

**UNIVERSITI KUALA LUMPUR
BUSINESS SCHOOL**

**FINAL EXAMINATION
JULY 2025 SEMESTER**

COURSE CODE : EFB10503
COURSE NAME : STATISTICS FOR TOURISM
PROGRAMME NAME : BACHELOR IN TOURISM PLANNING AND
DEVELOPMENT (HONOURS)
DATE : 18 SEPTEMBER 2025
TIME : 2.00PM – 5.00PM
DURATION : 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please **CAREFULLY** read the instructions given in the question paper.
2. This question paper has information printed on both sides of the paper.
3. This question paper consists of **FIVE (5)** questions.
4. Answer **ALL** questions.
5. Please write your answers on the answer booklet provided.
6. All questions must be answered in **English** (any other language is not allowed).
7. This question paper must not be removed from the examination hall.

THERE ARE SIX (6) PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

(Total: 100 marks)

INSTRUCTION: Answer ALL questions.

Please use the answer booklet provided.

Question 1

- (a) You are working with a tourism development team to support regional planning using spatial data from visitor surveys and geographic databases. Your objective is to identify areas with overcrowding risk or infrastructure mismatch in popular tourist destinations. Name and explain two spatial analysis techniques that can help planners detect such areas for improved tourism infrastructure planning.
- (4 marks)
- (b) The Tourism Authority of Thailand is analyzing inbound travel data to enhance its international marketing strategy. Based on the latest tourism statistics, 2 million tourists from European countries visited Thailand in 2023. A sample survey shows the following distribution of travel purposes: 1,200,000 for leisure, 400,000 for business, 200,000 for wellness or medical tourism and 200,000 for cultural exploration or education.
- i. Define leisure tourism and wellness tourism. Provide one real-world example of each in the context of Thailand.
- (4 marks)
- ii. Create a pie chart showing the proportion of tourist purposes based on the data above. Explain how this type of visualization supports evidence-based tourism planning.
- (5 marks)
- iii. Based on the pie chart and scenario, suggest two priority areas for improving Thailand's inbound tourism strategy. Justify your answer with reference to the data.
- (4 marks)
- iv. Suppose 70% of European leisure tourists are repeat visitors to Thailand. If a random sample of 6 leisure tourists is selected, calculate the probability that exactly 4 of them are repeat visitors.
- (3 marks)

Question 2

The Regional Tourism Board is studying the factors influencing monthly revenue (in RM '000) from eco-tourism lodges across national parks in Malaysia. A multiple linear regression was conducted using SPSS, where the dependent variable was Monthly Eco-Lodge Revenue, and the independent variables were Average Length of Stay (LOS in nights), Local Guide Usage Rate (% of tourists engaging local guides), and Number of Social Media Mentions (monthly). Table below summarizes the SPSS Output (in a simplified coefficient format):

Model Summary

R	R square	Adjusted R Square	Std. Error of the Estimate
0.845	0.714	0.692	38.75

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	128,400	3	42,800	28.50	0.000
Residual	51,600	24	2,150		
Total	180,000	27			

Model	Unstandardized Coefficients (B)	Std. Error	t	Sig.
(Constant)	480.25	40.00	12.01	0.000
Length of Stay	5.60	1.20	4.67	0.000
Guide Usage Rate	3.75	0.85	4.41	0.000
Social Media Mentions	0.22	0.10	2.20	0.038

- (a) Assess the overall model fit using the SPSS Model Summary output above. What does the R Square and Adjusted R Square tell you about the model's explanatory power?
(4 marks)
- (b) Using the ANOVA table, determine whether the overall regression model is statistically significant. Explain how the F-statistic and p-value support your conclusion.
(3 marks)
- (c) Write the regression equation from the SPSS output.
(3 marks)
- (d) Interpret the coefficient for Length of Stay and Guide Usage Rate in context.
(4 marks)
- (e) Comment on the significance of each independent variable. Which ones are statistically significant predictors?
(4 marks)
- (f) Suggest one managerial implication for eco-tourism lodge operators or national park authorities based on this model.
(2 marks)

Question 3

- (a) The Penang Heritage Tourism Authority is assessing visitor satisfaction related to guided heritage tours across three key service dimensions: Guide professionalism, Tour content, and Booking experience. Based on previous data, 85% of tourists rated guide professionalism as satisfactory, 78% rated the tour content positively, and 70% found the booking experience smooth.
- i. Define Statistical Quality Control (SQC) and discuss two (2) tools that can be used to monitor resort service quality.
(4 marks)
 - ii. Using the data above, calculate the probability that a randomly selected customer finds all three aspects satisfactory, assuming independence.
(2 marks)
 - iii. What is the probability that a visitor is dissatisfied with at least one of the three services?
(2 marks)
 - iv. Suggest two quality improvement actions the Penang Heritage Tourism Authority could implement and relate them to any of Deming's 14 Points.
(4 marks)
- (b) The Penang Street Art Trail, a cultural tourism attraction, has gained popularity among domestic and international tourists. In 2024, it attracted 150,000 visitors. Based on visitor feedback, 90,000 were first-time (trial) visitors, while 60,000 were repeat visitors. The Penang Tourism Office aims to evaluate the product's position in the Tourism Product Life Cycle to strategize future improvements.
- i. Briefly explain the four main stages of the Tourism Product Life Cycle (PLC) and indicate which stage the Penang Street Art Trail is currently in based on the case.
(4 marks)

- ii. Calculate the number of trial and repeat visitors. Then, compute the Trial-Repeat Ratio (TRR).

(2 marks)

- iii. Interpret the TRR result and its strategic implication for Penang's tourism planners.

(2 marks)

Question 4

- (a) A Malaysian travel agency is using conjoint analysis to design a new domestic tour package targeted at Gen Z travelers. The agency considers the following attributes: price, type of accommodation, and activities (e.g. cultural tours, outdoor adventure, shopping). They survey 100 respondents who rank various combinations of these options.

- i. Explain what conjoint analysis is and how it helps in understanding tourist preferences.

(3 marks)

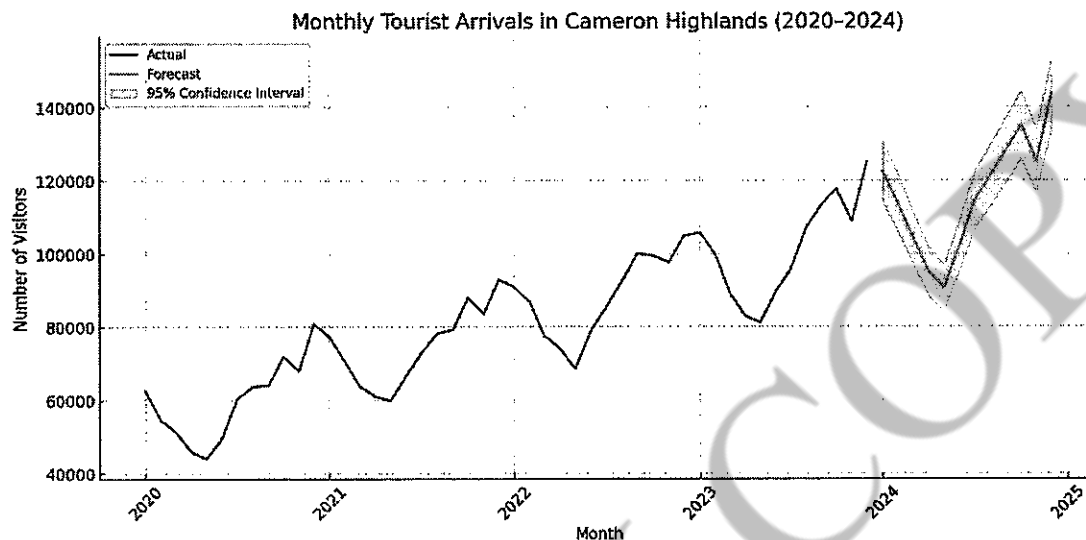
- ii. Provide two advantages of using conjoint analysis in designing travel packages for Gen Z.

(2 marks)

- iii. Based on the case, identify one attribute that might be most important to Gen Z tourists and justify why.

(3 marks)

- (b) The chart below shows monthly tourist arrivals in Cameron Highlands from 2020 to 2023. The data was used to forecast visitor numbers for 2024 using Winters' Multiplicative Exponential Smoothing in SPSS. The chart includes the actual data (2020–2023), the forecast trend line for 2024, and the 95% confidence interval.



- i. Identify and explain two time series components used in Winters' method that are visible in this chart. (4 marks)
- ii. Why does the 95% confidence interval in the forecast become wider over time? What does this imply for tourism authorities? (2 marks)
- iii. Referring to the chart, in which month and year was the lowest occupancy rate recorded? What plausible reason might explain this drop? (2 marks)
- iv. If the forecasted occupancy rate for December 2024 is 150,000, and the seasonal index for August is 1.25, estimate the de-seasonalized trend value. (2 marks)
- v. Suggest one policy or marketing response that Cameron Highlands tourism operators could implement to address the high-demand months in 2024. (2 marks)

Question 5

- (a) A hospitality database is a centralized repository of information about various hospitality entities, such as hotels, resorts, and restaurants. It contains detailed records that are crucial for managing operations, understanding market trends, and making strategic decisions. Discuss four (4) components of a hospitality database.

(10 marks)

- (b) Structured Observational Study is a systematic approach to observational research where the researcher follows predefined guidelines or protocols to record specific behaviors or events. It involves carefully planning the observation process, including what to observe, how to record the observations, and the duration of the observation period.

Describe **TWO (2)** key characteristics of a structured observational study. For each characteristic, provide an example of how it can be applied in a tourism research setting (e.g., tourist behavior at attractions, service interaction, etc.).

(10 marks)

END OF EXAMINATION PAPER