



BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID (in Figures) :

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Student ID (in Words) : _____

Course Code & Name : **MAT1114 ESSENTIAL MATHEMATICS FOR BUSINESS**
 Trimester & Year : January – April 2019
 Lecturer/Examiner : Ms. Faridah Hanum Amran
 Duration : 2 Hours

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 2 parts:
 PART A (40 marks) : TWO (2) short answer questions. Answers are to be written in the Answer Booklet provided.
 PART B (60 marks) : THREE (3) structure type questions. Answers are to be written in the Answer Booklet provided.
2. Candidates are not allowed to bring any unauthorized materials except writing equipment into the Examination Hall. Electronic dictionaries are strictly prohibited.
3. This question paper must be submitted along with all used and/or unused rough papers and/or graph paper (if any). Candidates are NOT allowed to take any examination materials out of the examination hall.
4. Only ballpoint pens are allowed to be used in answering the questions, with the exception of multiple-choice questions, where 2B pencils are to be used.

WARNING: The University Examination Board (UEB) of BERJAYA University College regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from BERJAYA University College.

Total Number of pages = 4 (Including the cover page)

PART A : SHORT ANSWER QUESTIONS (40 MARKS)

INSTRUCTION : **TWO (2)** short answer questions. Answer **ALL** questions in the Answer Booklet(s) provided.

Question 1

a. A retailer bought a set of plates for RM500. During the sale of this set of plates, operating expenses incurred were 10% of the cost price. If the retailer made a 25% net profit based on cost, find:

i. the retail price (2 Marks)

ii. the gross profit (2 Marks)

iii. the net profit (2 Marks)

iv. the breakeven price (2 Marks)

v. the maximum markdown that could be offered to customers so that there is no profit or loss. (2 Marks)

b. Solve each equation:

i. $12^r = 13$ (2 Marks)

ii. $5 \times 18^{6x} = 26$ (2 Marks)

iii. $e^{x-1} - 5 = 5$ (2 Marks)

iv. $11^{n-8} - 5 = 54$ (2 Marks)

v. $-6e^{8n+8} - 3 = -23$ (2 Marks)

[Total: 20 marks]

Question 2

- a. Syikin Enterprise has spent RM352,700 to buy a machine for its company. The machine was expected to have 50-year of useful life. The depreciation method use is a straight line method and the depreciation rate policy was 10% per annum. Calculate the total depreciation amount for five years and show the net book value of the asset for each year.

(16 Marks)

- b. Calculate the total depreciation amount and show the net book value of the asset for the first year of purchase if Syikin Enterprise adopts reducing balance method.

(4 Marks)

[Total: 20 marks]

END OF PART A

PART B : STRUCTURE TYPE QUESTIONS (60 MARKS)
INSTRUCTION(S) : THREE (3) structure type questions. Answer ALL questions in the Answer Booklet(s) provided.

Question 1

Use Cramer's rule to solve the simultaneous equations below:

$$-3x - 9y + 6z = -45, -8x - 1y - 5z = -14, -4x + 7y + 2z = 107 \quad (20 \text{ Marks})$$

[Total: 20 marks]

Question 2

Minimize $Z = x + 4y$ subject to the constraints:

$$2x + 6y \geq 6$$

$$6x + 9y \geq 15$$

$$4x + 2y \geq 6$$

$$x, y \geq 0$$

(20 Marks)

[Total: 20 marks]

Question 3

a. Mary borrowed RM90. After sixty days, she paid back RM95. What simple interest rate was she charged?

(4 Marks)

b. A TV commercial from a loan company states, "You only pay 50 cents a day for each RM100 borrowed". If you borrow RM2,000 for 100 days, calculate the annual interest rate that you are paying.

(4 Marks)

c. Cik Syarifah invested RM8,000 at 7% compounded annually for six years. Find the interest earned.

(4 Marks)

d. Calculate the original investment to be invested now in order to accumulate RM1,000,000 in nine years time if interest of 10% is compounded:

i. Monthly

(4 Marks)

ii. Semi-annually

(4 Marks)

[Total: 20 marks]

END OF QUESTION PAPER