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**GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2020/2021 ACADEMIC YEAR FOUR**

**SECOND SEMESTER EXAMINATION**

**SCHOOL OF BUSINESS AND ECONOMICS**

**FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT**

**COURSE CODE: BBM 413**

**COURSE TITLE: INVESTMENT AND PORTFOLIO ANALYSIS**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 03/04/2021 TIME: 3.00-5.00 PM**

**INSTRUCTION TO CANDIDATES**

* **The examination has FIVE (5) questions**
* **Question ONE (1) is COMPULSORY**
* **Choose any other TWO (2) questions from the remaining FOUR (4) questions**
* **Use sketch diagrams to illustrate your answer whenever necessary**
* **Do not carry mobile phones or any other written materials in examination room**
* **Do not write on this paper**

**This paper consists of FOUR (4) printed pages *please turn over***

**QUESTION ONE (COMPULSORY)**

1. Evaluate any five assumptions on which the capital asset pricing model (CAPM) is based clearly indicating how far they hold true in practice. (5 marks)
2. Betty Muye has invested 75% of her funds in shares of company X and 25% in shares of company Y. The following probability distribution relates to the shares of the two companies.

**Required:**

1. Expected returns on the shares of companies X and Y. (4 marks)
2. Standard deviation of return on shares of companies X and Y. (4 marks)
3. Coefficient of Correlation between the returns on shares of companies X and Y. (4 marks)
4. Expected portfolio return. (4 marks)
5. Portfolio risk. (3 marks)
6. Superstar Ltd. wishes to estimate its equity beta. The financial analyst of the company has recorded the following information for the year 2012:

|  |  |  |
| --- | --- | --- |
| Month | Return on market  Portfolio (%) | Return on company  Equity (%) |
| January | 2 | 3 |
| February | -1 | -2 |
| March | 3 | 4 |
| April | 0 | 1 |
| May | 2 | 2.5 |

The following data has been calculated from, the above financial information

Variance on return on market portfolio *(J2rn)* 2.16   
Variance on return of company equity of Superstar Ltd. *(a2s)* 4.36   
Correlation coefficient between market returns and Superstar Ltd.’s equity return   
*(P* m,s)= -0.96

**Required:**

1. Equity beta of the company (3 marks)
2. Using the capital asset pricing model (CAPM), determine the required rate of return on Superstar Ltd’s share. Assume the risk free rate is 10% per annum and the return on market portfolio for the same period is 14%. (3 marks)

**QUESTION TWO**

1. Discuss three conceptual differences between the capital asset pricing model (CAPM) and the arbitrage pricing theory (APT). (6 marks)
2. An investor is considering investing in the stocks of three companies, A Ltd, B Ltd. And C Ltd. The following information relates to the stocks of the three companies:

|  |  |  |  |
| --- | --- | --- | --- |
| Sensitivity of stock’s returns to changes in: | | | |
| Company | Market index | Inflation | Economic growth rate |
| A Ltd | 1.50 | -0.10 | 0.56 |
| B Ltd | 0.90 | 0.10 | 0.60 |
| C Ltd | 1.10 | -0.43 | 0.86 |

During the year 2014, it is expected that the market index will increase in performance by 2.5% up from its current 5%. The risk free rate of return in the market will be 6% on average and the inflation and economic growth rates will be 10% and 5.6% respectively.

**Required:**

1. Expected returns for the three stocks in year 2014 using the capital asset pricing model (CAPM). (6 marks)
2. Expected returns for the three stocks in year 2014 using the arbitrage pricing theory (APT). (6 marks)
3. State the reason why an investor would get different return estimates in (b) (i) and (b) (ii) above. (2 marks)

**QUESTION THREE**

1. The capital asset pricing model is a powerful technique in the estimation of risk of a particular security. It nevertheless is not applicable in the real world due to it is many limiting assumptions.

Required:

1. Discuss the above statement. (5 marks)
2. The investment portfolio of mapeni limited consist of shares in five companies operating in different industries

|  |  |  |
| --- | --- | --- |
| Company | Amount invested  (sh. Millions) | Stock beta  Coefficient |
| A Ltd  B Ltd  C Ltd  D Ltd  E Ltd | 160  120  80  80  60 | 0.5  2.0  4.0  1.0  3.0 |

The risk free rate (Rf) is 8%. The Market returns have the following probabilities distribution for the next period

|  |  |
| --- | --- |
| Market returns % | Probability |
| 10  12  13  16  17 | 0.1  0.2  0.4  0.2  0.1 |

**Required:-**

1. Compute the expected returns from the market (Rm) (5 marks)
2. Calculate the beta coefficient for the portfolio (βp) (5 marks)
3. Determined the equation for the security market line (5 marks)

**QUESTION FOUR**

1. What is the role of financial markets in Kenya (4 marks)
2. Outline the importance of portfolio analysis to investors (4 marks)
3. Distinguish between investment in physical assets and investment in financial assets (4 marks)
4. The risk free of return is 10% and the expected return of the market portfolio is 15%. The expected returns of four securities are listed below together with their expected betas.

|  |  |  |
| --- | --- | --- |
| Security | Expected return (%) | Expected beta |
| A | 17.0 | 1.3 |
| B | 14.5 | 0.8 |
| C | 15.5 | 1.1 |
| D | 18.0 | 1.7 |

On the basis of these expectations, which securities are expected to be overvalued, undervalued, or correctly priced? (8 marks)

**QUESTION FIVE**

1. Compare and contrast the efficient market hypothesis with the school of thought termed behavioral finance (10 marks)
2. Behavioral finance points that investors possess information processing errors. Discuss the importance of information processing errors then list and explain four information processing errors. (10 marks)