Private & Confidential

BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID (in Figures)	:													

Student ID (in Words) : _____

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Subject Code & Name : **MAT1114 ESSENTIAL MATHEMATICS FOR BUSINESS**
Semester & Year : May - August 2017
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 of Hospitality 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 of Hospitality.

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 RM 500. 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. First Fitting Luxury Sdn Bhd has spent RM 26,700 to buy a latest edition of sewing machine. The machine was expected to have 10-year of useful life and a residual value of RM 1,700. First Fitting Luxury Sdn Bhd will use a straight line method for depreciation of its assets. 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 First Fitting Luxury Sdn Bhd 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:

$-3x - 9y + 6z = -45$, $-8x - 1y - 5z = -14$, $-4x + 7y + 2z = 107$ (20 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 RM 90. After sixty days, she paid back RM 95. 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 RM 100 borrowed". If you borrow RM 2,000 for 100 days, what annual interest rate are you paying?

(4 Marks)

c. Cik Syarifah invested RM 8,000 at 7% compounded annually for six years. Find the interest earned. (4 Marks)

d. Calculate the original investment to be invest 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