BERJAYA
UNIVERSITY COLLEGE
OF HOSPITALITY

BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID (in Figures)   :

Student ID (in Words)   :

Subject Code & Name	: **DBM2402 BUSINESS STATISTICS**
Semester & Year	: September - December 2016
Lecturer/Examiner	: Ms. Tey Sheik Kyin
Duration	: 2 Hours

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INSTRUCTIONS TO CANDIDATES

1. **This question paper consists of 2 parts:**
    PART A (70 marks)   :   **SEVEN (7) short answer questions. Answers are to be written in the Answer Booklet provided.**
    PART B (30 marks)   :   **TWO (2) long answer 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 = 6 (Including the cover page)

PART A : SHORT ANSWER QUESTIONS (70 MARKS)

INSTRUCTION : **Seven (7)** short answer questions. Answer **ALL** questions in the Answer Booklet(s) provided.

Question 1

Thousands of customers have accounts at a large department store. An accountant claims that the average unpaid balance for these accounts is RM75, a figure obtained by computing the average of the unpaid balance for 50 of the accounts

a. Identify the population.

(2 marks)

b. What is the sample?

(2 marks)

c. Is the figure of RM75 a parameter or a statistic?

(2 marks)

[Total: 6 marks]

Question 2

The placement office at a university regularly surveys the graduates 1 year after graduation and asks for the following information. For each, determine the ttpe of data.

a. What is your occupation?

(1 mark)

b. What is your income?

(1 mark)

c. What is the amount of your student loan?

(1 mark)

d. How would you rate the quality of instruction from 1 to 5. (1 = excellent and 5 = poor)

(1 mark)

[Total: 4 marks]

Question 3

The following data contains data on the total fat, in grams per serving, for a sample of 20 chicken sandwiches from fast-food chains. The data are as follow:

7   8   4   5   16   20   20   24   19   30
23   30   25   19   29   29   30   30   56   40

a.   Construct a frequency distribution and a percentage distribution.

(6 marks)

b.   Use a graphical technique to represent the figures in part a.

(6 marks)
[Total: 12marks]

Question 4

The random variable X has the following probability distribution.

x	-3	2	5	7
p(x)	0.3	0.2	0.4	0.1

a.   Find the following probabilities.

   i.   P(X>0)

   ii.   P(X≥2)

   iii.   P(2≤X≤6)

(3 marks)

b.   Calculate the mean, variance and standard deviation from the probability distribution of X.

(9 marks)
[Total: 12 marks]

Question 5

The following is a set of data from a sample of n=5

7   4   9   8   2

a.   Compute the mean and standard deviation

(4 marks)

b.   Construct a box plot. Describe the shape of the data set

(4 marks)

c.   Compute the Z scores. Are they any outliers? Explain

(4 marks)

[Total: 12 marks]

Question 6

a.   Consider an experiment where we flip two balanced coins and observe the results. Consider the following events:

A: a head is observed
B: a tail is observed.

i.   List the simple events in the sample space

(2 marks)

ii.   List the simple events in each of the events A, and B.

(4 marks)

b.   The sample space of the toss of a fair dice is
S={ 1,2,3,4,5,6}

If the dice is balanced, each simple event has the same probability. Find the probability of the following events:
i.   An even number

ii.   A number less than or equal to 4

iii.   A number greater than or equal to 5

(6 marks)
[Total: 12 marks]

Question 7

a.   The long-distance calls made by the employees of a company are normally distributed with a mean of 6.3 minutes and a standard deviation of 2.2 minutes. Find the probability that a call

   i.   lasts between 5 and 10 minutes

   ii.   Lasts more than 7 minutes

(8 marks)

b.   Given a normal population whose mean is 50 and whose standard deviation is 5. Find the probability that a random sample of 4 has a mean between 49 and 52.

(4 marks)
[Total: 12 marks]

END OF PART A

PART B : LONG ANSWER QUESTIONS (30 MARKS)

INSTRUCTION(S) : **TWO (2)** structure type questions. Answer **ALL** questions in the Answer Booklet(s) provided.

Question 1

A sample of 50 provided a sample mean of 14.15. The population standard deviation is 3

a. If you test the null hypothesis at the 0.05 level of significance, is there evidence that the population mean is different from 15? (State the null and alternative hypothesis)

(10 marks)

c. Construct a 95% confidence interval estimate of the population mean.

(5 marks)
[Total: 15 marks]

Question 2

From the given table,

X	3	5	2	9	6	3	9	1
Y	8	4	9	2	4	7	3	7

a. Determine the sample regression line and interpret the coefficients.

(10 marks)

b. Compute the coefficient of correlation and what do the statistics tell you about the relationship between x and y

(5 marks)

[Total: 15 marks]

END OF QUESTION PAPER