



**UTHM**

Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2019/2020**

COURSE NAME : REAL ESTATE INVESTMENT AND APPRAISALS  
COURSE CODE : BPE 34003  
PROGRAMME CODE : BPD  
EXAMINATION DATE : DECEMBER 2019 / JANUARY 2020  
DURATION : 3 HOURS  
INSTRUCTION : ANSWER ALL QUESTIONS

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

**Q1** An amortized loan is a loan with scheduled periodic payments that are applied to both principal and interest. An amortized loan payment first pays off the relevant interest expense for the period, after which the remainder of the payment reduces the principal.

- (a) A loan is created with 10 annual equal payments of RM500 at an effective annual rate of 6%. However, after 4 years, the borrower needs an additional RM2000 and must restructure all outstanding debts over the remaining 6 years at 7% effective.

Calculate the payment amount during those 6 years.

(5 marks)

- (b) Using the amortization method, a person borrows RM5,000 at an effective rate of 8% per annum and agrees to repay the loan with payments at the end of each year. The first payment is RM600 and each subsequent payment is 4% above the previous one, with a smaller payment at the end of the term.

- (i) Calculate the outstanding loan balance at the end of 5 years.

(10 marks)

- (ii) Calculate the principal and the interest paid in the 5th payment.

(10 marks)

**Q2** (a) A project generates revenues of RM1,000 has cash expenses of RM600 and depreciation charges of RM200 in a particular year. The firm's tax rate is 35%.

Calculate the firm's net income.

(10 marks)

- (b) You have been asked to evaluate a project. After completion, the project lies dormant for two years before it generates an income stream. The first year of income is RM200,000. The second year it rises to RM300,000. By the third year it has reached RM500,000. It stays at this level for 3 years and then the project is scrapped with a zero value.

Calculate the profitability of the project assuming that the rate of return is 10% per annum.

(15 marks)

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**Q3** (a) Determine the equation for the present value of a growing perpetuity with a payment of  $C$  one period from today if the payments grow by  $C$  each period. (10 marks)

(b) The Falcon company is considering to purchase a printing machine. The relevant information is given below:

- Cost of the printing machine: RM150,000
- Annual cash inflows: RM45,000
- Useful life of printing machine: 15 years
- Salvage value (Residual value) after 15-year period: RM10,000
- Annual cash expenses: RM5,000

The tax rate for Falcon is 30%. Falcon requires a 14% after-tax return on all investments.

Calculate the Internal Rate of Return (IRR) of the printing machine.

(15 marks)

**Q4** You are serving on a jury. A plaintiff is suing the city for injuries sustained after a freak street sweeper accident. In the trial, doctors testified that it will be five years before the plaintiff is able to return to work. The jury has already decided in favour of the plaintiff. You are the foreperson of the jury and propose that the jury give the plaintiff an award to cover the following:

- (i) The present value of two years' back pay. The plaintiff's annual salary for the last two years would have been RM40,000 and RM43,000, respectively.
- (ii) The present value of five years' future salary. You assume the salary will be RM45,000 per year.
- (iii) RM100,000 for pain and suffering.
- (iv) RM20,000 for court costs.

Assume that the salary payments are equal amounts paid at the end of each month and the interest rate you choose is a 9 percent EAR.

Analyse the size of the settlement.

(25 marks)

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**-END OF QUESTIONS-**