



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2017/2018**

COURSE NAME : REAL ESTATE INVESTMENT AND APPRAISALS
COURSE CODE : BPE 34003
PROGRAMME : BPD
EXAMINATION DATE : JUNE / JULY 2018
DURATION : 3 HOURS
INSTRUCTION : ANSWER **ALL** QUESTIONS

TERBUKA

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

Q1 MakeNu Mortgage Company is offering a new mortgage instrument called the Stable Mortgage. This mortgage is composed of both a fixed and an adjustable rate component. Mrs. Tiara is interested in financing a property, which costs RM100,000, and is to be financed by Stable Home Mortgages (SHM) on the following terms:

The SHM requires a 5 percent down payment, costs the borrower 2 discount points, and allows 75 percent of the mortgage to be fixed and 25 percent to be adjustable. The fixed portion of the loan is for 30 years at an annual interest rate of 10.5 percent. Having neither an interest rate nor payment cap, the adjustable portion is also for 30 years with the following terms:-

Initial interest rate = 9 percent

Index = 1-year Treasury-bill

Payment reset each year

Margin = 2 percent

Interest rate cap = None

Payment cap = None

The projected one-year Treasury-bill index, to which the Adjustable Rate Mortgage (ARM) is tied is as follows: Beginning of Year 2 = 10 percent; Beginning of Year 3 = 11 percent; Beginning of Year 4 = 8 percent; Beginning of Year 5 = 12 percent.

(a) Prepare a table that show Mrs. Tiara's total monthly payment and end-of-year balances for the first 5 years.

(15 marks)

(b) Compute lender's yield, assuming Mrs. Tiara repays the loan after five years.

(10 marks)

Q2 A building owner is evaluating the following alternatives for leasing space in an office building for the next five years:

Net lease with step: Rent will be RM15 per square foot for the first year and will increase by RM1.50 per square foot each year until the end of lease. All operating expenses will be paid by tenant.

Net lease with CPI adjustment: The rent will be RM16 per square foot for the first year. After the first year the rent is expected to increase by the amount of any increase in the Consumer Price Index (CPI). The CPI is expected to increase 3 percent per year.

Gross lease: Rent will be RM30 per square foot each year with the lessor/owner responsible for payment of all operating expenses. Expenses are expected to be RM9 during the first year and increase by RM1 per year thereafter.

Gross lease with expense stop and CPI adjustment: Rent will be RM22 the first year and increase by the full amount of any change in the CPI after the first year with an expense stop at RM9 per square foot. The CPI and operating expenses are assumed to change by the same amount as outlined above.

(a) Calculate the effective rent to the owner (after expenses) for each lease alternative using a 10 percent discount rate.

(10 marks)

(b) Rank the alternatives in term of risk to the property owner. (5 marks)

(c) Compare the four alternative based on your answer in Q2(a) and Q2(b). (10 marks)

Q3 An investor would like to purchase a new apartment for RM2 million. However, she faces the decision of whether to use 70 percent or 80 percent financing. The 70 percent loan can be obtained at 10 percent interest for 25 years. The 80 percent loan can be obtained at 11 percent interest for 25 years.

Net Operating Income (NOI) is expected to be RM190,000 per year and increase at 3 percent annually, the same rate at which the property is expected to increase in value. The building and improvements represent 80 percent of value and will be depreciated over 27.5 years. The project is expected to be sold after five years. Assume a 36 percent tax bracket for all income and capital gains taxes.

(a) Compute the Before Tax Internal Rate of Return (BTIRR) and After Tax Internal Rate of Return (ATIRR) at each level of financing (assume monthly mortgage amortization). (15 marks)

(b) Recommend, with justification, loan package that offer favorable financial leverage. (10 marks)

Q4 An investor has projected three possible scenarios for a project as follows:

Pessimistic: Net Operating Income (NOI) will be RM200,000 for the first year, and then decrease 2 percent per year over a five-year holding period. The property will sell for RM1.8 million after five years.

Most likely: NOI will be level at RM200,000 for the next five years (level NOI) and the property will sell for RM2 million.

Optimistic: NOI will be RM200,000 for the first year and increase 3 percent per year over a five-year holding period. The property will then sell for RM2.2 million.

The asking price for the property is RM2 million. The investor thinks there is about a 30 percent probability for the pessimistic scenario, a 40 percent probability for the most likely scenario, and a 30 percent probability for the optimistic scenario.

(a) Compute the Internal Rate of Return (IRR) for each scenario (15 marks)

(b) Compute the variance and standard deviation of the IRR. (10 marks)

-END OF QUESTIONS-

