



**TECHNICAL UNIVERSITY OF MOMBASA  
SCHOOL OF BUSINESS**

**DEPARTMENT OF MANAGEMENT SCIENCE**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF**

**BACHELOR OF COMMERCE**

**B.COM SERIES: MAY 2016**

**BFI 4406: FINANCIAL RISK MANAGEMENT  
SEMESTER EXAMINATION**

**2 HOURS**

**Instructions to candidates:**

**This paper consists of FIVE questions**

**Answer question ONE (compulsory) and any other TWO questions**

**TIME: 2 HOURS**

**Question 1**



**SGS ISO 9001:2008 Certified**

- a) Discuss the core elements of a financial risk management (5 Marks)
- b) Knowing the potential scale and likelihood of any given financial risk, management needs to decide how to deal with it. This means deciding whether it wishes to accept, partially mitigate, or fully avoid the risk. Discuss the available risk strategies and tools for each risk type. (15 Marks )
- c) Mr. Selva is considering two mutually exclusive project 'X' and 'Y'. You are required to advise him about the acceptability of the projects from the following information using the Present-Value Approach to Determine Risk. (The cut-off rate may be assumed to be 15%). (10 Marks )

|   | Project X  | Projects Y |
|---|------------|------------|
| Cost of the investment                      | 100,000.00 | 100,000.00 |
| Forecast cash inflows per annum for 5 years |            |            |
| Optimistic                                  | 60,000.00  | 55,000.00  |
| Most likely                                 | 35,000.00  | 30,000.00  |
| Pessimistic                                 | 20,000.00  | 20,000.00  |

## Question 2

- a) Discuss market efficiency and explain the factors affecting market efficiency. (5 marks)



- b) Compare and contrast the weak-form, semi-strong-form, and strong-form market efficiency (9 Marks)
- c) Discuss THREE ways of incorporating risk into the investment appraisal process ( 6 marks)

**Question 3**

- a) Discuss the alternatives available for to companies to hedge against foreign exchange exposure. (10 marks)
- b) Rose Co expects to receive €750,000 from a credit customer in the European Union in six months' time. The spot exchange rate is €2.349 per \$1 and the six-month forward rate is €2.412 per \$1. The following commercial interest rates are available to Rose Co:

|         | Deposit rate  | Borrow rate   |
|---------|---------------|---------------|
| Euros   | 4.0% per year | 8.0% per year |
| Dollars | 2.0% per year | 3.5% per year |

Rose Co does not have any surplus cash to use in hedging the future euro receipt.  
Required:

- (a) Evaluate whether a money market hedge or a forward market hedge would be preferred on financial grounds by Rose Co. (6 marks)
- (b) Briefly explain the nature of a forward rate agreement and discuss how a company can use a forward rate agreement to manage interest rate risk (4 marks)

**Question 4**

- a) Define systematic and unsystematic risks (5 marks )
- b) Explain the relationship between portfolio risk and return of two securities under the following conditions ( 6 marks )

- Perfect positive correlation
- Perfect negative correlation
- Zero correlation

- c) Kakuzi Ltd has an opportunity of investing in either asset X or asset Y. The possible outcomes of two assets in different states of economy are given below

| State of Economy | Probability | Return (%) |    |
|------------------|-------------|------------|----|
|                  |             | x          | y  |
| A                | 0.10        | -8         | 14 |
| B                | 0.20        | 10         | -4 |
| C                | 0.40        | 8          | 6  |
| D                | 0.20        | 5          | 15 |
| E                | 0.10        | -4         | 20 |

- i. Calculate the expected return of each asset ( 6 marks )
- ii. If the Company decide to invest 50% of the wealth in X and 50% in Y, what is the expected return on portfolio consisting of both X and Y. ( 3 marks )

### Question 5

Kubwa Ltd is contemplating replacing an obsolete dry cleaning machine with one of two innovative pieces of equipment. Alternative 1 requires a current investment outlay of \$25,373, whereas alternative 2 requires an outlay of \$24,199.

The following cash flows (cost savings) will be generated each year over the new machines four-year lives:

|               | Probability | Cash Flow |
|---------------|-------------|-----------|
| Alternative 1 | 0.18        | 5,000.00  |
|               | 0.64        | 10,000.00 |
|               | 0.18        | 15,000.00 |
| Alternative 2 | 0.125       | 8,000.00  |
|               | 0.75        | 10,000.00 |
|               | 0.125       | 12,000.00 |

### Required

- a) Calculate the expected cash flow for each investment alternative.
- b) Calculate the standard deviation of cash flows (risk) for each investment alternative.
- c) The firm will use a discount rate of 12% for the cash flows with a higher degree of dispersion and a 10% rate for the less risky cash flows. Calculate the expected net present value for each investment. Which alternative should be chosen?

