the representation of company's income statement with common size income statement is created.

Exercise No: 5	COMMON SIZE BALANCE SHEET
Date:	

AIM:

To create a representation of companies, balance sheet with common size balance sheet in Excel

PROCEDURE:

1. Choose a company and gather data based on balance sheet of the company
2. Choose any two years for common size balance sheet
3. Create column heading as balance sheet year 1, year 1- percentage, year 2, year 2 – percentage
4. In balance sheet we need to enter data carefully and need to calculate the percentage
5. Balance sheet is taken as 100 for each of the years and each asset or liabilities shown as percentage of the balance sheet total of that year
6. All the recipes are divided with the total asset and the total
Example one: $B6 / b6 * 100$
Example 2: $B13 / B6 * 100$
7. And thus, the percentage calculated
8. Now select all the data calculated and entered
9. Go to insert and select related chart to represent

RESULT:

Thus, the representation of company's income statement with common size balance sheet is created

Exercise No: 6	TREND INCOME STATEMENT
Date:	

AIM:

To create a representation of company's income statement with the trend income statement in Excel

PROCEDURE:

1. Choose a company and gather data for 5 years and enter it in excel sheet
2. Company income statement should be entered
3. Create column as income statement year 1, year 2, year 3, year 4 year 5 and year 1 percentage, year 2 percentage, year 3 percentage, year 4 percentage and year 5 percentage
4. Take the lowest year as base year
5. $\text{Current year} / \text{base year} * 100 = \text{formula}$
6. Calculate all the trend percentage with this formula for every year
7. Now select all the calculator value and enter the value
8. Go to insert and select any chart that suits the trend analysis

RESULT:

Thus, the Representation on trend income statement of a company for 5 years with the charts in Excel is prepared.

Exercise No: 7	TREND BALANCE SHEET
Date:	

AIM:

To create a representation of companies, balance sheet with the trend balance sheet in Excel

PROCEDURE:

1. Choose a company and gather data for 5 years and enter it in excel sheet
2. Company balance sheet should be entered
3. Create column as income statement year 1, year 2, year 3, year 4 year 5 and year 1 percentage, year 2 percentage, year 3 percentage, year 4 percentage and year 5 percentage
4. Take the lowest year as base year
5. $\text{Current year} / \text{base year} * 100 = \text{formula}$
6. Calculate all the trend percentage with this formula for every year
7. Now select all the calculator value and enter the value
8. Go to insert and select any chart that suits the trend analysis

RESULT:

Thus, the Representation on trend Balance Sheet of a company for 5 years with the charts in Excel is prepared.

Exercise No: 8	CREDIT RATING ANALYSIS
Date:	

AIM:

To analyse the credit rating for different ratio of the company

PROCEDURE:

1. Credit rating is an evaluation of the creditors of a prospective debtor predicting their ability to pay back the debt and implicit forecast of the likelihood of debt defaulting
2. Analyse your ratio and give them ratings from 1 to 10 according on ratios point
3. Now give credit rating for those ratios range from very low, low, moderate, high and very high
 - Very low – B
 - Low – BB
 - Moderate – A
 - High – AA
 - Very high - AAA

RESULT:

Thus, the company is rated based on the ratios.

Exercise No: 9	ALTMAN Z-SCORE - I
Date:	

AIM:

To identify the Altman Z Score for the company of 5 years and represent a chart using Excel

PROCEDURE:

1. Altman Z- Score = $1.2(A) + 1.4(B) + 3.3(C) + 0.6(D) + 1.0(E)$
2. A= Working Capital/ Total Assets
3. B= Retained Earnings /Total Assets
4. C= Earnings Before Interest and Tax /Total Asset
5. D= Market Value of Equity /Total Liabilities
6. E= Sales /Total Assets
7. Gather all information for 5 years and calculate them according to Altman Z score formula
8. Choose chart for the answer and represent it

RESULT:

Thus, the Altman Z Score for 5 years is identified and represented by chart using Excel

Exercise No: 10	ALTMAN Z- SCORE-II
Date:	

AIM:

To identify the Altman Z score for the competitive company of 5 years and represent a chart using Excel

PROCEDURE:

1. Altman Z- Score = $1.2(A) + 1.4(B) + 3.3(C) + 0.6(D) + 1.0(E)$
2. A= Working Capital/ Total Assets
3. B= Retained Earnings /Total Assets
4. C= Earnings Before Interest and Tax /Total Asset
5. D= Market Value of Equity /Total Liabilities
6. E= Sales /Total Assets
7. Gather all information for 5 years and calculate them according to Altman z score formula
8. Choose chart for the answer and represent it

RESULT:

Thus, the calculation of Altman's Z score is done and the output is executed using Excel

Exercise No: 11	HOUSING LOAN
Date:	

AIM:

To identify whom to provide housing loan using Excel.

PROCEDURE:

1. Import necessary data for the housing loan.
2. Set the parameters for the final score.
3. Perform the describe function to understand the data and to calculate mean, min, max value etc.
4. We have selected 4 parameters as age, income per annum, personal loan and security account.
5. For this condition we need to implement the nested if condition in excel to get the result.
6. For example, IF(B2>=25, IF(C2>=20, IF(F2=0, IF(G2>=1,"YES","NO"))))
7. Drag the curser for all the data.
8. All the data will now have the final result to whom to give or not.

RESULT:

Thus, it is identified as to whom to provide personal loan using Excel.

Exercise No: 12	PERSONAL LOAN
Date:	

AIM:

To identify whom to provide personal loan using Excel.

PROCEDURE:

1. Import necessary data for the housing loan.
2. Set the parameters for the final score.
3. Perform the describe function to understand the data and to calculate mean, min, max value etc.
4. We have selected 4 parameters as age, income per annum, personal loan and security account.
5. For this condition we need to implement the nested if condition in excel to get the result.
6. For example, =IF(B2>=21, IF(C2>10, IF(F2=0, IF(G2>=1,"YES","NO"))))
7. Drag the curser to for all the data.
8. All the data will now have the final result to whom to give or not.

RESULT:

Thus, it is identified as to whom to provide personal loan using Excel.

Exercise No: 13	CREDIT SCORE MODELING
Date:	

AIM

1. To develop a credit score model using MS-Excel.

PROCEDURE

1. Enter the list of attributes given and give the weights based on preference.
2. Create a score value for each attribute in sheet 2.
3. The third column in the table is rating. The values are done using data validation.
4. Insert data – data validation – enter the sheet no and the reference.
5. Then multiply the rating and weightage to get the score.
6. The max rating is given in the fourth column & max score is the rating and max.
7. The credit score value = $[\text{Total max score} / \text{Total score}] * 100$.

INTERPRETATION:

- The existing liabilities are between 5L – 10L.
- The monthly income is between 50000 – 1L.
- The net worth is more than 1cr.
- The credit score > 60

So, we can lend a loan.

RESULT:

Thus, the credit score model using MS excel is executed and output is verified

Exercise No: 14	CREDIT SCORE MODEL FOR INDIVIDUAL
Date:	

AIM:

To develop the credit score for the individual using excel.

PROCEDURE:

1. Import necessary data for the credit score for individual.
2. Set the parameters for the final score.
3. Perform the describe function to understand the data and to calculate mean, min, max value etc.
4. We have selected 7 parameters as education, income, existing debt, asset worth, credit card, default and loan on asset
5. For this condition we need to implement the nested if condition in excel to get the result.
6. On our basis we can create a range for each parameter and assign them the ratings from 0 to 10.
7. For each parameters points to be added for the final score.
8. With the help of the nested if condition we need to find the credit score from the final score.
9. For example, for credit score =IF(P3>50,"YES","NO")
10. Drag the curser to for all the data.
11. All the data will now have the final result to whom to give or not.

RESULT:

Thus, the credit score for the individual is calculated using excel.

Exercise No: 15	DECISION TREE I
Date:	

AIM:

To build a Decision Tree based on the given dataset and interpretations should be made using MS- Excel.

PROCEDURE:

1. Analyze the given dataset with its attributes as: -
 - Customer ID
 - Gender
 - Past Credit
 - Age
 - Experiment
 - Salary
 - Collateral
2. The decision tree is built in the MS- Excel by INSERT-> Oval & lines
3. Enter the required data of the attributes.
4. The customer credit risk analysis is done on the decision tree built.

INTERPRETATIONS:

- The path of each node to node in the decision tree is followed and the customer regarding the features are analyzed.
- The customers and corresponding risks are determined

Customer ID	Risk Analysis
ABC1	Low Risk Factor: <ul style="list-style-type: none"> • Because the collateral is YES. • The past credit is GOOD. • Good Salary range.
ABC9	Moderate Risk Factor: <ul style="list-style-type: none"> • Because the collateral is NO. • The past credit is GOOD. • Good Salary range.
ABC7, ABC11, ABC13	Moderate Risk Factor: <ul style="list-style-type: none"> • Because the collateral is NO. • The past credit is GOOD. • Good Salary range.

ABC2, ABC4	Moderate Risk Factor: <ul style="list-style-type: none"> • Because the collateral is NO. • The past credit is GOOD. • Good Salary range.
ABC3, ABC5	High Risk Factor: <ul style="list-style-type: none"> • Because the collateral is YES. • The past credit is BAD. • Good Salary range. • Since the collateral is there, the loan can be compensated with the asset.
ABC10, ABC8, ABC12, ABC6, ABC14	High Risk Factor: <ul style="list-style-type: none"> • Because the collateral is YES. • The past credit is BAD. • Good Salary range. • Since the collateral is there, the loan can be compensated with the asset.

RESULT:

Thus, the decision tree is built in MS-Excel and the interpretations are made on the decision tree.

Exercise No: 16	DECISION TREE II
Date:	

AIM:

To create a decision tree for deciding whether to give a loan or not.

PROCEDURE:

- 1: Install and Enable Data Analysis Tool Pak - go to `File -> Options -> Add-Ins -> Manage: Excel Add-ins -> Go - Check "Analysis Tool Pak" and click "OK."
- 2: Prepare Your Data Organize your dataset in Excel, with each row representing a loan applicant and each column representing a feature (e.g., income, employment status, credit score)
3. Go to the "Data" tab in Excel. Look for the "Data Analysis" option in the "Analysis" group. If you don't see it, the Tool Pak might not be enabled.
- 4: In the "Data Analysis" dialog box, select "Decision Tree" from the list of available tools.
- 5: For "Input Range," select the range of your dataset, including headers. For "Output Range," choose where you want the results to be displayed.
- 6: Choose the target variable (the variable you want to predict, e.g., loan approval). Set other relevant options based on your dataset and analysis goals.
- 7: Click "OK" to run the analysis.
- 8: The decision tree results will be displayed in the specified output range. This will include a tree diagram and additional details.
- 9: Go to the "Insert" tab and select "SmartArt" or use Excel's other visualization tools.
- 10: Evaluate the performance of the decision tree using metrics like accuracy, precision, and recall. Make adjustments to the model or dataset as needed.
- 11: Once satisfied with the decision tree, you can apply it to new data to predict outcomes.

RESULT:

Thus, the Decision tree model has been created.

Exercise No: 17	CREDIT RISK ANALYSIS BASED ON VALIDATION RATIO AND PROFITABILITY RATIO USING MS EXCEL
Date:	

AIM:

To analyze credit risk based on validation ratio and profitability ratio using MS Excel

PROCEDURE:

1. Select validation ratio -> select EPS, DPS, P/E ratio, P/B ratio and Dividend Payout Ratio from A65 till E69
2. Three graphs are plotted from insert-> charts
 - Graph 1 - validation ratio - EPS, DPS
 - Graph 2 - validation ratio - P/E ratio, P/B ratio
 - Graph 3 - validation ratio - dividend payout ratio
3. Select profitability -> select ROE and ROS from A72 till E73
4. Graphs are plotted from insert-> charts
 - Graph 4 - profitability ratio - ROE and ROS

INTERPRETATION:

Graph 1

- There is a gradual increase in EPS, so the company cannot go through bankruptcy.
- There is a gradual increase in DPS, so there is growth for business in future which is a good sign

Graph 2

- The P/E ratio is reduced, so the creditworthiness will be high
- The P/B ratio is dropped, so it is a positive sign

Graph 3

- The dividend payout ratio is reducing and it is between 0 to 0.2, so it is a positive sign

Graph 4

- The return on equity ratio reduces over years in return the profit will reduce. This is bad sign for the company's credit rating
- The return on sales is high and it increases every year, so company can pay off the debts. The debt level will be low; it indicates that the creditworthiness of the company is high

RESULT:

Thus, the credit risk analysis of valuation and profitability ratio using graph is executed and output is verified

Exercise No: 18	CREDIT RISK ANALYSIS BASED ON GROWTH RATE AND LIQUIDITY RATIO USING MS EXCEL
Date:	

AIM:

To analyze credit risk based on growth rate and liquidity ratio using MS Excel

PROCEDURE:

1. Select growth rates in excel from A24 till E78
2. Three graphs are plotted from insert-> charts
 - Graph 1 - growth rate- EPS growth rate
 - Graph 2 - growth rate- Net income and EBIT growth rateEPS growth rate
 - Graph 3 - growth rate- Dividend growth rate
3. Select liquidity ratio from A84 till E86
4. A graph is plotted from insert-> charts
 - Graph 4 - liquidity ratio - current ratio and quick ratio

INTERPRETATION:

Graph 1

- The EPS growth rate is reduced over year this will bring the revenue down so it is a bad sign for the company

Graph 2

- The net income and EBIT growth rate reduces every year this indicates there is a drop in sales so the company is not healthy

Graph 3

- The dividend growth rates reduce and the retained earnings are high when comparing these the retained earnings is high and it will be used for further investment in the company

Graph 4

- The current ratio increased over years from 1.078 to 3.436. The current ratio is good so the credit rating of the company will be high. The company is eligible for debt financing

- The company's short-term liquidity is high, the company does not have any external term loan and it has healthy cash. The liquidity position of the company is strong

RESULT:

Thus, the credit risk analysis of growth rate and liquidity ratio using graph is executed and output is verified

Exercise No: 19	CREDIT RISK ANALYSIS BASED ON OPERATING EFFICIENCY, LEVERAGE RATIO AND COVERAGE RATIO USING MS EXCEL
Date:	

AIM:

To analyze credit risk based on operating efficiency, leverage ratio and coverage ratio using MS Excel

PROCEDURE:

1. Select operating efficiency in excel from A85 till E86
2. Select graphs from insert-> charts
 - Graph 1 - operating efficiency - inventory turnover ratio and receivable turnover ratio
3. Select leverage ratio from A89 till E91
4. Select graph from insert-> charts
 - Graph 2 - coverage ratio - Long Term Debt to Total Capitalization, Total debt to equity and Total debt to total capitalization
5. Select coverage ratio from A94 till E95
6. Select graph from insert-> charts
 - Graph 2 - coverage ratio - Times interest earned and Cash coverage ratio

INTERPRETATION:

Graph 1

- The inventory turnover ratio and receivables turnover ratio reduces over years, so there are low sales. This indicates a bad sign for the company

Graph 2

- The debt to equity is decreasing over years so the company pays their debt properly so they can do debt financing
- The company has good long-term capitalization that means the company is not completely funded through debt so they have some personal loan
- Lower debt capitalization is always preferred by the company so the company is healthy

RESULT:

Thus, the credit risk analysis of operating efficiency, leverage ratio and coverage ratio using graph is executed and output is verified.

Exercise No: 20	PREDICTIVE ANALYTICS I
Date:	

AIM:

To calculate the expected loss and total EAD for the given data.

PROCEDURE:

1. $EL = EAD * PD * LGD$
2. To calculate the expected loss, we need to multiply EAD, PD and LGD in excel
For example, $=B17 * C17 * D17$
3. To calculate the Total EAD, we need to sum the given EAD by SUM formula in excel. For example, $=SUM(D8:D12)$
4. Now calculate the sum value for total expected value with SUM formula in excel.
5. $Total\ EAD = Total\ EAD * Total\ EL$
6. Now in a new cell name it as Total Ead and multiply the total EAD and total EL.

RESULT:

Thus, the Expected loss and Total EAD is calculated

Exercise No: 21	PREDICTIVE ANALYTICS II
Date:	

AIM:

To calculate the Expected loss for personal loan of 10 years.

PROCEDURE:

1. Enter given values in the excel for the 10 years.
2. Now create a column and name it as Expected loss.
3. $EL = EAD * PD * LGD$
4. To calculate the expected loss, we need to multiply EAD, PD and LGD in excel
For example, $=B17 * C17 * D17$
5. If the percentage is in number converted into percentage.
6. Calculate the total expected value and total EAD

RESULT:

Thus, the Expected loss for personal loan of 10 years is calculated.

Exercise No: 22	PRACTICE EXERCISE: CREDIT RATING ANALYSIS
Date:	

AIM:

To analyse the credit rating of different company or agencies

PROCEDURE:

1. Credit rating: A credit rating is an evaluation of the credit risk of a prospective debtor (an individual, a business, company or a government), predicting their ability to pay back the debt, and an implicit forecast of the likelihood of the debtor defaulting

2. Credit rating agencies in India

- CRISIL rating
- ICRA rating
- CARE rating
- Fitch rating

The comparison of the rating of the credit rating agencies is done based on long term debentures, Midterm debentures and short-term debentures

Sno	Investment grades	CRISIL	ICRA	CARE
Long term debentures				
1.	Highest safety	AAA	LAAA	CARE AAA
2.	High safety	AA	LAA	CARE AA
3.	Adequate safety	A	LA	CARE A
4.	Inadequate safety	BB	LBB	CARE BB
5.	High Risk	B	LB	CARE B
Mid term debentures				
1.	Highest safety	FAAA	MAAA	CARE AAA
2.	High safety	FAA	MAA	CARE AA
3.	Adequate safety	FA	MA	CARE A
4.	Inadequate safety	FBB	MBB	CARE BB
5.	High Risk	FB	MB	CARE C
Short term debentures				
1.	Highest safety	P1	A1	PR1
2.	High safety	P2	A2	PR2
3.	Adequate safety	P3	A3	PR3
4.	Inadequate safety	P4	A4	PR4
5.	High Risk	-	-	-

RESULT:

Thus, the analysis of the various credit rating models by different credit rating agencies is done.

Exercise No: 23	PRACTICE EXERCISE: CREDIT RATING ANALYSIS
Date:	

AIM:

To calculate the financial indicators using MS Excel

PROCEDURE:

1. To enter the financial statements data in Excel
2. Calculate the following financial indicator using the formulas
3. Earnings per share = net profit / no of equity shares, in excel Earnings per share = B18/B60
4. Dividend per share = (total dividend paid out - any special dividend over a period) / shares outstanding, in excel Dividend per share = B20/B60
5. Price/earnings ratio = share price / Earnings per share, in excel Price/earnings ratio = B59/B65
6. Price to book ratio = price per share / book value per share, in excel Price to book ratio = (B59/B55)*100
7. Dividend payout ratio = Dividend per share / Earnings per share, in excel Dividend payout ratio = B66/B65
8. Return on equity = net income / shareholders equity, in excel Return on equity = B18/B55
9. Return on sales = (EBIT / net sales)*100,in excel Return on sales = (B11/B4)*100
10. EPS growth rate = ((current year EPS - previous year EPS) / previous year EPS)*100, in excel EPS growth rate = ((C65-B65)/B65)*100
11. Sales growth rate = ((current year sales - previous year sales) / previous year sales)*100, in excel sales growth rate = ((C4-B4)/B4)*100
12. Dividend growth rate = ((current year dividend - previous year dividend) / previous year dividend)*100, in excel dividend growth rate = ((C20-B20)/B20)*100
13. EBIT growth rate = ((current year EBIT - previous year EBIT) / previous year EBIT)*100, in excel EBIT growth rate = ((C11-B11)/B11)*100

RESULT:

Thus, the calculation of financial indicators is done and output is verified

Exercise No: 24	PRACTICE EXERCISE: ALTMAN Z SCORE MODEL – II
Date:	

AIM:

To calculate Altman's z score for the following information of Walmart for the year 2022 and to write the observation.

PROCEDURE:

1. Enter the following data in Excel
2. $A = \text{Working capital} / \text{Total assets ratio}$ in excel = B10/B5
3. $B = \text{Retained earnings} / \text{Total assets ratio}$ in excel = B4/B5
4. $C = \text{EBIT} / \text{Total assets ratio}$ in excel = B7 / B5
5. $D = \text{Market value of equity} / \text{Total liabilities}$ in excel = B9/B6
6. $E = \text{Total sales} / \text{Total assets}$ in excel = B8/B5
7. $Z = (1.2*A) + (1.4*B) + (3.3*C) + (0.6*D) + (1.0*E4)$ in excel = $(1.2*E3) + (1.4*E4) + (3.3*E5) + (0.6*E6) + (1*E7)$

INTERPRETATION:

The value of the Z score is > 3.14 so the company is in a safer zone.

RESULT:

Thus, the calculation of Altman's Z score is done and the output is executed.

Exercise No: 25	PRACTICE EXERCISE: PREDICTIVE ANALYSIS
Date:	

AIM:

To calculate expected loss separately for individual customers and also a group of customers.

PROCEDURE:

1. Enter the given data.
2. To get expected loan,
 - i) Multiply RD &EAD
 $B2 * C2$
 - ii) Then multiply ans & PQ
 $E2 = D2 * E2$
3. Then Drag it down.
4. To calculate the sum of all the customers.

RESULT:

Thus, the calculation of expected loss separately for individual customers and also a group of customers are executed and output is verified.