



BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID (in Figures) : 

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Student ID (in Words) : \_\_\_\_\_  
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Subject Code & Name : **STA2114 Business Statistics**  
Trimester& Year : September – December 2017  
Lecturer/Examiner : Ms. Chong Poh Ling  
Duration : 3 Hours

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**INSTRUCTIONS TO CANDIDATES**

1. This question paper consists of 2 parts:  
PART A (30 marks) : THIRTY (30) multiple choice questions. Answer ALL questions. Shade your answers in the Multiple Choice Answer Sheet provided.  
PART B (70 marks) : FOUR (4) problem solving questions. Answer ALL 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 = 8 (Including the cover page)**

**PART B : STRUCTURED-TYPED QUESTIONS (70 MARKS)**

**INSTRUCTION(S) : FOUR (4) structured-type questions. Answer ALL questions. Answers are to be written in the Answer Booklet provided.**

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**Question 1**

- a. The following values indicate the number of books borrowed from the library by a sample of 10 students.

2, 5, 9, 5, 3, 6, 6, 3, 1, 13

For the **population** from which the sample was drawn,  $\mu = 4.1$  and  $\sigma = 2.93$ .

Calculate:

- (i) The expected value of the mean of the sampling distribution of means. (2 marks)

- (ii) The standard deviation of the sampling distribution of means. (2 marks)

- b. A **sample** of the variable  $x$  assumes the following values:

9      11      13      3      7      2      8      9      6      10

Compute:

- (i) Number of variables,  $n$  (2 marks)

- (ii) Sum of variables,  $\sum x$  (2 marks)

- (iii) Mean,  $\bar{x}$  (2 marks)

- (iv) Standard deviation,  $s$  (3 marks)

- (v) Variance,  $s^2$  (2 marks)

- (vi) Median (3 marks)

- (vii) Mode (2 marks)

(viii) Range

(2 marks)

(ix) Coefficient of variation

(2 marks)

**[Total: 24 marks]**

## Question 2

- a. It is found that out of 100 students of a university, 65 students come to campus by bus, 15 students walk to campus and the remaining 20 students go to campus by other transportations. If a student is randomly selected from this group of 100 students, what is the probability that the student selected either goes to campus by bus or walks to campus?

(6 marks)

- b. Consider the experiment of selecting one card at random from a standard deck of 52 playing cards. Find the probability of drawing either a king or a diamond card.

(4 marks)

- c. A couple has five children. Assume that the probability of getting a boy or a girl is  $\frac{1}{2}$ . Find the probability that:

- i) all five are boys
- ii) three are girls and two are boys

(6 marks)

**[Total: 16 marks]**

## Question 3

The distribution for the lengths of a particular type of fish in Perdana Lake can be regarded as normal with mean 12.5 cm and standard deviation 3.6 cm. Determine the probability that a fish caught in this lake has a length which is

- a. More than 15 cm

(4 marks)

- b. Less than 11.4 cm

(4 marks)

- c. Between 10 cm and 13 cm

(6 marks)

**[Total: 14 marks]**

#### Question 4

- a. What is the confidence level of 95% using the following information? (Use four decimal places).

Sample mean = 2888

Standard deviation = 1820

Sample size = 120

(8 marks)

- b. A big record company wants to find out how internet downloads of music in Malaysia are affecting CD sales. They randomly choose 500 families in various parts of the country and count the number of individual songs that are downloaded in an hour. The sample mean was 3800 with a sample standard deviation of 105. Determine a 90% confidence interval for this information. (Round up your answer to the nearest integer).

(8 marks)

**[Total: 16 marks]**

**END OF EXAM PAPER**