



BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID :

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Student Name :

Course Code & Name : **STA2114 Business Statistics**
Trimester & Year : January – April 2018
Lecturer/Examiner : Tey Sheik Kyin
Duration : 3 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 Multiple Choice Answer Sheet provided.
PART B (70 marks) : THREE (3) problem solving questions. Answers are to be written in the Answer Booklet provided.
2. Candidates are not allowed to bring any unauthorised 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 B : PROBLEM SOLVING QUESTIONS (70 MARKS)

INSTRUCTION(S) : THREE (3) problem solving questions. Answer ALL questions in the Answer Booklet(s) provided.

Question 1

- a. After a long and distinguished career, a racehorse retired. His finishes were recorded and listed below. Use a graphical technique to summarize the data and interpret your findings.

Finish	Frequency
First	11
Second	24
Third	35
Fourth	28
Fifth	20
Sixth	6
Seventh	5
Eighth	3

(6 marks)

- b. When parking a car in downtown parking lot, drivers pay according to the number of hours or fraction thereof.

x	1	2	3	4	5	6
$p(x)$	0.24	0.18	0.13	0.10	0.07	0.28

- i. Find the probability when $P(X \geq 3)$ (1 mark)
- ii. Find the probability when $P(2 < X \leq 6)$ (1 mark)
- iii. Find the probability when $P(1 < X < 3)$ (1 mark)
- iv. Find the mean and standard deviation of the number of hours cars are parked (6 marks)

[Total: 15 marks]

Question 2

A sample of nine customers spent for lunch (\$) at a fast food restaurant are:

4.20 5.03 5.86 6.45 7.38 7.54 8.46 8.47 9.87

- a. Construct a 95 percent confidence interval estimate for the population mean amount spent for lunch (\$) at a fast food restaurant, assuming a normal distribution. Interpret the interval constructed.
(6 marks)
- b. At the 0.05 level of significance, is there evidence that the mean amount spent for lunch is different from \$6.50? (Hint: state the null hypothesis and alternative hypothesis.)
(10 marks)
- c. What assumption about the population distribution is needed in order to conduct the t-test in (b)?
(2 marks)
- d. Construct a boxplot to evaluate the assumption made in (c). Do you think that the assumption needed in order to conduct the t test in (b) is valid?
(7 marks)

[Total: 25 marks]

Question 3

Critics of television often refer to the detrimental effects that all the violence shown on television has on children. However, there may be another problem. It may be that watching television also reduces the amount of physical exercise, causing weight gains. A sample of 15 10-year-old children was taken. The number of pounds each child was overweight was recorded (a negative number indicates the child is underweight). In addition, the number of hours of television viewing per week was also recorded. These data are listed here.

Television	42	34	25	35	37	38	31	33
Overweight	18	6	0	-1	13	14	7	7
Television	19	29	38	28	29	36	18	
Overweight	-9	8	8	5	3	14	-7	

- Use a graphical technique to display the data. (4 marks)
- Compute the covariance and coefficient of correlation. Interpret your answer based on covariance and coefficient of correlation. (10 marks)
- Use the least-squares method to determine the regression line. (8 marks)
- Interpret the coefficients obtain from part (c). (4 marks)
- Determine the coefficient of determination, r^2 and interpret its meaning. (4 marks)

[Total: 30 marks]

END OF EXAM PAPER