



UNIVERSITI KUALA LUMPUR
KAMPUS CAWANGAN MALAYSIAN SPANISH INSTITUTE

FINAL EXAMINATION
OCTOBER 2025 SEMESTER

COURSE CODE : SIB24103 (V2)
COURSE TITLE : INTRODUCTION TO STATISTICAL ANALYSIS
PROGRAMME NAME : BACHELOR OF BUSINESS TECHNOLOGY (HONOURS) IN
AUTOMOTIVE MANAGEMENT
DATE : 30 JANUARY 2026
TIME : 9:00AM - 11:30AM
DURATION : 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of ONE sections.
4. Section A consist of five questions. Answer FOUR (4) questions only.
5. Please write your answer on the answer booklet provided.
6. Please answer all questions in English only.
7. Refer to the attached Formula/ Appendies. Tick if applicable

THERE ARE 6 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 100 marks)

Answer FOUR (4) questions.

Please use the answer booklet provided.

Question 1

Answer the questions.

- (a) Al-Ikhsan Sport store is considering ordering hats from two suppliers. Supplier A offers RM10 per unit and requires a minimum of 490 hats. Supplier B is offering hats at RM9 with a minimum order of 400 hats. The annual demand is 12000 hats, the ordering cost is RM20, and the holding cost is 20% of the hat cost. Determine the supplier should the store choose to minimize their total cost.

(10 marks)

- (b) Sen Heng Tech is evaluating three strategies to introduce a new smart-home device. The payoff depends on whether the market demand is High or Low. The probability for favorable market conditions is 0.6. The probabilities and payoffs are shown below.

Refer Below - Table1 : Profit Value (RM) .

Table 1: Profit Value (RM)

Alternative	Profit Value (RM)	
	High Demand	Low demand
Launch Premium Model	600,000	-150,000
Launch Standard Model	350000	-20000
Partner with Distributor	220000	80000

- i. The company considers hiring a market research firm that charges RM25,000. The research report may be positive survey (probability 0.75) or negative survey (probability 0.25). This information can help the company make a more informed decision. For the positive result, the probability for favorable market is 0.68 while for the negative result the probability for favorable market is 0.45. Draw the decision tree with the conducting the research.

(8 marks)

- ii. Determine the best decision for the company from decision tree in (i).
(7 marks)

Question 2

Answer the questions.

- (a) EverGreen Bhd purchases 48,000 aluminum caps annually. The ordering cost is RM40 per order, holding cost is RM3.20 per unit per year, and unit cost is RM9. Determine the
 - i. economic order quantity (EOQ).
(2 marks)
 - ii. new EOQ if the ordering cost increases by 25%.
(4 marks)
 - iii. holding cost if the order policy is 450 to be optimal and the ordering cost remains for RM40 per order.
(4 marks)

- (b) CIMB Berhad is considering three alternatives to improve its retail banking revenue. The following alternatives project the expected profit.
Refer Below - Table2 : Projected Profit (RM) .

Table 2: Projected Profit (RM)

Alternative	Customer Response	
	STRONG	WEAK
Launch Premium Credit Card	420,000	-120,000
Upgrade Existing Savings Accounts	200,000	40,000
Maintain Current Services	80,000	60,000

- i. Express the EMVs in terms of P .
(3 marks)
- ii. Perform the sensitivity analysis represent the situation.
(9 marks)
- iii. State your result in (ii) in sensitivity table. Interpret the result.
(3 marks)

Question 3

Answer the questions.

- (a) Panasonic Company sells 50,000 plastic casings per year. The company has 260 working days per year, and lead time is 4 days.

i. Determine the daily demand and reorder point.

(5 marks)

ii. If the demand is increases to 65,000 units and the supplier delays delivery, increasing lead time to 6 days, compute the new reorder point.

(5 marks)

- (b) WinWin Food Industries must decide which new product to be launch next year. The success will depend on the level of consumer demand. The payoff table provided below. Determine the best product for WinWin Food based on
Refer Below - Table3 : Projected Profit (RM) .

Table 3: Projected Profit (RM)

Product	Market Demand		
	High	Moderate	Low
Organic Snack Bars	900,000	600,000	150,000
Packaged Healthy Cereals	700,000	500,000	200,000
Premium Fruit Juices	850,000	450,000	80,000
Probability	0.4	0.35	0.25

i. the Expected Monetary Value (EMV).

(6 marks)

ii. the Expected Opportunity Loss (EOL).

(9 marks)

Question 4

Answer the questions.

- (a) Riverside Furniture Factory purchases hardwood panels for its production line. The ordering cost is RM50 per order and the annual demand is 600 panels. The annual holding cost rate is 25% of the unit price. The supplier offers the following quantity discount schedule.

Refer Below - Table4 : Discount Price (RM) .

Table 4: Discount Price (RM)

Quantity	Price
1 – 99	40.00
100 – 299	38.50
300 and above	37.75

- i. Calculate the EOQ (Economic Order Quantity) for each price level. (3 marks)
- ii. Calculate the total cost for the adjustment quantities from (i). (7 marks)
- (b) Swiss In Resort is planning to invest in one of three new beach facilities. The projected profits (RM) are shown in the payoff table below: Determine the best facility based on the following criteria. Give the reason for your answer.

Refer Below - Table5 : Projected Profit (RM) .

Table 5: Projected Profit (RM)

Facility	Weather Condition		
	Excellent	Moderate	Poor
Floating Chalet Units	480,000	300,000	90,000
Beachfront Event Hall	520,000	250,000	40,000
Premium Glamping Sites	430,000	310,000	120,000

- i. Optimistic. (3 marks)
- ii. Hurwicz criteria. Use an $\alpha = 0.65$ (6 marks)

- iii. equally likely.

(6 marks)

Question 5

Answer the questions.

- (a) Solar Tech Supplies expects annual demand of 54,000 solar connectors. The ordering cost is RM8 per order, and the carrying cost is RM3.20 per unit per year. Each connector costs RM12. The company operates 260 working days per year. Determine the

- i. economic order quantity (EOQ).

(5 marks)

- ii. annual inventory cost (including the purchase cost).

(5 marks)

- (b) Farhan is considering three investment options for his upcoming business expansion: purchasing new manufacturing equipment, opening a retail outlet, or launching an e-commerce platform. His profits will depend on economic conditions. If the economy becomes strong, Farhan expects to earn RM120,000 from the new equipment, RM90,000 from the retail outlet, and RM115,000 from the e-commerce platform. If the economy becomes weak, he expects to earn RM60,000 from the new equipment, RM50,000 from the retail outlet, and RM70,000 from the e-commerce platform.

- i. Construct a decision table for this investment situation

(5 marks)

- ii. Develop opportunity loss table (OLT). Then, determine the best decision using the minimax regret approach.

(10 marks)

END OF EXAMINATION PAPER

FORMULA

$$1) \quad \text{EOQ} = Q^* = \sqrt{\frac{2DC_o}{C_h}}$$

$$2) \quad \text{Annual ordering cost} = \frac{D}{Q} C_o$$

$$3) \quad \text{Annual holding cost} = \frac{Q}{2} C_h$$

$$4) \quad \text{Total cost} = DC + \frac{D}{Q} C_o + \frac{Q}{2} C_h$$

