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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION  
(ONLINE)  
SEMESTER II  
SESSION 2019/2020**

COURSE NAME : SYSTEM ANALYSIS AND DESIGN  
COURSE CODE : BIT 20103  
PROGRAMME CODE : BIT  
EXAMINATION DATE : JULY 2020  
DURATION : 3 HOURS  
INSTRUCTION : 1. ANSWER **ALL** QUESTIONS.  
2. THE STUDENTS SHOULD  
UPLOAD THE ANSWER  
BOOKLET (PDF/ WORD  
FORMAT) WITHIN 30  
MINUTES AFTER  
EXAMINATION PERIOD.

THIS QUESTION PAPER CONSISTS OF FIVE(5) PAGES

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Q1 Answers for Q1(a) to Q1(b) are based on the case study in Figure Q1.

A GrabCar customer first makes a ride request. This request is verified by accessing customer account details from the customer data store. The request details are then stored in a request data store and posted to the drivers. As soon as a driver sends a confirmation, the driver and car are assigned to the request by accessing the driver's account details from a driver data store and saving the ride details in a ride data store. The pick up details for that ride are sent to the customer. After the customer has been dropped off at the destination, the customer marks the ride as completed to initiate the processing of the payment. Payments are processed by accessing the customer's account details from the customer data store and accessing the driver's account details from the data store and finally saving the payment details in a payment data store.

FIGURE Q1

(a) Figure Q1(a) shows a Context Diagram based on the case study provided in the Figure Q1. Identify THREE (3) mistakes that are illustrated in the Context Diagram.

(3 marks)

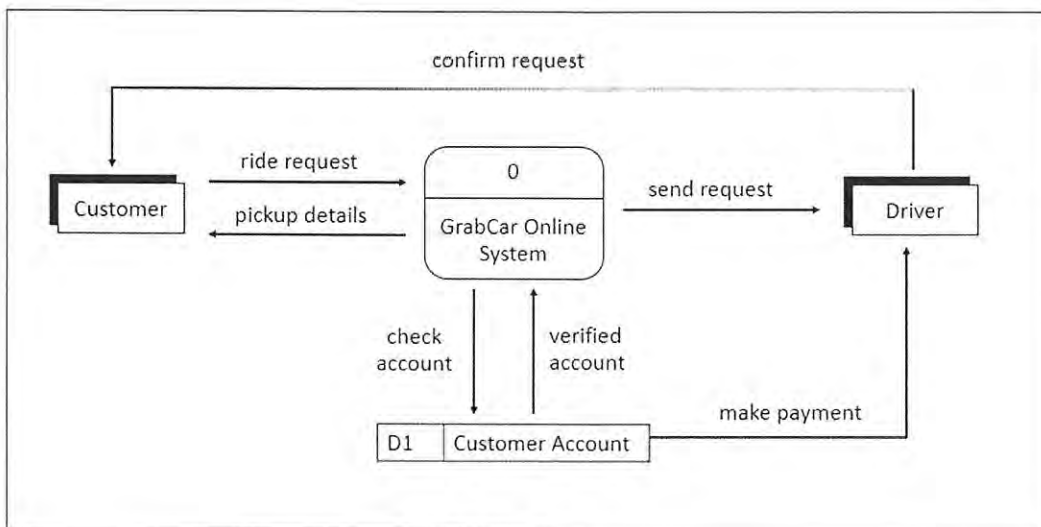


FIGURE Q1(a)

(b) Based on Figure Q1, draw a Data Flow Diagram (Level 0) for the GrabCar Online System.

(12 marks)

Q2 Answer Q2(a) to Q2(c) based on the case study in Figure Q2.

Hospital is an essential part of our lives, providing the best medical facilities to people suffering from various illnesses, which may be due to change in climatic conditions, increased workload, emotional trauma stress and others.

It is necessary for the hospitals to keep track of their day-to-day activities and records of its patients, doctors, nurses, ward boys and other staff personals that keep the hospital running smoothly and successfully. An automated system, named as "Hospital Management System" is planned to be developed to replace a manual system.

The project "Hospital management system" is aimed to maintain the day to day state of admission/discharge of patients, list of doctors, reports generation, and others. It is designed to achieve the following objectives:

- 1 To computerize all details regarding patient details and hospital details. The details of the new patient are entered by Hospital Registrar Officer using web platform. He cannot alter the medication and treatment input by the Doctor. The nurse will update day to day task delivered to the patients.
- 2 Scheduling the appointment of a patient with doctors to make it convenient for both. The appointments are set by the Hospital Registrar Officer.
- 3 Scheduling the services of specialized doctors and emergency properly so that facilities provided by the hospital are fully utilized in an effective and efficient manner. The availability of the specialized doctors and the facilities are also managed by the Hospital Registrar Officer.
- 4 Pharmacists should deliver medicines to the patients based on prescriptions by the Doctor. If the Doctor issues medicines to patients, it should reduce the stock status of the medical store and vice-versa. The stock status is really important to Pharmacists.
- 5 It should be able to handle the test reports of patients conducted in the pathology lab of the hospital. The report will be printed by the Lab Staff and given to the Nurse at the ward.
- 6 The information of the patients should be kept up to date and their record should be kept in the system for historical purposes.
- 7 Ease for Information Technology personnel to manage the processing and storage of the system.

Figure Q2

- (a) Propose **FIVE (5)** non-functional requirements. Your answer should not limit to the information in **Figure Q2**.

(5 marks)



(b) Draw a decision table based on scenario in **Figure Q2(b)**.

First notification order message is displayed only when both the level of the specific medicine is 50% less than stock in hand and the demand of the medicine is "FREQUENT". Otherwise a message "ENOUGH STOCK" is displayed.

**Figure Q2(b)**

(10 marks)

(c) Design a suitable architecture for the system. Elaborate your answer.

(5 marks)

**Q3** Draw a complete Entity Relationship Diagram (ERD) for the case study in **Figure Q3**. Make sure the ERD includes relationship, cardinality, and primary key.

Syara's Douquet Shop has hired you as an analyst to design a bouquet booking system. They provide a manual of booking form as follows.

**BOOKING FORM**

Booking No.: \_\_\_\_\_ Date: \_\_\_\_\_  
 Delivery Date: \_\_\_\_\_

Customer ID: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_  
 PostCode: \_\_\_\_\_

=====Flower=====

ID	Name	Category	Color	Price	Quantity	TotPrice

Flower SubTotal: \_\_\_\_\_

=====Bouquet Material=====

ID	Item	Category	Description	Color	Price	Quantity	TotPrice

Bouquet SubTotal : \_\_\_\_\_

SubTotal : \_\_\_\_\_  
 Deposit : \_\_\_\_\_  
 Tax : \_\_\_\_\_  
 Total : \_\_\_\_\_

Employee ID: \_\_\_\_\_  
 Name: \_\_\_\_\_

**Figure Q3**

(10 marks)



**Q4** Answer **Q4(a)** and **Q4(b)** based on case study in **Figure Q4**.

For the fiscal 2000-01, California-based Cisco Systems Inc. (Cisco), a market leader in the networking business, reported a net loss of \$1 billion.

Cisco had picked up 71 companies (mostly start-ups with un-proven products) between 1993 and 2000. With such a large number of companies made in a relatively short period, it was very important for Cisco to integrate the acquired companies and get along as a group quickly.

By late 2000, Cisco's management found that many of its picked-up companies were not performing as expected. Johnson, an analyst at Robertson Stephens said, "Most of the recent acquisitions have been nothing more than mass recruiting

Sensing the need for a more professional leadership, Cisco's board appointed John Morgridge as its CEO. Morgridge roped in several key professionals and expanded Cisco's business in Europe and Japan.

**Figure Q4**

(a) CISCO wants information systems department to get a new system in helping out its business. List **TWO (2)** factors that they should consider for an acquisition strategy.

(4 marks)

(b) Explain the factors for each answer in **Q4(a)**.

(6 marks)

**Q5** (a) Visit the Web home page for Tunku Tun Aminah Library, UTHM (<https://ptta.uthm.edu.my/v3/>) and navigate through several of its Web pages. Evaluate and explain the extent to which they meet the Interface Design Principles.

(10 marks)

(b) Sketch a Web form that a student can use to withdraw courses at SMAPOnline, by considering the following constraints.

- Permission for course withdrawal is subject to the minimum credit requirement which is 9 credit. (Regulation 11(1)).
- Any fees paid (if any) are non-refundable.

(15 marks)

-END OF QUESTIONS-