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23MBPE611

MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

(A Unit of Rajalaxmi Education Trust®, Mangalore)
Autonomous Institute affiliated to VTU, Belagavi, Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade & ISO 9001:2015 Certified Institution

Model Question Paper

Third Semester MBA Degree Examination

Security Analysis and Portfolio Management

Time: 3 Hours **Max. Marks: 100**

Note: 1. Answer any FOUR full questions from Q1 to Q7.
2. Question No. 8 is compulsory.
3. M: Marks, L: RBT (Revised Bloom's Taxonomy) level, C: Course outcomes.

<table>
<tr><th></th><th></th><th></th><th>M</th><th>L</th><th>C</th></tr>
<tr><td rowspan="3">Q1</td><td>a.</td><td>Ananya has invested ₹1,50,000 in a mid-cap company that recently launched a new product. However, after an initial surge in stock price, the product received negative reviews, and the stock price dropped by 15%. Ananya is unsure whether to hold her investment or sell. Choose best stratergy for Ananya to consider before making decision to sell or hold the stock?</td><td>03</td><td>L3</td><td>CO1</td></tr>
<tr><td>b.</td><td>Roy's Investments Pvt. Ltd.,a growing portfolio management firm, has recently onboarded two new analysts, Rahul and Sneha. Both are talented but follow different investment strategies. The firm wants to clarify the differences between technical analysis different from fundamental analysis. Being a management consultant kindly advise them.</td><td>07</td><td>L3</td><td>CO1</td></tr>
<tr><td>c.</td><td>Manasu Investments Pvt. Ltd. is a leading portfolio management company based in Bengaluru, managing a diversified portfolio of equity investments for its clients. As part of its ongoing portfolio performance assessment, the investment team is currently reviewing a four-stock equity portfolio. The details are
<table>
<tr><th>Stock</th><th>Market Value (Rs)</th><th>Beta</th></tr>
<tr><td>Asian Paints</td><td>200000</td><td>1.16</td></tr>
<tr><td>Bajaj Finance</td><td>100000</td><td>1.20</td></tr>
<tr><td>Hero Motocorp</td><td>150000</td><td>0.8</td></tr>
<tr><td>Indus Ind Bank</td><td>50000</td><td>0.5</td></tr>
</table>
If the risk-free rate of interest is 9% expected by Manasu Investments and the market return is 15%. The management wants to determine the expected return of the portfolio. Analyze using the Capital Asset Pricing Model (CAPM).</td><td>10</td><td>L4</td><td>CO2</td></tr>
<tr><td rowspan="2">Q2</td><td>a.</td><td>Suresh has invested ₹1,00,000 in a stock that has been performing well recently. However, there has been news of political instability in the country, which is causing market-wide uncertainty. Suresh is concerned about the impact of this event on his portfolio. Identify the type of risk Suresh is exposed to, and how can he mitigate this risk through diversification in his portfolio.</td><td>03</td><td>L3</td><td>CO1</td></tr>
<tr><td>b.</td><td>Elegant Investments Pvt. Ltd. is preparing for its Quarterly Client Review Meeting. The firm's Research and Strategy Team has been asked to explain how various macroeconomic factors influence the stock market, especially in the current economic environment. To make the session engaging, you being a manager at the firm discuss about various macro-economic variables and their impact on the stock market.</td><td>07</td><td>L3</td><td>CO3</td></tr>
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<tr><td></td><td>c.</td><td>You are a junior financial analyst at Malini Investments Pvt. Ltd., a well-established portfolio management company. The firm is currently evaluating two securities—Security A and Security B—as potential investment opportunities. The returns of securities of A and B are given below
<table>
<tr><th>Probability</th><th>Security A</th><th>Security B</th></tr>
<tr><td>0.5</td><td>4</td><td>0</td></tr>
<tr><td>0.4</td><td>2</td><td>3</td></tr>
<tr><td>0.1</td><td>0</td><td>3</td></tr>
</table>
Give the security of your preference. The security has to be selected on the basis of return and risk. Your recommendation will play a critical role in deciding which security to include in the client’s portfolio.</td><td>10</td><td>L3</td><td>CO3</td></tr>
<tr><td rowspan="3">Q3</td><td>a.</td><td>Amit is considering investing in a company that has both preference shares and equity shares available for purchase. Amit wants to understand the difference in valuation between these two types of shares to make an informed decision. Select the dividend valuation models to assess the value of the preference shares and equity shares</td><td>03</td><td>L3</td><td>CO4</td></tr>
<tr><td>b.</td><td>A portfolio consists of 3 securities 1, 2 and 3. The proportions of these securities are W1 = 0.3, W2 = 0.5 and W3 = 0.2. The standard deviations of returns on these securities (in percentage terms) are $\sigma 1 = 6$, $\sigma 2=9$ and $\sigma 3=10$. The correlation coefficients among the security returns are P12=0.4, P13=0.6 and P23=0.7. Find the standard deviation so that further decisions can be taken.</td><td>07</td><td>L3</td><td>CO3</td></tr>
<tr><td>c.</td><td>Sandeep invested in a technology stock in 2018 based on a promising growth forecast. However, the stock price fell dramatically in 2020 due to unforeseen market conditions. Meanwhile, Neha invested in a well-diversified portfolio, including both stocks and bonds, and saw steady returns. Make use of fundamental analysis and technical analysis, identify why Sandeep’s investment failed and Neha’s strategy was successful.</td><td>10</td><td>L3</td><td>CO3</td></tr>
<tr><td rowspan="3">Q4</td><td>a.</td><td>Ravi is looking to invest in a company using the Price-to-Earnings (P/E) ratio valuation model. He is analyzing a company with an earnings per share (EPS) of ₹50 and a P/E ratio of 15. Ravi wonders how the P/E ratio can help him value the company's stock compared to using the dividend-based models. Make use of the above scenario and suggest how can Ravi apply the P/E ratio valuation model to estimate the value of the company’s stock</td><td>03</td><td>L3</td><td>CO4</td></tr>
<tr><td>b.</td><td>Rathan Investments Pvt. Ltd. is expanding its Research and Advisory Services. To strengthen its fundamental analysis approach, the firm has decided to implement the EIC framework while evaluating stocks for long-term investments. Apply EIC model for discussion on fundamental analysis.</td><td>07</td><td>L3</td><td>CO3</td></tr>
<tr><td>c.</td><td>The following data are available to you as portfolio manager.
<table>
<tr><th>Security</th><th>Estimated return (%)</th><th>Beta</th><th>Standard deviation (%)</th></tr>
<tr><td>A</td><td>30</td><td>2.0</td><td>50</td></tr>
<tr><td>B</td><td>25</td><td>1.5</td><td>40</td></tr>
<tr><td>C</td><td>20</td><td>1.0</td><td>30</td></tr>
<tr><td>D</td><td>11.5</td><td>0.8</td><td>25</td></tr>
<tr><td>E</td><td>10.0</td><td>0.5</td><td>20</td></tr>
<tr><td>Market index</td><td>15</td><td>1.0</td><td>18</td></tr>
<tr><td>Govt. security</td><td>7</td><td>0</td><td>0</td></tr>
</table>
1. In terms of the security market line, identify which of the securities listed above are underpriced?</td><td>10</td><td>L4</td><td>CO5</td></tr>
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<tr><td></td><td></td><td>2. Assuming that a portfolio is constructed using equal proportion of the five securities listed above, calculate the expected return and risk of such a portfolio.</td><td></td><td></td><td></td></tr>
<tr><td rowspan="3">Q5</td><td>a.</td><td>Ravi is considering buying a bond that pays an annual coupon of 8% with a face value of ₹1,000. The bond has 5 years to maturity, and its current market price is ₹950. Make use of above information and calculate the Yield to Maturity (YTM) of this bond, and what does this value represent for an investor?</td><td>03</td><td>L3</td><td>CO3</td></tr>
<tr><td>b.</td><td>Anjali is deciding between two stocks, Stock A and Stock B, for her investment portfolio. Stock A has a return of 10% with a risk (standard deviation) of 12%, while Stock B offers a return of 15% with a risk of 18%. The correlation between the two stocks is 0.2. Anjali is considering combining these two stocks in her portfolio.
Using the Markowitz Model, analyze how can Anjali assess the benefits of diversification and the overall portfolio risk if she invests in both stocks? Should she diversify her investment to reduce risk?</td><td>07</td><td>L4</td><td>CO5</td></tr>
<tr><td>c.</td><td>Sunrise Wealth Managers Pvt. Ltd. is a reputed investment advisory firm specializing in debt portfolio management for conservative investors. One of their prominent clients, Mr. Arvind Rao has made investments and come to you for further analysis. He has submitted the following information on a bond Face value Rs 100 Coupon rate: 12% p.a. Years to maturity: 6 years current market price: Rs 110. Find out the duration of the bond using YTM to analyze the values.</td><td>10</td><td>L4</td><td>CO2</td></tr>
<tr><td rowspan="3">Q6</td><td>a.</td><td>Vikram holds a portfolio of bonds with different durations: Bond A has a duration of 4 years, and Bond B has a duration of 7 years. The interest rate in the market is expected to rise by 2%. Identify how will the interest rate increase affect the price of Vikram's bonds, and which bond is more sensitive to interest rate changes based on duration?</td><td>03</td><td>L3</td><td>CO3</td></tr>
<tr><td>b.</td><td>Security J has a beta of 0.75 while security K has a beta of 1.45. calculate the expected return for these securities, assuming that the risk free rate is 5 per cent and the expected return of the market is 14 per cent.</td><td>07</td><td>L3</td><td>CO4</td></tr>
<tr><td>c.</td><td>NovaTech Ltd. is an emerging technology company. The analyst has gathered historical return data for the past 9 periods for NovaTech Ltd. and the Market Index. You are asked to calculate beta of company NovaTech Ltd's stock for further analysis.
<table>
<tr><td>Mkt. return</td><td>-6.54</td><td>3.37</td><td>-3.01</td><td>0.14</td><td>-1.57</td><td>-2.28</td><td>3.28</td><td>-0.95</td><td>0.47</td></tr>
<tr><td>Stock return</td><td>-4.52</td><td>2.13</td><td>-3.96</td><td>-0.94</td><td>-1.71</td><td>-4.76</td><td>8.00</td><td>0.04</td><td>6.5</td></tr>
</table></td><td>10</td><td>L4</td><td>CO5</td></tr>
<tr><td rowspan="3">Q7</td><td>a.</td><td>Suman is interested in investing in the stock market but is not sure where to start. She wants to understand the process of making an investment decision. Identify main steps involved in making an informed investment decision.</td><td>03</td><td>L3</td><td>CO1</td></tr>
<tr><td>b.</td><td>Anjali is new to investing and wants to understand the process involved in making sound investment decisions. She is considering various financial instruments such as equity shares, bonds, and mutual funds. Make use of the above scenario and suggest the investment process that Anjali should follow.</td><td>07</td><td>L3</td><td>CO1</td></tr>
<tr><td>c.</td><td>An investor owns a portfolio composed of five securities with the following characteristics.
<table>
<tr><th>Security</th><th>Beta</th><th>Standard deviation (per cent)</th><th>Proportion</th></tr>
</table></td><td>10</td><td>L4</td><td>CO5</td></tr>
</table>

1	1.35	5	0.10
2	1.05	9	0.20
3	0.80	4	0.15
4	1.50	12	0.30
5	1.12	8	0.25

If the standard deviation of the market index is 20 per cent, Analyze total risk of the portfolio?

Q8

a.

CASE STUDY (Compulsory)

You are a financial analyst at Reethesh Investments Pvt. Ltd., tasked with advising a high-net-worth client who is keen on making strategic equity investments for the next year. The client has shortlisted two stocks based on preliminary research-Stock Y and Stock Z. You being a financial analyst is analyzing two investment alternatives stock Z and Stock Y. The estimated rates of return and their chances of occurrence for the next year are given below.

Probability of occurrence	Rate of return (%)	
	Y	Z
0.20	22	5
0.60	14	15
0.20	-4	25

Client is expecting you to analyze from his investments

i. Expected rates of return, variance and standard deviation of Y and Z to decide future investments.

ii. Is Y comparatively riskless so that more investments can be made?

iii. Assume the financial analyst wishes to invest half in Z and another half in Y, would it reduce risk?

20 L4 CO5

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