UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2010/11

COURSE NAME	:	REAL ESTATE INVESTMENT AND APPRAISAL
COURSE CODE	:	BPE 3403
PROGRAMME	:	3 BPD
EXAMINATION DATE	:	APRIL / MAY 2011
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

THIS QUESTION PAPER CONSISTS OF 4 PAGES

Q1   A potential homeowner has RM60,000 to invest in a RM280,000 home. He has alternatives to mortgage either a RM220,000 at 9.5 percent for 20 years or a RM180,000 at 9 percent for 20 years and a second mortgage of RM40,000 at 13 percent for 20 years.

Assuming mortage payments is on monthly basis the equation to compute loan repayment is given as follow:

$$M = \frac{iLOAN}{1 - (1 + i)^{-n}}$$

(a) Explain one of the alternatives that the borrower should choose, assuming he will be in the house for a full loan term.

(7.5 marks)

(b) Compare your answer in Q1(a) if the borrower plans to be in the house for only five years.

(7.5 marks)

(c)   Compare your answer in Q1(a) and Q1(b) if the second mortgage had a 10-year term.

(10 marks)

Q2   In 1952, Harry Markowitz originate a theory known as Modern Portfolio Theory (MPT). This theory compute overall expected return and risk of a portfolio based on different combination of resource allocation weightage. Equations to compute portfolio's expected return and risk are given as follows:

Equation 1:

$$E(R_p) = W_a E(R_a) + W_b E(R_b) + \cdots + W_i E(R_i), \text{where} \sum W_p = 1$$

Equation 2:

$$\sigma_p^2 = W_a \sigma_a^2 + W_b \sigma_b^2 + W_c \sigma_c^2 + 2W_a W_b \sigma_a \sigma_b \rho_{ab} + 2W_a W_c \sigma_a \sigma_c \rho_{ac} + 2W_b W_c \sigma_b \sigma_c \rho_{ac}$$

Assuming return for each investment is as shown in **Table Q2** below:

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Table Q2: Asset Return

Period	Asset A	Asset B	Asset C	Asset D
1	-26.05	31.78	5.05	-15.63
2	0.09	24.14	5.24	17.38
3	-1.50	20.19	4.44	0.68
4	-3.30	-7.46	5.26	-1.28
5	1.40	-11.46	5.36	3.12
6	24.90	-21.50	1.70	1.87
7	21.40	31.10	1.20	5.77
8	4.80	11.90	0.90	14.20
9	17.80	6.10	2.29	6.10
10	23.20	15.70	4.10	4.43
11	31.90	5.10	4.92	5.77
12	4.30	-37.30	3.19	20.67

Correlation between two assets are as follows:

$\rho_{ab} = -0.1961, \rho_{ac} = -0.4253, \rho_{ad} = 0.3685, \rho_{bc} = 0.0584, \rho_{bd} = -0.3473, \rho_{cd} = -0.3106$

(Equation to compute variance on each asset is given as follow:

$\sigma^2 = \frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n}$)

Determine optimal resource allocation on each of the investment assets in a portfolio that give highest return possible with minimum risk by employing Markowitz's MPT.

(25 marks)

Q3   Any investment analysis technically is a research on risk. The higher the risk, the higher the return.

(a)   Explain systematic risk , with appropriate examples.

(10 marks)

(b)   Explain specific risk , with appropriate examples.

(10 marks)

(c)   State how risks could help in investment decision making.

(5 marks)

Q4   Real Estate Investment Trust (REIT) is seen as one of the latest real estate investment options. The status of REIT development in Malaysia is getting greater attention whether from the local or international real estate investors.

(a)   Explain Real Estate Investment Trust (REIT)

(5 marks)

(b)   REIT is divided into several categories. Explain the categories.

(9 marks)

(c)   State the advantages of REIT compared to other investments.

(6 marks)

(d)   State the criteria that will be considered if you intend to invest in REIT.

(5 marks)

END OF QUESTION PAPER