



FACULTY OF BUSINESS

FINAL EXAMINATION

Student ID (in Figures) :

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Student ID (in Words) :

Course Code & Name : **MGT5104 OPERATIONS MANAGEMENT AND DECISION SCIENCES**
 Semester & Year : September – December 2023
 Lecturer/Examiner : Suhada Ishak /Assoc. Prof Dr Akram Al-Khaled
 Duration : 3 Hours

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 2 parts:
PART A (30 marks) : Answer all TWO (2) problem solving questions. Answers are to be written in the Answer Booklet provided.
PART B (70 marks) : Answer all FOUR (4) 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 = 4 (Including the cover page)

PART A : PROBLEM SOLVING QUESTIONS (30 MARKS)

INSTRUCTION(S) : Answer **ALL TWO (2)** questions. Write your answers in the Answer Booklet provided.

Question 1

The managers of a brokerage firm are interested in finding out if the number of new clients a broker brings into the firm affects the sales generated by the broker. They sample 12 brokers and determine the number of new clients they have enrolled in the last year and their sales amounts in thousands of dollars. These data are presented in the Table 1 that follows.

Broker	Clients	Sales
1	27	52
2	11	37
3	42	64
4	33	55
5	15	29
6	15	34
7	25	58
8	36	59
9	28	44
10	30	48
11	17	31
12	22	38

Table 1: Number of New Clients a Broker Brings into the Firm and the Sales Generated by the Broker

- a. Calculate the following values:
- i. Covariance, $COV(X, Y)$
 - ii. Coefficient of correlation, r .
- (13 marks)
- b. Compute least squares estimate of the slope and the least squares estimate of the Y-intercept.
- (7 marks)

[Total: 20 marks]

Question 2

One of the biggest issues facing e-retailers is the ability to turn browsers into buyers. This is measured by the conversion rate, the percentage of browsers who buy something in their visit to a site. The conversion rate for a company's website was 10.1%. The website at the company was redesigned in an attempt to increase its conversion rates. A sample of 200 browsers at the redesigned site was selected. Suppose that 24 browsers made a purchase. The company officials would like to know if there is evidence of an increase in conversion rate at the 5% level of significance.

- a) Identify the parameter the company officials is interested in. (2 marks)
- b) State the null and alternative hypothesis for this study. (2 marks)
- c) State the critical value should the company officials use to determine the rejection region. (1 mark)
- d) Analyze whether the company can conclude that there is evidence of an increase in conversion rate at the 5% level of significance. (5 marks)

[Total: 10 marks]

END OF PART A

PART B : ESSAY QUESTIONS (70 MARKS)

INSTRUCTION(S) : Answer **ALL FOUR (4)** questions. Write your answers in the Answer Booklet provided.

Question 1

“Project management is a complex undertaking, with many stages and processes. It should follow the full business lifecycle, from definition and justification of the project, through to delivering demonstrable benefits for the business.

Assess **FOUR (4)** categories of risk in project management. Provide relevant examples for each of the risk identified based on a project.

(20 marks)

Question 2

PERT (Programme Evaluation Review Technique) and CPM (Critical Path Method) are project management techniques, which have been created out of the need of Western industrial and military establishments to plan, schedule and control complex projects.

Distinguish **TEN (10)** differences between PERT and CPM.

(20 marks)

Question 3

Inventory management is the supervision of non-capitalized assets (inventory) and stock items. A component of supply chain management, inventory management supervises the flow of goods from manufacturers to warehouses and from these facilities to point of sale.

Critically debate **FIVE (5)** strategies on how companies use their inventories effectively.

(10 marks)

Question 4

The product life cycle (PLC) is an attempt to recognize distinct stages in sales history of the product. PLC helps to study the degree of product acceptance by the market over time which includes major rise or fall in sales. Presuming that you are a Director of Operations Management at the Coca-Cola Company, using a relevant diagram.

Examine **FOUR (4)** stages of the product life cycle which will take place for its products.

(20 marks)

END OF EXAM PAPER