



BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID (in Figures) :

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Student ID (in Words) : _____

Subject Code & Name : **BGN3301 Statistics for the Service Industry**
Semester & Year : January – April 2017
Lecturer/Examiner : Ms. Chong Poh Ling
Duration : 3 Hours

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 2 parts:
PART A (20 marks) : TWO (2) short answer questions. Answer ALL questions. Answers are to be written in the Answer Booklet provided.
PART B (80 marks) : FOUR (4) structured-type 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 = 5 (Including the cover page)

PART A : SHORT ANSWER QUESTIONS (20 MARKS)

INSTRUCTION(S) : TWO (2) short answer questions. Answer ALL questions in the Answer Booklet(s) provided.

Question 1

- a. Define 'Mean'. What is 'Standard Deviation'? (3 marks)
- b. Why do we use 'Mean' and 'Standard Deviation'? (3 marks)
- c. Provide an example where mean is not important, but standard deviation plays a significant role. (4 marks)

[Total: 10 marks]

Question 2

- a. Define: slope and intercept. (4 marks)
- b. Interpret the meaning of the intercept and slope when relating Starting Salary and GPA. (6 marks)

[Total: 10 marks]

END OF PART A

PART B : STRUCTURED-TYPE QUESTIONS (80 MARKS)

INSTRUCTION : FOUR (4) structured-type questions. Answer ALL questions in the Answer Booklet(s) provided.

Question 1

- a. The following values indicate the number of microcomputer applications available to a sample of 10 computer users.

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. (1 mark)

- 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 (1 marks)

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

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

- (iv) Standard deviation, s (2 marks)

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

- (vi) Median (2 marks)

- (vii) Mode (2 marks)
- (viii) Range (2 marks)
- (ix) Coefficient of Variation, CV (2 marks)

[Total: 20 marks]

Question 2

- a. The monthly incomes of recent BHM graduates in a large corporation are normally distributed with a mean of RM2,000 and a standard deviation of RM200.
- i. What is the z value for an income X of RM2,200? RM1,700? (4 marks)
- ii. What do the z value means with regards to standard deviation? (4 marks)
- iii. What is the probability that a BHM graduate gets a monthly income of less than RM2,200? (2 marks)
- b. A professor has determined that the final averages in his statistics course are normally distributed with a mean of 72 and a standard deviation of 5. He decides to assign his grades for his current course such that the top 15% of the students receive an A. What is the lowest average a student must receive to earn an A? (10 marks)

[Total: 20 marks]

Question 3

A nationwide survey of college students was conducted and found that students spend two hours per class hour studying. A professor at your college wants to determine whether the time students spend at your college is significantly different from two hours. A random sample of fifteen statistics students is carried out and the findings indicate an average of 1.75 hours with a standard deviation of 0.24 hours. The t-test is to be conducted at the 5% level of significance.

- a. What is H_0 ? (2 marks)
- b. What is H_1 ? (2 marks)
- c. What is the critical value of t? (6 marks)
- d. What is the calculated value of t? (6 marks)
- e. What is our decision? (4 marks)

[Total: 20 marks]

Question 4

- a. A random sample of size 125 is collected and the following is determined: The sample mean is 521, sample standard deviation is 28. Determine a confidence interval of 95%. (10 marks)
- b. In the group of 345 children surveyed, the sample mean was 11.3 and the standard deviation was 1.8. Find the 99% confidence interval for this data. (10 marks)

[Total: 20 marks]

END OF EXAM PAPER