

	UNIVERSITY OF RUHUNA FACULTY OF MANAGEMENT AND FINANCE	No of Pages : 03 No. of questions : 06 Total Marks : 70
	BACHELOR OF BUSINESS ADMINISTRATION HONOURS DEGREE 4000 LEVEL FIRST SEMESTER END EXAMINATION – AUG/SEP 2025	<i>Three Hours</i>
MGT 41633 – Business Analytics		Academic Year: 2024/2025
Instructions <ul style="list-style-type: none"> ➤ This paper contains six (06) questions ➤ Answer five (05) questions only ➤ Calculators are permitted 		

01. I. Differentiate between a database and a dataset, using an example. [04 Marks]

- II. As per the sales analysis results, the business analyst found that,
- Sales drop by 40% in the western region over the past three months.
 - Customer feedback shows frequent complaints about delayed deliveries in that region.
 - Inventory data reveals that warehouses near the western region are understocked.

As a business analyst, what insight/s can you gain from the above scenario, and what possible action/s would you suggest top management to improve sales and customer satisfaction?

[04 Marks]

- III. Sun Lanka Textiles, a small and medium-sized enterprise (SME) based in Monaragala, Sri Lanka. They have recently started expanding its operations and collecting sales, customers, and inventory data.

However, they are facing some obstacles with these different types of data.

As a business analyst, how do you justify above statement with reference to key Business Intelligence (BI) challenges facing by SMEs.

[06 Marks]

[Total = 14 Marks]

02. I. List down the applications of BI concepts in real word scenarios. [04 Marks]

- II. Variance of sales data over a 7 day period is 90 units. Calculate the standard deviation and interpret insights of both variance and standard deviation values.

[04 Marks]

- III. Discuss the importance of Big Data Analytics for developing nations. Support your answer at least with three (03) points and with relevant examples.

[06 Marks]

[Total = 14 Marks]

03. I. Data Mining is a subset of Business Intelligence, how do you differentiate them? [04 Marks]
- II. What do you mean by **Deployment** in the data mining process? [04 Marks]
- III. A Fast Moving Consumer Goods (FMCG) SME owner in an industrial zone is looking for a BI tool to analyze their business operations. He has heard that a tool called Power BI is available for free.
As a student, Do you advise the business owner on whether Power BI is a suitable choice? Explain reasons referring to the key features of Power BI, highlighting the criteria for selecting an appropriate BI tool. [06 Marks]
- [Total = 14 Marks]

04. I. What do you mean by Affiliate Business model? Explain the meaning with providing two (02) examples in real world. [04 Marks]
- II. Explain at least four (04) benefits that a business can gain through analyzing the customers. [04 Marks]
- III. Considering any manufacturing/service company you have studied during the module, explain its market using the BCG (Boston Consulting Group) Matrix. You are required to explain the market position of each product/service based on market growth rate and relative market share. [06 Marks]
- [Total = 14 Marks]

05. I. List down the steps in decision analysis process. [04 Marks]
- II. Monthly Sales of the product X during and after Sinhala and Tamil New Year 2025, is given in the following table.
Product X is a matured product with over 70% share which has been with the company for over 6 years. It was noticed that a competitor has recently launched a similar product which has impacted the demand for Product X.

Month	Sales Data (LKR) of X
March 2025	412,562
April 2025	457,066
May 2025	426,837
June 2025	427,614
July 2025	420,254
August 2025	389,561

- a) Develop a forecast of Product X for using 3 month moving average
b) Considering the last 3 months (June 2025 – August 2025), calculate the Forecasting Error (Mean Absolute Percentage Error - MAPE). [04 Marks]

- III. A Super market owner is deciding whether to expand to a new location, renovate the current shop, or do nothing. The success of expansion/renovation depends on economic conditions, with the following payoffs (in LKR) and probabilities:

Alternatives	Boom	Stable	Recession
Expand	140,000	80,000	-98,000
Renovate	110,000	75,000	-20,000
Do nothing	15,000	15,000	15,000
Probability	0.3	0.4	0.3

- a) Draw the decision tree with all economic scenarios and payoffs.
b) Calculate the Expected Monetary Value (EMV) for each option and suggest the best decision and justify the answer based on EMV.

[06 Marks]

[Total = 14 Marks]

06. Briefly explain following topics

- a) How can Sri Lankan universities leverage Big Data analytics to thrive in a digital economy?
b) What strategies can be used to overcome the challenges faced by developing countries when applying Data Science in business decision making?
c) How would you advise an entrepreneur on designing a successful business model?
d) What are the benefits of pattern recognition in business decision making?

[3.5 Marks for each]

[Total = 14 Marks]
