ZIMBABWE EZEKIEL GUTI UNIVERSITY

DEPARTMENT OF ACCOUNTING AND FINANCE

B. COM ACCOUNTING

COURSE: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

COURSE CODE: CAC406

DURATION: 3 HOURS

27 JULY 2017

INSTRUCTIONS TO CANDIDATES

1. This paper contains **Five (5)** Questions
2. Answer **Four Questions (25 marks each)**
3. Start each question on a new page
4. Marks will be awarded for clear, logical presentation, analysis and argument rather than simple description. Candidates are encouraged to illustrate their answers with practical examples

Authorised Materials:

i) Non-Programmable Scientific Calculators
ii) Formula Sheet provided

Question 1

(a) Show how the Arbitrage Pricing Theory (APT) can be used to explain the events on the ZSE since dollarization. **[15 Marks]**

(b) With an aid of a well labelled stock market cycle show how an investment analyst will be decisions of buying and selling shares at various points of the cycle. Indicate the possible position of the ZSE and the rational decision and investment analyst will make. **[10 Marks]**

Question 2

Investments decision in the face of volatility as seen in the case study are made under uncertainty. In order to take into account the problem of uncertainty, analysts use probability as a strategy in estimating the most likely return on a particular investment security. The table below shows probability distributions for two investment portfolios

Potential Return (%)	Probability of Return for Portfolio 1 (%)	Probability of Return for Portfolio 2 (%)
-18	5	0
-12	8	0
-5	12	10
0	16	35
5	18	10
10	16	7
15	12	9
20	8	5
25	5	3
30	0	4
35	0	6

a) Calculate the expected return for both portfolios. **[2 marks]**
b) Calculate the standard deviations for both portfolios. **[4 marks]**
c) Which portfolio, between (a) and (b), would you choose? And why? **[4 marks]**
d) If you were an investor only interested in minimising the damage on your investment, which portfolio would you invest in? Justify your choice. **[5 marks]**
e) Information contained in Table 1 shows β (beta) values for each of the five stocks, that is, A, B, C, D and E.

Table 1

Stock	Beta
A	0.80
B	1.10
C	1.25
D	1.50
E	-0.40

Given that the interest rate is 6% and return for risk asset is 12%, calculate the expected returns for the respective five stocks. **[10 marks]**

Question 3

In an efficient capital market, security prices adjust rapidly to the arrival of new information, therefore the current prices of securities reflect all information about the security. Whether markets are efficient has been extensively researched and remains controversial.

Required:

Based on empirical evidence, evaluate the statement above and explain your answer using three categories of efficient market hypothesis (weak form EMH, semi –strong EMH and strong EMH). **[25 marks]**

Question 4

Critically evaluate the role of financial ratios in aiding investment decisions **[25 Marks]**

Question 5

Table 2

	Portfolio P	**Market M**
Average Return	37%	30%
Beta	1.2	1.0
Standard Deviation	44%	32%

The T-bill rate during the period was 9%.

(a) Calculate the following performance measures for portfolio P and the market:
   (i) Sharpe ratio **(4 marks)**
   (ii) Jensen (alpha) **(4 marks)**
   (iii)Treynor ratio. **(4 marks)**

(b) Discuss the merits and demerits of Sharpe, Information Ratio, Treynor and Jensen measures and show how they differ in their usage when evaluating performance of an investment portfolio. **(13 marks)**

*****END PAPER*****

Formula Sheet

Expected Return on Asset i: $E(R_i) = \sum_{s=1}^{S} p(s) \times R_i(s)$, where p(s) is the probability of the states occurring in the economy.

$$Var(R) = \sum p(s) \times (R - E(R))^2 \quad SD(R) = \sqrt{Var(R)}$$

$$E[R] = RFR + \beta \times (M_R - RFR) \quad R_P = \sum_i p(s) \times R_p(s)$$

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$$Var(R) = \sum p(s) \times (R - E(R))^2$$

$$SD(R) = \sqrt{Var(R)}$$

$$T_i = \frac{R_i - RFR}{\beta_i}$$

$$T_M = \frac{R_M - RFM}{\beta_M}$$

$$S_i = \frac{R_i - RFR}{\sigma_i}$$

$$S_M = \frac{R_i - RFR}{\sigma_M}$$

$$E(R_j) = RFR + \beta_j[E(R_M) - RFR]$$

$$CV = \frac{Standard\ Deviation\ of\ Returns}{Expected\ Rate\ of\ Return}$$