



## BERJAYA BUSINESS SCHOOL

### FINAL EXAMINATION

Student ID (in Figures) : 

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Student ID (in Words) : \_\_\_\_\_  
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Subject Code & Name : **BBM2312 Business Decision Making**  
 Trimester & Year : May – August 2017  
 Lecturer/Examiner : Ms. Chong Poh Ling  
 Duration : 3 Hours

#### INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 2 parts:
  - PART A (30 marks) : THREE (3) Short answer questions. Answer ALL questions. Answers are to be written in the Answer Booklet 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 = 5 (Including the cover page)**

**PART A : SHORT ESSAY QUESTIONS (30 MARKS)**

**INSTRUCTION(S) : THREE (3) short answer questions. Answer ALL questions in the Answer Booklet provided.**

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**Question 1**

- a. Define 'Population' and 'Sample'. (3 marks)
- b. Why do we use 'Population' and 'Sample'? (3 marks)
- c. Provide an example where population is not important, but sample plays a significant role. (4 marks)

**[Total: 10 marks]**

**Question 2**

- a. Define 'Quantitative data'. Explain 'discrete' and 'continuous' with regards to quantitative variables. (4 marks)
- b. Define 'Qualitative data'. (2 marks)
- c. Provide an example for quantitative data and an example for qualitative data. (4 marks)

**[Total: 10 marks]**

**Question 3**

- a. What is Inferential Statistics? Compare inferential statistics and descriptive statistics. (5 marks)
- b. What is t-test? Interpret the statement: A t-test is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known. (5 marks)

**[Total: 10 marks]**

**END OF PART A**

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

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

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**Question 1**

- a. i. Discuss the advantages of mathematical modeling. Explain at least **FIVE (5)** advantages. (5 marks)
- ii. Discuss at least **FIVE (5)** possible problems in the Quantitative Analysis Approach. (5 marks)
- b. The problem solving loop involves FIVE (5) steps. Describe each of the steps. (10 marks)

**[Total: 20 marks]**

**Question 2**

- a. You stop 10 people and ask them whether they would or would not recommend a movie to others. They give you the following answers:

Person	Recommend?	Person	Recommend?
1	No	6	No
2	Yes	7	Yes
3	No	8	Yes
4	No	9	No
5	Yes	10	No

- i. Construct a frequency distribution table of these data (be sure to include columns representing the frequency and percentages). (5 marks)
- ii. Construct an appropriate figure for these data and give comments. (5 marks)
- b. For each of the following variables, identify whether you could use a pie chart, bar chart, histogram, or frequency polygon to visually display the data:
- i. Gender
  - ii. Weight (in kilograms)
  - iii. Number of children in families
  - iv. Eye colour
  - v. Temperature
- (5 marks)

c. A sample of the variable x assumes the following values:

57	51	58	52	50	59	57	51	59	56
50	53	54	50	57	51	53	55	52	54

Compute:

- i. Mean (2 marks)
- ii. Standard deviation (2 marks)
- iii. Variance (2 marks)
- iv. Median (2 marks)
- v. Mode (2 marks)

**[Total: 25 marks]**

### Question 3

a. Construct the primal-dual table and the dual problem for the following linear programming model fitting our standard form.

$$\text{Maximize } Z = 10x_1 + 8x_2 - 2x_3 + 6x_4$$

subject to,

$$6x_1 + 4x_2 - 6x_3 + 2x_4 \leq 48$$

$$6x_1 + 6x_2 + 2x_3 + 6x_4 \leq 72$$

and

$$x_1 \geq 0, x_2 \geq 0, x_3 \geq 0, x_4 \geq 0.$$

(7 marks)

b. A production manager collected data on production cost and the quantity produced for 10 consecutive days. These data are given in the table below:

Day	1	2	3	4	5	6	7	8	9	10
Quantity ('000 units)	10	13	20	18	17	15	16	14	11	12
Cost (RM'000)	20	28	38	35	33	30	34	29	23	25

i. Find the regression equation for production cost,  $y$  on the production quantity,  $x$  using the least squares method.

(4 marks)

ii. Explain the meaning of the constraints  $a$  and  $b$  in the equation.

(2 marks)

iii. Estimate the production cost when the production quantity is 25,000 units. How much was the fixed cost? Explain.

(2 marks)

**[Total: 15 marks]**

#### Question 4

a) Berjaya Water Sports has three retail outlets: Kuala Lumpur, Ipoh and Kuantan. The Kuala Lumpur store does 50 percent of the total sales in a year, while the Ipoh store does 35 percent of the total sales. Further analysis indicates that of the sales in Kuala Lumpur, 20 percent are in boat accessories. The percentage of boat accessories at the Ipoh store is 30 and the percentage is 25 at the Kuantan store. If a sales ringgit is recorded as a boat accessory, the probability that the sale was made at the Ipoh store is?

(5 marks)

b) Assuming that the change in daily closing prices for stocks on the Kuala Lumpur Stock Exchange is a random variable that is normally distributed with a mean of RM0.35 and a standard deviation of RM0.33. Based on this information, what is the probability that a randomly selected stock will be lower by RM0.40 or more?

(5 marks)

**[Total: 10 marks]**

**END OF EXAM PAPER**