SECTION A (30 marks): This Question is Compulsory

Financial Calculators are allowed

1. As the Portfolio Manager of Goodco Fund, you have observed your equity portfolio lose value over the past three months. You have decided to invest in a Bond with a 9 percent coupon and a 5-year maturity currently selling at $1,040 with interest paid annually. Your interest rate outlook is that rates will continue to fall and so you need to know whether this particular bond is suited for your portfolio.

a) Calculate the duration of this bond (10 marks)

b) What are three reasons that duration is important in bond analysis and management? (3 marks)

c) Why does the coupon rate affect the volatility of bond price?? (3 marks)

d) You decided to purchase the bond for your portfolio, but now interest rates have risen by 100 basis points, what is the modified duration of the Bond. Explain. (6 marks)

e) Given the current market conditions characterized by record low interest rates, credit concerns, high volatility and uncertainty, was your interest rate outlook suitable and what would be an appropriate strategy? Explain. (8 marks)
2. You invest $100 in a risky asset with an expected rate of return of 0.12 and a standard deviation of 0.15 and a T-bill with a rate of return of 0.05.

i. What percentages of your money must be invested in the risky asset and the risk-free asset, respectively, to form a portfolio with an expected return of 0.09? (2 marks)

ii. What percentages of your money must be invested in the risk-free asset and the risky asset, respectively, to form a portfolio with a standard deviation of 0.06? (2 marks)

iii. A portfolio that has an expected outcome of $115 is formed by: (3 marks)

iv. Calculate the slope of the Capital Allocation Line formed with the risky asset and the risk-free (3 marks)

3. Discuss the differences between the asset allocation decision and the security selection decision. (10 marks)

4. Describe how an investor may combine a risk-free asset and one risky asset in order to obtain the optimal portfolio for that investor. (10 marks)
SECTION C (20 marks)
(ANSWER ALL QUESTIONS IN THIS SECTION)

1. The major question when evaluating the performance of a portfolio is:
   a) “Is the return on the portfolio adequate to compensate for the risk taken?”
   b) “Does the portfolio match the investor characteristics of the individual investor?”
   c) “Does the expected return of the portfolio meet the needs of the individual investor?”
   d) “Is the risk on the portfolio in line with the personal characteristics of the investor?”

2. Which of the following statements regarding risk-averse investors is true?
   a) They only accept risky investments that offer risk premiums over the risk-free rate.
   b) They accept investments that are fair games.
   c) They are willing to accept lower returns and high risk.
   d) A and B

3. The YTM for a zero-coupon bond with 10 years to maturity and selling for $450 is:
   a) 9.00%
   b) 2.22%
   c) 8.15%
   d) 4.07%

4. Which of the following statements about bond valuation is generally true?
   a) A bond’s value is more sensitive to rate increases than to rate decreases
   b) The value of a long-term bond is more sensitive to interest rate changes than the value of a short-term bond
   c) The value of a low coupon bond is less sensitive to interest rate changes that the value of a high coupon bond
   d) Whether the bond’s value will increase or decrease when rates change depends on whether the bond is selling at a discount, at par, or at a premium

PLEASE TURN OVER
5. Blue Jet Airlines will pay a $4 dividend next year on its common stock, which is currently selling at $100 per share. What is the market's required return on this investment if the dividend is expected to grow at 5% forever?
   a) 4%
   b) 9%
   c) 5%
   d) 7%

6. The major difference between the correlation coefficient and the covariance is that:
   a) The correlation coefficient can be positive, negative or zero while the covariance is always positive.
   b) The correlation coefficient measures relationship between securities and the covariance measures relationships between a security and the market.
   c) The correlation coefficient is a relative measure showing association between security returns and the covariance is an absolute measure showing association between security returns.
   d) The correlation coefficient is a geometric measure and the covariance is a statistical measure.

7. Which of the following statements regarding P/E ratios is true?
   a) Generally, the riskier the stock, the higher the P/E ratio.
   b) In recent years, the small capitalization stocks had the highest P/E ratios.
   c) As interest rates increase, P/E ratios are expected to decline.
   d) Growth prospects often lead to higher P/E ratios.

8. Trevor is considering investing in Stock XYZ. He finds a report that indicates that the beta for XYZ is 1.1, the risk-free is 4%, and the return on the market is 8%. How much return should he expect to receive if he invests in XYZ?
   a) 4.0%
   b) 4.4%
   c) 8.0%
   d) 8.4%
9. Raven is a risk-averse investor. Oliver is a less risk-averse investor than Raven. Therefore,

a) For the same return, Oliver tolerates higher risk than Raven.
b) For the same risk, Oliver requires a higher rate of return than Raven.
c) For the same risk, Raven requires a lower rate of return than Oliver.
d) For the same return, Raven tolerates higher risk than Oliver.

10. What is the difference between an “efficient” portfolio and an “obtainable” portfolio?

a) Obtainable portfolios are any that an ordinary investor can purchase; efficient are those that the investor can purchase with reasonable commissions.
b) Efficient portfolio refers to all possible combination of the underlying securities; obtainable portfolio refers to those that can actually be found in existing mutual funds.
c) Obtainable portfolios are all possible combinations of the underlying assets; the efficient portfolios are a subset, with minimum risk for a given level of return.
d) Obtainable and efficient mean the same thing in this context.

11. Given the following two stocks A and B

<table>
<thead>
<tr>
<th>Security</th>
<th>Expected rate of return</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.12</td>
<td>1.2</td>
</tr>
<tr>
<td>B</td>
<td>0.14</td>
<td>1.8</td>
</tr>
</tbody>
</table>

If the expected market rate of return is 0.09 and the risk-free rate is 0.05, which security would be considered the better buy and why?

a) B, because it offers an expected excess return of 1.8%.
b) A, because it offers an expected excess return of 1.2%.
c) A, because it offers an expected excess return of 2.2%.
d) B, because it offers an expected return of 14%.

12. An investor invests 30 percent of his wealth in a risky asset with an expected rate of return of 0.15 and a variance of 0.04 and 70 percent in a T-bill that pays 6 percent. His portfolio's expected return and standard deviation are _________ and _________, respectively.

a) 0.087 ; 0.06
b) 0.114 ; 0.12
c) 0.295 ; 0.12
d) 0.087 ; 0.12

PLEASE TURN OVER
13. Cave Hill Mutual Funds had year-end assets of $457,000,000 and liabilities of $17,000,000. There were
24,300,000 shares in the fund at year-end. What was Cave Hill Mutual's Net Asset Value?

a) $ 18.81
b) $ 7.00
c) $181.07
d) $ 18.11

14. Which of the following statements about the concept of market efficiency is true?

a) In an efficient market, share price remains constant
b) Technical analysts encourage semi-strong form efficiency
c) In an efficient market, all shares have the same price
d) Fundamental analysts encourage semi-strong form efficiency

15. Bruce is currently fully invested in the market portfolio that lies on the capital market line (CML). Bruce
desires to increase the expected return from his portfolio. He is risk averse but willing to accept higher risk
if he can increase the expected return from his portfolio. According to Capital Market Theory, Bruce can
meet his risk return objectives BEST by:

a) Allocating a higher proportion of the portfolio to higher risk assets
b) Borrowing at the risk-free rate to invest in the risky market portfolio
c) Owning the risky market portfolio and lending at the risk-free rate
d) Doing nothing

16. A coupon bond that pays interest annually is selling at par, matures in 5 years, and has a coupon rate of 9%.
The yield to maturity on this bond is:

a) 8.0%
b) 8.3%
c) 9.0%
d) 10.0%

17. You invest $600 in a security with a beta of 1.2 and $400 in another security with a beta of 0.90. The beta
of the resulting portfolio is

a) 1.40
b) 1.00
c) 0.36
d) 1.08
18. Your opinion is that CSCO has an expected rate of return of 0.13. It has a beta of 1.3. The risk-free rate is 0.04 and the market expected rate of return is 0.115. According to the Capital Asset Pricing Model, this security is

a) Underpriced.
b) Overpriced.
c) Fairly priced.
d) Cannot be determined from data provided.

19. What is correct regarding capital preservation of a portfolio management

a) Nominal rate of return must exceed the rate of inflation
b) Nominal rate of return must equal the inflation rate
c) Nominal rate of return must be less than the rate of inflation
d) Real rate of return must exceed the rate of inflation

20. A US investor is considering investing in a security of a company in a Venezuela. However, Venezuela’s market is characterized by infrequent trading, high inflation, large market volatility, low operating leverage, political unrest, low debt usage, and a depreciating exchange rate. In determining the appropriate country risk premium for the Venezuela, the investor should consider:

a) Business risk, variability risk, country risk, exchange risk, financial risk.
b) Liquidity risk, exchange rate risk, financial risk, business risk, balance sheet risk.
c) Financial risk, liquidity risk, exchange rate risk, country risk, business risk.
d) Unsystematic risk, exchange rate risk, credit risk.

END OF QUESTION PAPER