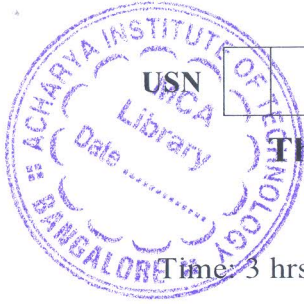


CBCS SCHEME

22MBAFM304



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Third Semester MBA Degree Examination, June/July 2024 Security Analysis and Portfolio Management

Time: 3 hrs.

Max. Marks: 100

- Note:**
1. Answer any **FOUR** full questions from Q.No.1 to Q.No.7.
 2. Question No. 8 is compulsory.
 3. M : Marks , L: Bloom's level , C: Course outcomes.
 4. Time Value Table is permitted.

| | | | M | L | C | | | | | | | | | | | | | | | |
|----------------------|-------------|--|----------------------|-------------|------|------|------|-----|-----|-----|-------------|------|------|------|------|------|------|------|-----|----|
| Q.1 | a. | “Investment is different from speculation”. Justify. | 3 | L4 | CO1 | | | | | | | | | | | | | | | |
| | b. | Define Risk. Explain the various types of Risk. | 7 | L2 | CO2 | | | | | | | | | | | | | | | |
| | c. | “Investment is a systematically planned employment of funds”. On the light of this statement, explain the process of investment. | 10 | L4 | CO1 | | | | | | | | | | | | | | | |
| Q.2 | a. | What are derivative? Briefly explain. | 3 | L2 | CO1 | | | | | | | | | | | | | | | |
| | b. | “Stocks are risky, but bonds are not”. Explain. | 7 | L4 | CO2 | | | | | | | | | | | | | | | |
| | c. | What do you understand from portfolio management strategies? Explain. | 10 | L2 | CO1 | | | | | | | | | | | | | | | |
| Q.3 | a. | What do you mean by Bond Duration? Briefly explain. | 3 | L2 | CO2 | | | | | | | | | | | | | | | |
| | b. | Calculate the expected return and the standard deviation of returns for a stock having the following probability distribution of returns. <table border="1" style="margin: 5px auto; border-collapse: collapse;"> <tr> <td>Possible returns (%)</td> <td>-25</td> <td>-10</td> <td>0</td> <td>15</td> <td>20</td> <td>30</td> <td>35</td> </tr> <tr> <td>Probability</td> <td>0.05</td> <td>0.10</td> <td>0.10</td> <td>0.15</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> </tr> </table> | Possible returns (%) | -25 | -10 | 0 | 15 | 20 | 30 | 35 | Probability | 0.05 | 0.10 | 0.10 | 0.15 | 0.25 | 0.20 | 0.15 | 7 | L5 |
| Possible returns (%) | -25 | -10 | 0 | 15 | 20 | 30 | 35 | | | | | | | | | | | | | |
| Probability | 0.05 | 0.10 | 0.10 | 0.15 | 0.25 | 0.20 | 0.15 | | | | | | | | | | | | | |
| | c. | A stock casting Rs. 120 pays no dividend. The possible prices that the stock might sell for at the end of the year with the respective probabilities as follows : <table border="1" style="margin: 5px auto; border-collapse: collapse;"> <thead> <tr> <th>Price (Rs.)</th> <th>Probability</th> </tr> </thead> <tbody> <tr><td>115</td><td>0.1</td></tr> <tr><td>120</td><td>0.1</td></tr> <tr><td>125</td><td>0.2</td></tr> <tr><td>130</td><td>0.3</td></tr> <tr><td>135</td><td>0.2</td></tr> <tr><td>140</td><td>0.1</td></tr> </tbody> </table> <p style="margin-left: 20px;">i) Calculate the expected Return ii) Calculate the standard deviation of the return</p> | Price (Rs.) | Probability | 115 | 0.1 | 120 | 0.1 | 125 | 0.2 | 130 | 0.3 | 135 | 0.2 | 140 | 0.1 | 10 | L5 | CO2 | |
| Price (Rs.) | Probability | | | | | | | | | | | | | | | | | | | |
| 115 | 0.1 | | | | | | | | | | | | | | | | | | | |
| 120 | 0.1 | | | | | | | | | | | | | | | | | | | |
| 125 | 0.2 | | | | | | | | | | | | | | | | | | | |
| 130 | 0.3 | | | | | | | | | | | | | | | | | | | |
| 135 | 0.2 | | | | | | | | | | | | | | | | | | | |
| 140 | 0.1 | | | | | | | | | | | | | | | | | | | |
| Q.4 | a. | What are Mutual Funds? Briefly explain. | 3 | L2 | CO4 | | | | | | | | | | | | | | | |
| | b. | A person owns a Rs. 1000 face value bond with 5 years to maturity. The bond makes annual interest payments of Rs. 80. The bond is currently priced at Rs. 960. Given that the Market interest rate is 10%, should the investor hold or sell the bond? | 7 | L4 | CO2 | | | | | | | | | | | | | | | |

| | c. | A portfolio is constituted with four securities having the following characteristics. <table border="1" data-bbox="570 237 1027 421"> <thead> <tr> <th>Security</th> <th>Return (%)</th> <th>Weight age</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>17.5</td> <td>0.15</td> </tr> <tr> <td>Q</td> <td>24.8</td> <td>0.25</td> </tr> <tr> <td>R</td> <td>15.7</td> <td>0.45</td> </tr> <tr> <td>S</td> <td>21.3</td> <td>0.15</td> </tr> </tbody> </table> <p>Calculate the expected return of the portfolio. Would the return increase if the investment each security if going to be equal?</p> | Security | Return (%) | Weight age | P | 17.5 | 0.15 | Q | 24.8 | 0.25 | R | 15.7 | 0.45 | S | 21.3 | 0.15 | 10 | L4 | CO2 | | | | | | | | | | | | | | | | | |
|----------|---------------|--|----------|---------------|------------|-----|------|------|---|------|------|-----|------|------|---|------|------|-----|----|-----|---|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|----|-----|
| Security | Return (%) | Weight age | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P | 17.5 | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q | 24.8 | 0.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | 15.7 | 0.45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S | 21.3 | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q.5 | a. | What is the significance of P/E Ratio in security analysis? Briefly explain. | 3 | L4 | CO3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | b. | A company paid dividends amounting to Rs. 0.75 per share during the next year investors forecast a dividend of Rs. 3 per share in the year after that. There after, it is expected that dividends will grow at 10% per year into an indefinite future. Would you buy/sell the share if the current price of the share is Rs. 54? Investors required rate of return is 15%. | 7 | L4 | CO3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | c. | Jaya Ltd., has a 14% debenture with a face value of Rs. 100 that matures at par in 15 years. The debenture is callable in 5 years at Rs. 114. It currently sells for Rs. 105. Calculate each of the following for this debenture. i) Current yield ii) Yield to call iii) Yield to maturity | 10 | L5 | CO3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q.6 | a. | How RSI is helpful in stock analysis? Briefly explain. | 3 | L4 | CO3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | b. | What do you understand from Industry analysis? On the light of this explain industry life cycle. | 7 | L2 | CO3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | c. | Calculate 14 days RSI from the following data : <table border="1" data-bbox="654 1256 937 1830"> <thead> <tr> <th>Days</th> <th>Closing Price</th> </tr> </thead> <tbody> <tr><td>1</td><td>130</td></tr> <tr><td>2</td><td>132</td></tr> <tr><td>3</td><td>130</td></tr> <tr><td>4</td><td>135</td></tr> <tr><td>5</td><td>137</td></tr> <tr><td>6</td><td>134</td></tr> <tr><td>7</td><td>136</td></tr> <tr><td>8</td><td>140</td></tr> <tr><td>9</td><td>140</td></tr> <tr><td>10</td><td>142</td></tr> <tr><td>11</td><td>139</td></tr> <tr><td>12</td><td>141</td></tr> <tr><td>13</td><td>145</td></tr> <tr><td>14</td><td>143</td></tr> <tr><td>15</td><td>145</td></tr> </tbody> </table> | Days | Closing Price | 1 | 130 | 2 | 132 | 3 | 130 | 4 | 135 | 5 | 137 | 6 | 134 | 7 | 136 | 8 | 140 | 9 | 140 | 10 | 142 | 11 | 139 | 12 | 141 | 13 | 145 | 14 | 143 | 15 | 145 | 10 | L5 | CO3 |
| Days | Closing Price | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 132 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 135 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 137 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 134 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 136 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 140 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 140 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 142 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 139 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 141 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 145 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 143 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 145 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q.7 | a. | What do understand from an efficient market? Briefly explain the '3' forms of market efficiency. | 3 | L2 | CO3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | <p>b. Assume you are a portfolio manager based on the following details; determine the securities that are overpriced and those that are underpriced in terms of SML.</p> <table border="1" data-bbox="553 293 1040 618"> <thead> <tr> <th>Security</th> <th>Actual Return</th> <th>β</th> <th>σ</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.33</td> <td>1.7</td> <td>0.50</td> </tr> <tr> <td>B</td> <td>0.13</td> <td>1.4</td> <td>0.35</td> </tr> <tr> <td>C</td> <td>0.26</td> <td>1.1</td> <td>0.40</td> </tr> <tr> <td>D</td> <td>0.12</td> <td>0.95</td> <td>0.24</td> </tr> <tr> <td>E</td> <td>0.21</td> <td>1.05</td> <td>0.28</td> </tr> <tr> <td>F</td> <td>0.14</td> <td>0.70</td> <td>0.18</td> </tr> <tr> <td>Nifty</td> <td>0.13</td> <td>1.00</td> <td>0.20</td> </tr> <tr> <td>T-Bills</td> <td>0.09</td> <td>0</td> <td>0</td> </tr> </tbody> </table> | Security | Actual Return | β | σ | A | 0.33 | 1.7 | 0.50 | B | 0.13 | 1.4 | 0.35 | C | 0.26 | 1.1 | 0.40 | D | 0.12 | 0.95 | 0.24 | E | 0.21 | 1.05 | 0.28 | F | 0.14 | 0.70 | 0.18 | Nifty | 0.13 | 1.00 | 0.20 | T-Bills | 0.09 | 0 | 0 | 7 | L4 | CO3 |
|----------|---|------------|---------------|------------|----------|--------|-------|------|------|--------|-------|------|------|--------|-------|------|------|----|------|------|------|---|------|------|------|---|------|------|------|-------|------|------|------|---------|------|---|---|---|----|-----|
| Security | Actual Return | β | σ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | 0.33 | 1.7 | 0.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | 0.13 | 1.4 | 0.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| D | 0.12 | 0.95 | 0.24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | 0.21 | 1.05 | 0.28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | 0.14 | 0.70 | 0.18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nifty | 0.13 | 1.00 | 0.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T-Bills | 0.09 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>c. The following information is provided regarding the performance of Fund 1, Fund 2 and Fund 3 for a 6 month period. The risk for rate of interest is assumed to be 9% Rank the portfolio based on Sharpe and Treynors index</p> <table border="1" data-bbox="610 815 992 960"> <thead> <tr> <th>Funds</th> <th>RP(%)</th> <th>σ_p</th> <th>β</th> </tr> </thead> <tbody> <tr> <td>Fund 1</td> <td>25.38</td> <td>4</td> <td>0.23</td> </tr> <tr> <td>Fund 2</td> <td>25.11</td> <td>9.01</td> <td>0.56</td> </tr> <tr> <td>Fund 3</td> <td>25.01</td> <td>3.55</td> <td>0.59</td> </tr> </tbody> </table> | Funds | RP(%) | σ_p | β | Fund 1 | 25.38 | 4 | 0.23 | Fund 2 | 25.11 | 9.01 | 0.56 | Fund 3 | 25.01 | 3.55 | 0.59 | 10 | L4 | CO4 | | | | | | | | | | | | | | | | | | | | |
| Funds | RP(%) | σ_p | β | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fund 1 | 25.38 | 4 | 0.23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fund 2 | 25.11 | 9.01 | 0.56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fund 3 | 25.01 | 3.55 | 0.59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q.8 | <p>Compulsory :</p> <p>Stock 'L' and 'M' have yielded the following returns for the past two years.</p> <table border="1" data-bbox="634 1171 964 1279"> <thead> <tr> <th>Years</th> <th>Returns (%)</th> <th>M</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td>12</td> <td>14</td> </tr> <tr> <td>2012</td> <td>18</td> <td>12</td> </tr> </tbody> </table> <p>a) What is the expected return on a portfolio made-up of 60% of 'L' and 40% of 'M'?</p> <p>b) Find out standard Deviation of each stock?</p> <p>c) What is the covariance and co-efficient of correlation between stock 'L' and 'M'?</p> <p>d) What is the portfolio risk of a portfolio made-up of 60% of L and 40% of 'M'?</p> | Years | Returns (%) | M | 2011 | 12 | 14 | 2012 | 18 | 12 | 20 | L5 | CO2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Years | Returns (%) | M | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 12 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | 18 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
