

**EASTERN UNIVERSITY, SRI LANKA**  
**FACULTY OF COMMERCE AND MANAGEMENT**

**Year First Semester Examination in Bachelor of Commerce (Specialization  
in Accounting and Finance)-2014/2015(May 2017) (Proper)**

**DAF 4043 Portfolio Investment Analysis**

**Answer All Questions**

**Time Allowed: 03 Hours**

**Programmable Calculator and Time Value Tables are permitted.**

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How do you distinguish between "Saving" and "Investment".

**(05 Marks)**

Describe how investment funds, pension funds and life insurance companies each act as financial intermediaries.

**(05 Marks)**

The investment management process describes how an investor should go about making decisions. Investment management process can be disclosed by five-step procedure. Briefly explain the steps.

**(05 Marks)**

Distinguish between financial investment and real investment.

**(05 Marks)**

What factors might an individual investor take into account in determining his/her investment policy?

**(05 Marks)**

**(Total 25 Marks)**

02. (I) Describe the different types of returns.

(04 Marks)

(II) What is the use of Coefficient of Variation in investment decision? If two assets X and Y, are said to have expected returns of 10% and 15% and standard deviation of returns of 5% and 12% respectively, which asset shall be selected investment?

(04 Marks)

(III) Calculate the Expected Rate of Return and the Standard Deviation of the Return for an asset which has the following possible returns with associated probabilities:

Possible Returns (%)	22	12	18	00	-05	14	03	-20
Probabilities	0.05	0.16	0.24	0.10	0.15	0.10	0.14	0.06

(04 Marks)

(IV) Securities P, Q and R have the following characteristics:

Probability	Possible Return (%)		
	Security P	Security Q	Security R
0.20	-21	13	10
0.50	06	17	12
0.30	31	-12	15

**Required:**

Calculate the following:

- The Co-Variance between returns of the Securities.
- The Correlation Coefficients between returns of the Securities
- The Expected Rate of Return and the Standard deviation of the returns of the portfolio of securities P, Q and R, combined with equal weights.

(13 Marks)

(Total 25 Marks)

If the risk-free rate of return is 7.5% and the return on the market portfolio is 12.5%, what is the expected return on an asset having a Beta of 1.75, according to the CAPM?

(05 Marks)

The following investment portfolios are evaluated by an investor:

Portfolio	$E(R_p)$ (%)	$\sigma_p$ (%)
A	16	20
B	12	12
C	12	13

Using Markowitz portfolio theory, explain the choice for the investor between portfolios A, B and C.

(05 Marks)

An investor owns the portfolio composed of four securities. The Betas of these securities and the investments on them are shown below. What is the Beta of the investor's portfolio?

Securities	Beta	Investment in Portfolio (Rs.)
A	0.8	300,000
B	1.2	450,000
C	- 0.9	150,000
D	- 1.0	100,000

(05 Marks)

(IV) From the following information, find out the minimum risk portfolio:

$$E(R_A) = 17\%$$

$$E(R_B) = 22\%$$

$$\sigma_A = 11\%$$

$$\sigma_B = 19\%$$

$$\text{Cor}_{AB} = +0.5$$

(05 Marks)

(V) An Investor owns a portfolio of four securities. The characteristics of the securities and their proportions in the portfolio are presented below.

Security	Beta	Proportion (%)	Expected Return (%)
L	2.50	35	20
M	0.95	25	12
N	1.00	15	10
O	-1.25	25	15

**Required:**

- What is the expected rate of return of this portfolio?
- What is the risk of the portfolio?
- If the investor wants to reduce risk in his portfolio how he could restructure his portfolio?

(05 Marks)

(Total 25 Marks)

The following are the annual returns of Share of N plc and the market (M) for the last years

Year	Returns (%)	
	N	M
2012	13	14
2013	16	19
2014	- 03	00
2015	14	21
2016	- 05	- 08

Required:

Determine the beta coefficient for N

How much is (a) Total Risk, (b) Systematic Risk, and (c) Unsystematic Risk of the share of N plc.

(10 Marks)

A portfolio consists of four securities A, B, X, and Y. with the following characteristics.

	A	B	X	Y	-	-
Expected Return (%)	24	20	18	15		
Standard Deviation (%)	18	15	13	11		
Combination	AB	AX	AY	BX	BY	XY
Correlation	- 0.50	+ 0.60	- 0.20	+ 0.40	- 0.25	+ 0.10

Required:

If the securities are equally weighted, how much is the risk and return of the portfolios of these four securities?

(05 Marks)

(III) An investor holds an investment on the bonds of BSN plc having a par value of Rs.1000 each with coupon rate of 13% per annum payable semi annually and the maturity of 12 years.

- (i) What is the value of a bond today if the market rate of return is equal to coupon rate?
- (ii) What will be the value of the bond if the market interest rate increases to 15% at the end of one year?
- (iii) What will be the value of the bond if the market interest rate decreases to 10% at the end of five years?
- (iv) If the value of the bond is Rs.1250 after two years from the date of issue, what would be the YTM of the bond?

(10 Marks)

(Total 25 Marks)



