



# CBCS SCHEME

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MBAFM314

## Third Semester MBA Degree Examination, June/July 2026 Investment 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.*

|                      |                 |                                                                                                                                                                                                                                                                                                                                                                                                          | M                    | L               | C                  |            |          |          |             |      |     |                 |         |         |    |    |     |
|----------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|--------------------|------------|----------|----------|-------------|------|-----|-----------------|---------|---------|----|----|-----|
| Q.1                  | a.              | Define Investment and list any three attributes of a good investment.                                                                                                                                                                                                                                                                                                                                    | 3                    | L2              | CO1                |            |          |          |             |      |     |                 |         |         |    |    |     |
|                      | b.              | Explain the various types of systematic and unsystematic risks with examples.                                                                                                                                                                                                                                                                                                                            | 7                    | L3              | CO2                |            |          |          |             |      |     |                 |         |         |    |    |     |
|                      | c.              | Calculate the duration of Bond A and Bond B<br><table><tr><td>Particulars</td><td>Bond A</td><td>Bond B</td></tr><tr><td>Face Value</td><td>Rs.1,000</td><td>Rs.1,000</td></tr><tr><td>Coupon rate</td><td>7%</td><td>8%</td></tr><tr><td>Maturity period</td><td>4 years</td><td>4 years</td></tr></table> <p>Bonds are currently yielding 6%, suggest which bond is to be selected for investment.</p> | Particulars          | Bond A          | Bond B             | Face Value | Rs.1,000 | Rs.1,000 | Coupon rate | 7%   | 8%  | Maturity period | 4 years | 4 years | 10 | L5 | CO2 |
| Particulars          | Bond A          | Bond B                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Face Value           | Rs.1,000        | Rs.1,000                                                                                                                                                                                                                                                                                                                                                                                                 |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Coupon rate          | 7%              | 8%                                                                                                                                                                                                                                                                                                                                                                                                       |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Maturity period      | 4 years         | 4 years                                                                                                                                                                                                                                                                                                                                                                                                  |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Q.2                  | a.              | What is Bond duration?                                                                                                                                                                                                                                                                                                                                                                                   | 3                    | L4              | CO1                |            |          |          |             |      |     |                 |         |         |    |    |     |
|                      | b.              | The probability distribution of rate of return on Alpha stock is given below<br><table><tr><td>State of the Economy</td><td>Probability</td><td>Rate of Return</td></tr><tr><td>Boom</td><td>0.40</td><td>25%</td></tr><tr><td>Normal</td><td>0.30</td><td>12%</td></tr><tr><td>Recession</td><td>0.30</td><td>-6%</td></tr></table> <p>What is the standard deviation of the return?</p>                | State of the Economy | Probability     | Rate of Return     | Boom       | 0.40     | 25%      | Normal      | 0.30 | 12% | Recession       | 0.30    | -6%     | 7  | L5 | CO4 |
| State of the Economy | Probability     | Rate of Return                                                                                                                                                                                                                                                                                                                                                                                           |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Boom                 | 0.40            | 25%                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Normal               | 0.30            | 12%                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Recession            | 0.30            | -6%                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
|                      | c.              | Explain the EIC (Economy–Industry–Company) analysis framework.                                                                                                                                                                                                                                                                                                                                           | 10                   | L4              | CO3                |            |          |          |             |      |     |                 |         |         |    |    |     |
| Q.3                  | a.              | A stock Price at the beginning of the year is Rs.60, and at the end of the year is Rs.69, Dividend paid during the year is Rs.2.40. What is the current return, capital return and Total return of the stock?                                                                                                                                                                                            | 3                    | L3              | CO2                |            |          |          |             |      |     |                 |         |         |    |    |     |
|                      | b.              | Explain mutual funds: structure, and participants.                                                                                                                                                                                                                                                                                                                                                       | 7                    | L3              | CO1                |            |          |          |             |      |     |                 |         |         |    |    |     |
|                      | c.              | An investor invests 40% in Security X and 60% in Security Y.<br><table><tr><td>Security</td><td>Expected Return</td><td>Standard Deviation</td></tr><tr><td>X</td><td>18%</td><td>20%</td></tr><tr><td>Y</td><td>12%</td><td>14%</td></tr></table> <p>The correlation coefficient (<math>\rho_{xy}</math>) = 0.45.<br/>Calculate: a) Portfolio return and b) Portfolio standard deviation.</p>           | Security             | Expected Return | Standard Deviation | X          | 18%      | 20%      | Y           | 12%  | 14% | 10              | L5      | CO4     |    |    |     |
| Security             | Expected Return | Standard Deviation                                                                                                                                                                                                                                                                                                                                                                                       |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| X                    | 18%             | 20%                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |
| Y                    | 12%             | 14%                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                 |                    |            |          |          |             |      |     |                 |         |         |    |    |     |

|            |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |                       |                                 |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------|---------------------------------|------------------------------------|----|----|-------|------|----|----|----|-----|---|----|-----|-----|--------|----|----|-----|----|----|-----|
| Q.4        | a.                    | Write the meaning of P/E ratio.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3                                  | L4                    | CO1                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | b.                    | The current dividend on an equity share of Pioneer Technology is Rs.3.00. Pioneer is expected to grow an above normal growth rate of 40% for 5 years. Thereafter, the growth rate will fall and stabilize at 12%. Equity investors require a return of 15% from Pioneer stock. What is the intrinsic value of the stock?                                                                                                                                                                                                                                                                                                      | 7                                  | L3                    | CO2                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | c.                    | Explain the different forms of EMH and evaluate the empirical evidence supporting each form.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10                                 | L4                    | CO3                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| Q.5        | a.                    | List any three types of charts used in technical analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3                                  | L4                    | CO1                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | b.                    | The annual rate of returns on Naveen Ltd and index rate of return are given below : Determine the $\beta$ coefficient. <table border="1"><tr><td>Naveen Ltd</td><td>(8)</td><td>15</td><td>12</td><td>13</td><td>18</td></tr><tr><td>Index</td><td>(10)</td><td>18</td><td>14</td><td>16</td><td>22</td></tr></table>                                                                                                                                                                                                                                                                                                         | Naveen Ltd                         | (8)                   | 15                              | 12                                 | 13 | 18 | Index | (10) | 18 | 14 | 16 | 22  | 7 | L5 | CO4 |     |        |    |    |     |    |    |     |
| Naveen Ltd | (8)                   | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 12                                 | 13                    | 18                              |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| Index      | (10)                  | 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 14                                 | 16                    | 22                              |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | c.                    | Explain the investment process with suitable steps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10                                 | L5                    | CO4                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| Q.6        | a.                    | RE Ltd., is expected to grow @ 6% p.a. The dividend expected is Rs.2.00, this too will grow at 6% p.a. what price will be the price of the stock, if required rate of return is 14%.                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3                                  | L3                    | CO2                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | b.                    | Discuss active portfolio management strategy and its methods.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7                                  | L5                    | CO4                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | c.                    | A portfolio consists of 3 securities a, b and c. The proportions of these securities are : $W_a = 0.30$ , $W_b = 0.5$ , $W_c = 0.20$ . The standard deviations of returns on these securities are $\sigma_a = 6$ , $\sigma_b = 9$ , $\sigma_c = 10$ . The correlation coefficients among security returns are $\rho_{ab} = 0.4$ , $\rho_{ac} = 0.6$ , $\rho_{bc} = 0.7$ . What is the standard deviation of Portfolio return?                                                                                                                                                                                                 | 10                                 | L5                    | CO4                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| Q.7        | a.                    | State any three assumptions of CAPM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3                                  | L3                    | CO2                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | b.                    | The following information is available on a bond : Face value – Rs.100, Coupon rate: 12% p.a, years to maturity: 6 years, Current market Price : Rs.110. Find the duration of the bond by using the approximate YTM.                                                                                                                                                                                                                                                                                                                                                                                                          | 7                                  | L3                    | CO2                             |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
|            | c.                    | The following three portfolio particulars are given below: <table border="1"><tr><td>Portfolio</td><td>Annual average return</td><td>Standard deviation (<math>\sigma</math>)</td><td>Correlation coefficient (<math>\rho</math>)</td></tr><tr><td>A</td><td>18</td><td>27</td><td>0.8</td></tr><tr><td>B</td><td>14</td><td>18</td><td>0.6</td></tr><tr><td>C</td><td>15</td><td>8</td><td>0.9</td></tr><tr><td>Market</td><td>13</td><td>12</td><td>---</td></tr></table> If the risk free rate is 9%, Rank these following; using a) Sharpe's method b) Treynor's Method and c) Jenson's Method and interpret the results. | Portfolio                          | Annual average return | Standard deviation ( $\sigma$ ) | Correlation coefficient ( $\rho$ ) | A  | 18 | 27    | 0.8  | B  | 14 | 18 | 0.6 | C | 15 | 8   | 0.9 | Market | 13 | 12 | --- | 10 | L5 | CO4 |
| Portfolio  | Annual average return | Standard deviation ( $\sigma$ )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Correlation coefficient ( $\rho$ ) |                       |                                 |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| A          | 18                    | 27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.8                                |                       |                                 |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| B          | 14                    | 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.6                                |                       |                                 |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| C          | 15                    | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.9                                |                       |                                 |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |
| Market     | 13                    | 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ---                                |                       |                                 |                                    |    |    |       |      |    |    |    |     |   |    |     |     |        |    |    |     |    |    |     |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |           |          |                 |     |     |                    |     |     |                         |      |  |  |  |  |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|----------|-----------------|-----|-----|--------------------|-----|-----|-------------------------|------|--|--|--|--|
| Q.8                     | <p><b>Compulsory Question :</b></p> <p>Mr. Ram, an investor, is evaluating two stocks—<b>Alpha Ltd</b> and <b>Beta Ltd</b>—to form an optimal portfolio. Relevant historical data for the last 10 years is summarized below:</p> <table><tr><td>Particulars</td><td>Alpha Ltd</td><td>Beta Ltd</td></tr><tr><td>Expected return</td><td>18%</td><td>12%</td></tr><tr><td>Standard deviation</td><td>22%</td><td>14%</td></tr><tr><td>Correlation coefficient</td><td colspan="2">0.35</td></tr></table> <p>Rahul wants to invest ₹10,00,000 in total and is considering three portfolio combinations : <b>Portfolio A:</b> 50% in Alpha, 50% in Beta, <b>Portfolio B:</b> 70% in Alpha, 30% in Beta, <b>Portfolio C:</b> 30% in Alpha, 70% in Beta.</p> | Particulars | Alpha Ltd | Beta Ltd | Expected return | 18% | 12% | Standard deviation | 22% | 14% | Correlation coefficient | 0.35 |  |  |  |  |
| Particulars             | Alpha Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Beta Ltd    |           |          |                 |     |     |                    |     |     |                         |      |  |  |  |  |
| Expected return         | 18%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12%         |           |          |                 |     |     |                    |     |     |                         |      |  |  |  |  |
| Standard deviation      | 22%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 14%         |           |          |                 |     |     |                    |     |     |                         |      |  |  |  |  |
| Correlation coefficient | 0.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |           |          |                 |     |     |                    |     |     |                         |      |  |  |  |  |
| a.                      | Calculate for each portfolio Expected Return ( $R_p$ ), and Standard Deviation ( $\sigma_p$ ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10          | L5        | CO4      |                 |     |     |                    |     |     |                         |      |  |  |  |  |
| b.                      | Identify a) Which portfolio has the lowest risk,<br>b) Which portfolio has the highest expected return,<br>c) Which portfolio you suggest to invest.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10          | L5        | CO4      |                 |     |     |                    |     |     |                         |      |  |  |  |  |

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