



UNIVERSITI  
TEKNOLOGI  
PETRONAS

**FINAL EXAMINATION  
MAY 2024 SEMESTER**

**COURSE : TFB1083 - FUNDAMENTAL OF IS**  
**DATE : 31 JULY 2024 (WEDNESDAY)**  
**TIME : 2:30 PM - 5:30 PM (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 components of a computer-based information system.  
[6 marks]
- b. Explain the role of an information system in supporting an organization's business strategy. Provide **TWO (2)** examples to support your explanation.  
[6 marks]
- c. Consider the following scenario of a web-based Leave Application System for a Human Resource Department.

To apply for a one-day leave using the company's web-based leave application system, the employee begins logging in to the web-based Leave Application System. Once logged in, the employee then clicks on the "Apply for Leave" or "New Leave Request" button to access the leave application form. They select the type of leave from a dropdown menu, enter the start and end dates for the leave (both being the same date for a one-day leave), and provide a reason for the leave. After reviewing the entered details for accuracy, the employee submits the leave request by clicking the "Submit" button. The manager receives a notification about the pending leave request, logs into their account, and reviews the details. They check team schedules to avoid overlaps and decide to approve or reject the request, possibly adding comments or requesting additional information from the employee. The employee receives a notification about the manager's decision, and the leave status is updated accordingly. If approved, the status changes to "Approved" and the leave is recorded in the system; if rejected, the status changes to "Rejected" and any comments from the manager are displayed.

From the context of a data model, describe **TWO (2)** entities with its respective attributes for the Leave Application System.

[8 marks]

2. a. Ipoh Jazz Nights is an annual celebration of jazz music is scheduled to take place at the Perak Stadium. To ensure a smooth and efficient ticketing process, the festival organizers have partnered with TicketEase, a leading ticketing agency known for its robust web-based ticketing reservation system. Users buy tickets through TicketEase's user-friendly online ticketing platform. After the payment is processed, customers receive a confirmation email with their ticket(s) attached as PDF file.
- i. Describe the **TWO (2)** types of information system that Ipoh Jazz Nights organizer has implemented based on the scenario above.  
[4 marks]
- ii. Based on your answer in **part (a)(i)**, describe the relationship between the two types of information system in the context of TicketEase ticketing reservation platform.  
[4 marks]
- iii. Construct the information system architecture including the necessary networking devices for Ipoh Jazz Night online ticket reservation system.  
[8 marks]
- b. Company A is a leading manufacturer of consumer electronics, has invested significantly in implementing a computer-based information system (CBIS) across its operations. In contrast, Company B, a competitor of Company A in the same industry, has not adopted a computer-based information system. Instead, it relies on manual processes, spreadsheets, and outdated software for its operations.  
Describe **TWO (2)** competitive advantages that Company A has over Company B from the perspective of information system.  
[4 marks]

3. a. Describe the purpose of a management information system.  
[2 marks]
- b. Describe **TWO (2)** inputs and any of the **TWO (2)** outputs of management information system.  
[8 marks]
- c. LogiTrans, a mid-sized logistics company, was facing significant challenges in determining the most efficient routes for their deliveries. With a fleet of trucks crisscrossing various regions daily, the company struggled with delays, increased fuel costs, and frequent driver complaints about unexpected road conditions. These inefficiencies not only strained their operational budget but also led to customer dissatisfaction due to late deliveries.
- i. Propose a suitable information system that can address the issues faced by LogiTrans. Justify your answer.  
[4 marks]
- ii. Describe the architecture of the information system that you proposed in part (c)(i).  
[6 marks]

4. a. Cozy Haven Homestays is a family-owned business located in a picturesque countryside setting in Perak. It offers charming accommodations for travelers seeking a cozy and authentic experience. Established with a passion for hospitality and a commitment to providing guests with memorable stays, Cozy Haven Homestays prides itself on personalized service, warm hospitality, and attention to detail. Despite its idyllic location and positive guest reviews, Cozy Haven Homestays has been experiencing low bookings in recent months. The homestay operator is concerned about the decline in occupancy rates.
- i. Give **TWO (2)** examples of strategic decision making that Cozy Haven Homestays could make to improve the occupancy rates.  
[4 marks]
  - ii. Given **ONE (1)** example of strategic decision making that you answered above, list the steps that the manager would take to arrive at a decision.  
[6 marks]
  - iii. Cozy Haven Homestays has a management information system (MIS) for its sales and marketing. Describe any **THREE (3)** reports that can be produced by a Cozy Haven Homestays sales and marketing MIS.  
[6 marks]
- b. Describe the relationship between a transaction processing system and management information system.  
[4 marks]

5. Currently, Hotel Kiko has already implemented a web-based management information system so that the managers can obtain all the necessary reports for decision making. The Information Technology (IT) department propose to the hotel management to implement a Business Intelligence (BI) solution rather than an MIS solution despite both solutions makes decision making easier, efficient, and well-informed.

a. Describe **TWO (2)** significant benefits of BI to Hotel Kiko as compared to an MIS solution.

[4 marks]

b. Draw the BI architecture for Hotel Kiko.

[8 marks]

c. If the BI project for Hotel Kiko is approved by the management, describe **FOUR (4)** team members that the IT department should gather in the project team.

[8 marks]

-END OF PAPER-