ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF LAW BUSINESS INTELLIGENCE AND ECONOMICS

DEPARTMENT OF ACCOUNTING FINANCE AND HUMAN CAPITAL MANAGEMENT

EXAMINATION PAPER

COURSE CODE	:	**CAC406**
COURSE TITLE	:	**INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT**
SPECIAL REQUIREMENTS	:	
DURATION	:	**3 Hours**
LEVEL	:	**4.1**
DATE	:	

INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue.
2. Answer ALL questions in Both Section A and Section B.
3. Begin each question on a new page.
4. The number of marks for each question or part question is shown in brackets [ ]
5. Show all workings, where applicable
6. You may use a silent non-programmable calculator

SECTION A

Answer all questions in this Section. Each question carries 2marks

Select the most appropriate answer. **[Total: 20 marks]**

1. Which of the following theories is not a theory of the Term Structure of Interest Rates?

   A) Expectations Theory

   B).Segment Market Theory

   C). Portfolio Theory

   D).Liquidity Theory

2. If there is an increase in interest rates then the fixed interest rate of the corporate bond will

   A) Return to the corporation

   B) Decrease in value

   C) Remain unchanged

   D) Increase in value

3. Over the period, investors determine the compound growth rate of an investment by

   A) Arithmetic median

   B) Arithmetic mean

   C) Calculus mean

   D) Geometric mean

4. Investors agree to invest in high-risk investments if only

   A) There are any true speculations

   B) The predicted return is satisfactory for taking a risk

   C) There are no safe options except for holding cash

   D) D) The return is short

5. In Capital Market Line every investment is

   A) Finitely divisible

   B) Infinitely divisible

C) both A and B

D). None of the above

6. ----------is based on tips, rumors, and hunches, unplanned and without knowledge of the exact nature of risk.

A. Investment

B. Speculation

C. Gambling

D. Arbitrage

7. Markowitz model presumed that generally investors are

A) Risk averse

B) Risk natural

C) Risk seekers

D) Risk moderate

8. Risk due to the internal environment of a firm or those affecting the particular industry _____

A. Unsystematic risk

B. Systematic risk

C. Normal risk

D. Abnormal risk.

9. Which type of market efficiency declares that current security prices reflect all information, equally public and private?

A. Weak

B. Semi-strong

C. Strong

D. None of these

10. The fundamental analysis approach has been associated with _____.

A) Uncertainties

B) Certainties

C) Ratios

D) Balance sheet

SECTION B

Answer ALL questions in this Section

QUESTION ONE

(a) Explain the factors that an individual investor takes into account in determining his investment policy **[15marks]**

(b) Calculate the duration in years of a 4 year 8% bond with a par value of $1 000 and a YTM of 10%? **[10Marks]**

[25marks]

QUESTION TWO

a) Distinguish between money market and capital market **[10Marks]**

b) Explain the procedure for listing shares through the Initial Public Offer (IPO) method. In your view, why have there been a few IPOs in Zimbabwe? **[15Marks]**

[25MARKS]

QUESTION THREE

The annual rates of return for the stocks of both Innscore and Econet are given in the table below. Further, returns on the Zimbabwe Stock Exchange (Market Portfolio) are also given.

Year	**Innscore's rate of return**	**Econet's rate of return**	**Zimbabwe Stock Exchange**
2019	6	4	8
2020	12	15	14
2021	-10	7	11
2022	10	7	9

2023	11	-12	11

Required

Calculate

a) Expected returns, variances, and standard deviation for Innscore, Econet and Zimbabwe Stock Exchange (the market) **[15marks]**

b) The covariance of returns between Innscore and Econet **[5marks]**

c) The beta value for Econet and interpret it about the market portfolio. **[5marks]**

d) Required return on Innscore using a risk-free return of 4%. **[5marks]**

[30MARKS]

END OF EXAMINATION QUESTION PAPER

FORMULA SHEET FOR CAC 406 INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

1. Bond Price = $\sum(Cn / (1+YTM)n) + P / (1+i)n$

   Where n = Period which takes values from 0 to the nth period till the cash flows ending period,

   Cn = Coupon payment in the nth period,

   YTM = interest rate or required yield and

   P = Par Value of the bond

2. CAPM Required return, Ri = Rf + β (Rm - Rf).

   Where Ri -required return of stock I,

   Rf-IRisk freeRisk-free
   Rm -Market return rate and

   β - Beta coefficient of the market

3. Beta coefficient of stock A, β = Cov (ra, rm)/σ^2m,

   Where ra = stock A return,

   Rm = Market return and

   σ^2m = Market variance

4. The correlation coefficient for Assets A and B., R = Cov(A, B)/ σa σb

   Where σa = Standard deviation of stock A and

   σb = Standard deviation of Stock B.

5. Covariance for stock A and B, Cov(a,b) = $\sum$pi (ra -E(ra))(rb - E(rb))

   or $\sum (rx - \dot{X})(ry - \bar{Y})/(n -1)$

6. Expected return of stock X, $E(r) = \sum px$ or $\sum x/n$

   where p = probability of economic state,

   x = return of each economic state and

   n = number of items.

7. Sharpe's ratio = $(Rp - Rf) / \sigma p$

   where σp = standard deviation of the portfolio,

   Rp = return on portfolio and

   Rf = risk-free rate.

8. Treynor's ratio = $(Rp - Rf) / \beta p$ where βp = beta of portfolio.

9. Jensen's alpha = $Ri - ((Rf + \beta p (Rm - Rf))$

10. Duration = $\sum (t \times PV) / \sum PV$

    where t = time and

    PV is the present value of the cashflows.

11. Variance of stock A, $\sigma^2_A = \sum pi\,(ra - E(ra))^2$

12. Portfolio variance, $\sigma^2_{ab} = w^2_a\sigma^2_a + w^2_b\sigma^2_b + 2w_aw_bCov_{ab}$

    or $w^2_a\sigma^2_a + w^2_b\sigma^2_b + 2w_aw_b\sigma_a\sigma_b r_{ab}$

THE END

05/13 am