UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023

COURSE NAME : SYSTEM ANAYLIS AND DESIGN

COURSE CODE : BIT 20103

PROGRAMME CODE : BIT

EXAMINATION DATE : JULY / AUGUST 2023
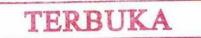
DURATION : 3 HOURS

INSTRUCTION

1. ANSWER ALL QUESTIONS

2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK.**

3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

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Q1   Answer **Q1(a)** and **Q1(b)** based on **Figure Q1**.

> DamiaDanisha Resort has a pricing structure for vacationers
> in one of its three residence categories: the hotel,
> villas, and beach bungalows. The normal price is for
> staying in the hotel is RM 180. Beach bungalows have a 10%
> additional price and villas have a 15% additional price
> from hotel price. The final price includes a discount of 4%
> for returning customers. Further conditions apply to how
> close to capacity the resort is and whether the requested
> date is within one month from the current date. If the
> resort is 50% full and the time is within one month, there
> is a 12% discount. If the resort is 70% full and the time
> is within one month, there is a 6% discount. If the resort
> is 85% full and the time is within one month, there is a 4%

Figure Q1

(a)   Develop a decision table for DamiaDanisha Resort pricing structure.

(8 marks)

(b)   Create a decision tree.

(7 marks)

Q2   (a)   Draw **TWO (2)** basic symbols with their name that used in data flow diagrams.

(2 marks)

(b)   Answer **Q2b(i)** and **Q2b(ii)** based on **Figure Q2(b)**.

(i)   Draw a context diagram for this situation.

(5 marks)

(ii)   Identify the data stores and process.

(3 marks)

> Sharifah has been hired as a systems analyst to work on an
> information system project for a library. Currently, books
> are ordered manually. Three librarians receive a checklist
> containing details of forthcoming books and journals every
> week. Each one places checkmarks against the books they
> think should be ordered. The three marked lists are then
> reviewed by a head librarian, who finalizes the list of
> books and the quantity to be ordered. The final list is sent

Figure Q2(b)

Q3   Answer **Q3(a)** – **Q3(c)** based on **Figure Q3**.

> Assume that you and your two friends are starting a small
> business to paint houses. You need to have a software package
> that handles the financial transactions of the business. You
> are planning about outsourcing the job, but one your friend
> thinks that it is better to buy a packaged system, while the
> other friend thinks of having a custom development for the
> software. After conducting a series of meetings, you have
> finally decided to choose one acquisition strategy

Figure Q3

(a)   Assume custom development is use as acquisition strategy, state **FOUR (4)** factors this strategy.

(4 marks)

(b)   Justify your answer in **Q3(a)**. Make assumptions whenever necessary.

(12 marks)

(c)   Describe **THREE (3)** approaches that your team can use to gather additional information needed for the proposed software package.

(6 marks)

Q4   Assume that the admissions office in UTHM has a Web-based application so that students can apply for admission online. Recently, there has been a push to admit more international students into the university. Based on cultural/political and operational requirements, suggest **TWO (2)** examples for each requirement that the application needs to include to ensure that it supports this global necessity?

(10 marks)

Q5   Answer **Q5 (a)** and **Q5 (b)** based on **Figure Q5**.

> Book Glory Sdn Bhd is a company situated at Johor Bahru. Mr
> Yusof, owner of the company has decided to expand their branch
> to Batu Pahat, Mersing, Segamat and Kota Tinggi with specific
> branch ID. Each branch has four departments, and each
> department belongs to one branch. Each department has one or
> more employees and each employee works for one department.
> Each one of the employees may or may not have one or more
> child and each child belongs to one employee. Each employee
> may not or mat not have employment history too.

Figure Q5

3

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(a)   Develop an entity-relationship diagram based on the provided information. All entity must include with suitable attributes.

(15 marks)

(b)   Give and explain **ONE (1)** example from entity relationship diagram produced in **Q5(a)**.

     (i)   Primary key

(2 marks)

     (ii)   Foreign key

(2 marks)

     (iii)   Candidate key

(2 marks)

     (iv)   Composite attribute

(2 marks)

- END OF QUESTIONS-

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