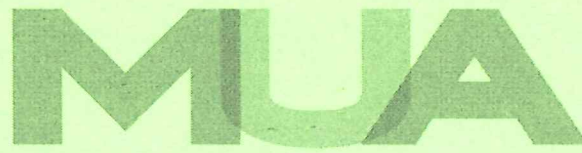


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**UNDERGRADUATE UNIVERSITY EXAMINATIONS**

**SCHOOL OF MANAGEMENT AND LEADERSHIP**

**DEGREE OF BACHELOR OF COMMERCE**

**FIN 412: PORTFOLIO MANAGEMENT**

**DATE: 30<sup>TH</sup> JULY 2024**

**DURATION: 2 HOURS**

**MAXIMUM MARKS: 70**

**INSTRUCTIONS:**

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. Write all your answers in the Examination answer booklet provided.

## QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

### OPTIMIZING PORTFOLIO MANAGEMENT STRATEGIES IN A VOLATILE MARKET

#### *Introduction*

In the bustling world of finance, one firm, Dynamic Investments Inc., stands at the forefront of portfolio management, navigating the intricate landscape of global markets. Facing challenges in an ever-volatile market, the firm's portfolio managers grapple with optimizing their investment strategies to ensure maximum returns while minimizing risks. Let's delve into their journey.

#### *The Challenge of Volatility*

Dynamic Investments Inc. operates in a market where uncertainties abound. Market fluctuations, geopolitical tensions, and rapid technological advancements create a volatile environment. The challenge is to construct portfolios that can weather these storms, adapting swiftly to market changes while adhering to ethical investment practices.

#### *Harnessing Traditional and Modern Approaches*

Recognizing the importance of a well-diversified portfolio, the firm employs both traditional and modern asset allocation strategies. By integrating the principles of Modern Portfolio Theory and Capital Market Theory, the managers aim to strike a balance between risk and return. Strategic asset allocation, sector rotation, and quantitative analysis are utilized to optimize equity portfolios, ensuring a robust foundation.

#### *Managing Risks and Embracing Innovations*

Amidst the complexities, risk management becomes paramount. Dynamic Investments Inc. employs rigorous risk assessment techniques, including diversification, beta analysis, and derivatives utilization. The firm embraces innovations, employing Artificial Intelligence and Big Data to enhance performance evaluation and predict **market trends, thereby making informed investment decisions.**

### *Navigating Ethical Dilemmas and Embracing Responsible Investing*

In the pursuit of profitability, ethical considerations are not overlooked. The portfolio managers grapple with dilemmas, ensuring that their investment choices align with socially responsible practices. Balancing profitability with environmental, social, and governance (ESG) factors, the firm engages in responsible investing, adhering to ethical guidelines and codes of conduct.

#### **Required:**

- a) Examine five ways in which Dynamic Investments Inc. manages market volatility in its portfolio construction. **(5 Marks)**
- b) In what ways does the firm utilize Artificial Intelligence and Big Data to enhance performance evaluation and predict market trends, ensuring informed investment decisions? **(6 Marks)**
- c) Describe four ethical dilemmas faced by portfolio managers at Dynamic Investments Inc. **(4 Marks)**
- d) Examine 3 ways in which managers at Dynamic Investments Inc can ensure responsible investing while maximizing return. **(6 Marks)**
- e) Considering the future trends and innovations in portfolio management, how can the firm leverage Decentralized Finance (DeFi) and Peer-to-Peer Lending Platforms to enhance their investment strategies? **(4 Marks)**

#### **QUESTION TWO**

- a) Provide examples of five factors that can be analyzed through attribution analysis and how this analysis aids in understanding the sources of a portfolio's performance. **(10 Marks)**
- b) Assuming a portfolio has an average annual return of 12% and a standard deviation of 15%. If the risk-free rate is 5%, calculate the Sharpe Ratio for the portfolio. **(5 Marks)**

### QUESTION THREE

- a) An investor holds a portfolio of bonds with the following characteristics:
- Bond A: Face value \$1,200, annual coupon rate 6%, 15 years to maturity, currently trading at \$1,150.
  - Bond B: Face value \$800, annual coupon rate 5%, 10 years to maturity, currently trading at \$820.

Calculate the weighted average yield to maturity (YTM) of the investor's bond portfolio, assuming equal investments in Bond A and Bond B. (6 Marks)

- b) Examine real life situations where lifestyle theories can be practically applied in constructing portfolios for individuals with varying financial needs. (9 Marks)

### QUESTION FOUR

- a) Discuss the key principles of traditional and modern approaches to asset allocation strategies highlighting how each approach manages risk and return in a portfolio. (7 marks)
- b) Maendeleo Industries is concerned about interest rates rising. It needs to borrow in the bond market three months hence. The company believes that an option on treasury bond futures is the best hedging device.
- Should the company buy a put option or a call option? Explain. (3 marks)
  - Presently, the futures contract trades at Sh.1,000 and 3 month put and call options both involve premiums of 1½ per cent based on this strike price. During the 3 months, interest rates rise, so that the price on a Treasury bond futures contract goes to Sh.950. What is your gain or loss on the option per Sh.1,000,000 contract? (5 marks)

**QUESTION FIVE**

- a) Discuss the critical components involved in formulating an effective investment policy for a diversified investment portfolio. **(8 marks)**
- b) A company is considering a swap agreement to manage its floating interest rate exposure. The company has a \$10 million floating-rate loan tied to LIBOR and wants to fix the interest rate for the next five years. The swap bank offers a fixed rate of 4.5%. Calculate the net cash flow for the company after the swap, assuming LIBOR is currently at 3%. **(7 marks)**

**QUESTION SIX**

- a) Explore how portfolio managers contribute to market efficiency, investor confidence, and economic growth. Provide examples of successful portfolio managers or investment firms and analyse their strategies in managing diverse portfolios across various asset classes and market conditions. **(10 Marks)**
- b) A corporate bond with a face value of \$1,000, a coupon rate of 6%, and 5 years to maturity is currently trading in the market at \$950. Calculate the bond's current yield, yield to maturity (YTM), and the modified duration. Assume annual coupon payments and a market interest rate of 8% **(5 Marks)**

