



UNIVERSITI
TEKNOLOGI
PETRONAS

FINAL EXAMINATION MAY 2024 SEMESTER

COURSE : TEB3313/TFB2153 - BUSINESS INTELLIGENCE
DATE : 8 AUGUST 2024 (THURSDAY)
TIME : 9:00 AM - 12:00 NOON (3 HOURS)

INSTRUCTIONS TO CANDIDATES

1. Answer **ALL** questions in the Answer Booklet.
2. Begin **EACH** answer on a new page in the Answer Booklet.
3. Indicate clearly answers that are cancelled, if any.
4. Where applicable, show clearly steps taken in arriving at the solutions and indicate **ALL** assumptions, if any.
5. **DO NOT** open this Question Booklet until instructed.

Note :

- i. There are **SIX (6)** pages in this Question Booklet including the cover page
- ii. **DOUBLE-SIDED** Question Booklet.

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1. a. Describe the following terminology with **ONE (1)** example each:

i. MOLAP

[4 marks]

ii. HOLAP

[4 marks]

b. Expedia.com is a leading online travel agency providing a wide range of travel services, including booking flights, hotels, car rentals, and vacation packages. To maintain its competitive edge and improve customer satisfaction, Expedia.com needed a systematic approach to measure and analyze customer feedback.

Discuss **FOUR (4)** approaches on how Expedia.com achieved its customer satisfaction scorecard to enhance its customer service and overall user experience.

[12 marks]

2. As HR manager, you are responsible for the development of a business analytics dynamic dashboard. The CEO has instructed you to prepare a new employee recruitment plan based on 15 years employee dataset. At the same time, identify hidden patterns on bad performer in your company and you are also required to present recommendation for the hidden issue from the finding. Illustrate suitable visualization for your dynamic dashboard which should focus on:

- a. relationship in data with insight [5 marks]
- b. track data overtime with insight [5 marks]
- c. compare data with insight [5 marks]
- d. analyse data distribution with insight [5 marks]

3. a. Compare the following:

i. CRISP-DM versus SEMMA

[5 marks]

ii. Classification versus clustering with an example each

[5 marks]

b. Shopyy's success is driven by its user-centric approach, extensive product range, robust seller support, and innovative features that enhance the shopping experience. By continuously adapting to market demands and leveraging technology, Shopyy has established itself as a dominant player in the e-commerce landscape of Southeast Asia and Taiwan.

Illustrate how Shopyy implemented an ETL (Extract, Transform, Load) framework to handle its vast and complex data needs.

[10 marks]

4. Solaris Co, which operates multiple lines of business, aims to integrate all its operations into a unified and robust framework. The company plans to invest in a data warehouse envisioned as a corporate information factory. This strategy is especially advantageous for large organizations with intricate data requirements, offering a centralized, scalable, and flexible solution for data integration, storage, and analytics.

a. Propose **ONE (1)** suitable data warehouse architecture for this company. Justify your answer.

[10 marks]

b. Design snowflake schema with minimum **SEVEN (7)** dimension tables based on Solaris Co business process.

[10 marks]

5. Text mining plays a pivotal role in TikTok's strategy by extracting valuable insights that drive various aspects of platform management and user engagement. Firstly, sentiment analysis enables TikTok to gauge user sentiments towards trending topics, influencers, and brands. By understanding whether sentiments are positive, negative, or neutral, TikTok can tailor content recommendations and enhance user satisfaction. Furthermore, TikTok's implementation of text mining not only strengthens its analytical capabilities but also enriches user experience through personalized content recommendations, effective content moderation, and informed decision-making. As TikTok continues to evolve in the competitive social media landscape, text mining remains a crucial tool for extracting actionable insights and fostering meaningful interactions between users and content creators worldwide.

a. Identify an important component in text mining that is used by TikTok.
[5 marks]

b. Analyse **TWO (2)** best solutions on how TikTok utilize sentiment analysis to enhance user engagement.
[10 marks]

c. Discuss how does text mining supports TikTok in identifying emerging trends and popular themes?
[5 marks]

-END OF PAPER-