



BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID (in Figures) :

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Student ID (in Words) : _____

Course Code & Name : **MGT5104 Operations Management & Decision Science**
 Trimester & Year : May – August 2019
 Lecturer/Examiner : Thillai Raja
 Duration : 2 Hours

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 2 parts:
 PART A (20 marks) : TWENTY (20) multiple choice questions. Answers are to be written in the Multiple Choice Answer Sheet provided.

 PART B (80 marks) : Q1 compulsory to answer, and answer any TWO (2) out THREE (3) Essay 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 = 8 (Including the cover page)

SECTION A (20 MARKS)

INSTRUCTION : ANSWER ALL QUESTION

GENERAL CONTENT: Multiple-Choice Questions

The following questions are worth one (1) mark each.

END OF SECTION A

SECTION B (80 MARKS)

INSTRUCTION: QUESTION ONE (1) COMPLUSARY AND ANSWER ANY TWO (2)

QUESTIONS OUT OFF THREE (3)

GENERAL CONTENT: Essay

1.

- a) The environmental protection becoming more important, both process and product/service designers have to take account. Based on your understanding, explain what is “environmental sensitive design”.

(10 marks)

- b) You as Operations Manager in one of the leading manufacturing firm, based on your experiences in the Industry, discuss the purpose of your organizations hold inventory with relevant examples.

(10 marks)

(Total : 20 marks)

2) Scenario Analysis

Becky Addison is consideration the possibility of opening a small dress shop in Waterbank Avenue, Bukit Bintang, a few blocks from the University. She has located a good mall that attracts students. Her options are to open a small shop, a medium-sized shop, or no shop at all. The market for a dress shop can be good, average market, or bad. The probabilities for these three possibilities are 0.2 for a good market, 0.5 for an average market, and 0.3 for a bad market. The net profit or loss for the medium-sized and small shops for the various market conditions are given in the following table, Building no shop at all yields no loss and no gain.

Alternative	Good Market (\$)	Average Market(\$)	Bad Market (\$)
Small Shop	75,000	25,000	-40,000
Medium-sized shop	100,000	35,000	-60,000
No shop	0	0	0

- a) Estimate the Expected Monetary Value (EMV)

(10 marks)

- b) Calculate the Expected Value of Perfect Information (EVP1)

(5 marks)

- c) Illustrate the opportunity loss table for the situation; propose decision that you would make using the minimax regret criterion and the minimum Expected Opportunity Loss (EOL) criterion.

(15 marks)

(Total : 30 marks)

3) Short Case Study

In 2000, a fire at the Philips microchip plant affected phone manufacturers Nokia And Ericsson. The companies reacted in different ways, and ultimately, Ericsson did not do well, quitting the mobile phone business and allowing Nokia to win over the European market. While Ericsson had tied up all of its key components in a single source and planned to wait out the problem with the fire, Nokia worked to snatch up spare chips from other plants and suppliers, as well as re-engineered some of their phones to adapt to different chips from new suppliers. It's not hard to imagine what happened after that. Nokia kept trucking along, while Ericsson suffered from months of lost production and sales, allowing the market to be dominated by Nokia. This incident and fallout is a classic lesson in supply chain risk management.

- a) Differentiate the reaction of these two companies (Nokia and Ericsson) based on above case study.

(10 marks)

- b) Briefly explain the term Supply chain risk management and discuss the key steps in supply chain risk management

(10 marks)

- c) Discuss the benefits having proper supply chain risk management practices organization like Nokia and Ericsson.

(10 marks)

(Total : 30 marks)

4)

Patterson Electronic supplies microcomputer circuitry to a company that incorporates microprocessors into refrigerators and other home appliances. One of the components has an annual demand of 250 units, and this is constant throughout the year. Carrying cost is estimated to be \$1 per unit per year, and the ordering cost is \$20 per order.

a) To minimize cost, how many units should be ordered each time an order is placed?

(8 marks)

b) How many orders per year are needed with optimal policy?

(8 marks)

c) What is the average inventory if costs are minimized ?

(4 marks)

d) Suppose the ordering cost is not \$20, and Patterson has been ordering 150 units each time an order is placed. For this order policy to be optimal, what would the ordering cost have to be ?

(10 marks)

(Total :30 marks)

END OF SECTION B