



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 2018
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

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

$$2x + 3y - z = 1, 4x + y - 3z = 11, 3x - 2y + 5z = 21$$

[Total: 20 marks]

Question 2

- a. A company has been incorporated on 16th of September 2015. Recently the owner has spent around RM69,750 to buy a new van for delivery of its products to its customers. The van was expected to have 30-year of useful life. It is the company policy to use a straight line method for depreciation of its assets. Calculate the total depreciation amount for five years and show the net book value of the van for each year.

(16 Marks)

- b. Calculate the total depreciation amount and show the net book value of the van for the first year of purchase if the company is using reducing balance method at the rate of 20% to calculate its assets depreciation amount.

(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

- a. Nur Aliyah invested RM5,750 at 9% compounded monthly for two years. Find the interest earned.
(4 Marks)
- b. Nik Hafiz borrowed RM2,750. After two hundred days, he paid back RM3,350. Calculate the interest rate.
(4 Marks)
- c. Calculate the original investment to be invest now in order to accumulate RM570,500 in five years time if interest of 12% is compounded:
- i. yearly
(4 Marks)
 - ii. Semi-annually
(4 Marks)
- d. 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?
(4 Marks)

[Total: 20 marks]

Question 2

- a) A nursery buys 400 flowering plants for a total cost of RM3,000. The plants are then sold at prices shown in the following table:

Flower	Quantity	Selling price per plant (RM)
Orchid	60	20
Rose	100	16
Carnation	240	12

- i. Calculate the gross profit for the sale.
(5 Marks)
- ii. Find the mark up per cent based on cost.
(5 Marks)

b) A retailer buys a computer for RM3,600. The estimated operating expenses incurred for the sale of the computer are 5% of the retail price. If the retailer wants a 20% net profit based on the retail price, compute the following:

i. retail price

(4 marks)

ii. net profit

(3 marks)

iii. mark up

(3 marks)

[Total: 20 marks]

Question 3

Objective function $C = x + 4y$.

Subject to the constraints:

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

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

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

$$x, y \geq 0$$

Required:

To determine the minimum amount for x and y by constructing a graph.

[Total: 20 marks]

END OF QUESTION PAPER