

**BERJAYA BUSINESS SCHOOL**

**FINAL EXAMINATION**

Student ID (in Figures) : 

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Student ID (in Words) : \_\_\_\_\_  
\_\_\_\_\_

Subject Code & Name : **STA 1014 INTRODUCTION TO MATHEMATICS AND STATISTICS**  
Trimester & Year : September - December 2016  
Lecturer/Examiner : Ms. Faridah Hanum Amran  
Duration : 2 Hours

**INSTRUCTIONS TO CANDIDATES**

1. This question paper consists of 2 parts:  
PART A (30 marks) : THIRTY (30) multiple-choice questions. Answers are to be written in the Answer Booklet provided.  
PART B (70 marks) : FOUR (4) problem solving 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 = 3 (Including the cover page)**

**PART B : PROBLEM SOLVING QUESTIONS (70 MARKS)**

**INSTRUCTION(S)** : **FOUR (4)** problem solving questions. Answer **ALL** questions in the Answer Booklet(s) provided.

---

**Question 1**

Evaluate the algebra expression below:

a.  $18 - 4(x + 8)^3 + 2$  for  $x = -6$  (5 Marks)

b.  $\frac{x^2 - x - 6}{x^2 - 4x + 3}$  (5 Marks)

**[Total: 10 marks]**

**Question 2**

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

$15P - 4Q - 7R = 14$ ,  $-4P + 6Q - 2R = 34$ ,  $-3P - 2Q + 12R = 1$  (20 Marks)

**[Total: 20 marks]**

**Question 3**

a. Deduce equation for (2,3) (-1,-3). (8 Marks)

b. Find the equations of a straight line passes through the point (2,4) and has a slope of 1. (4 Marks)

c. Solve using the quadratic method for  $5x^2 + 8x - 6 = 2(x + 1)$ . (8 Marks)

**[Total: 20 marks]**

#### Question 4

The data below show the number of vehicles that arrive at Shah Alam toll booth during 16 intervals of the 10 minutes duration.

25 55 34 32 25 18 25 32 29 28 44 40 34 28 25 42

- a. Compute the mean, median and mode for the data given.

(7 Marks)

- b. Find the first quartile and third quartile

(9 Marks)

- c. Draw a box- and- whisker plot for the data given

(4 Marks)

**[Total: 20 marks]**

**END OF QUESTION PAPER**