

CONFIDENTIAL



UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2018/2019**

COURSE NAME : DATABASE SYSTEMS
COURSE CODE : BIT 20803
PROGRAMME CODE : BIT
EXAMINATION DATE : JUNE / JULY 2019
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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

CONFIDENTIAL

TERBUKA

- Q1** (a) Define entity integrity. (2 marks)
- (b) (i) State **FIVE (5)** attributes for `Customer` relation. (5 marks)
- (ii) Assign **TWO (2)** of the attribute from **Q2(a)(i)** as Candidate Key. (2 marks)
- (iii) Assign **ONE (1)** of the attribute from **Q2(a)(i)** as Primary Key. (1 mark)

Q2 Construct the correct SQL command for **Q2(a)** to **Q2(e)** based on schema table in **Figure Q2**.

Hotel	(<u>hotelNo</u> , hotelName, city)
Room	(roomNo, hotelNo, type, price)
Booking	(hotelNo, <u>guestNo</u> , <u>dateFrom</u> , dateTo, roomNo)
Guest	(<u>guestNo</u> , guestName, guestAddress)

Figure Q2

- (a) List all details of all hotels in Kuantan. (2 marks)
- (b) List the names and addresses of all guests from Johor, alphabetically ordered by name. (2 marks)
- (c) Display the average price for all double room. (3 marks)
- (d) List all double or family rooms with a price more than RM 80.00 per night, in ascending order of price. (3 marks)
- (e) Display a guest number, hotel name and room number arranged in order of guest name and hotel name. (5 marks)

CONFIDENTIAL

BIT 20803

Q3 Draw an entity-relationship diagram based on the information provided in **Figure Q3**.

The Batu Pahat Youth League needs a database system to help track children that register by their parents to play soccer. Data needs to be kept on each team and the children that will be playing on each team and their parents. Also, data needs to be kept on the coaches for each team.

The following information on followed:

- A Team may or may not have a Player.
- A Player must have a Team.
- A Team may have many Players.
- A Player has only one Team.
- A Team may or may not have a Coach.
- A Coach must have a Team.
- A Team may have many Coaches.
- A Coach has only one Team.
- A Player must have a Parent.
- A Parent must have a Player.
- A Player may have many Parents.

(20 marks)

Q4 (a) State **ONE (1)** advantage of normalization.

(2 marks)

(b) Answer questions **Q4(b)(i)** to **Q4(b)(iii)** based on Table 1.

Table 1: Relation of patient and their medicines'prescription

MedID	MedName	DatePrescribe	Time	PatientID	PatientName	MedRefills	MedDosage	MedExpireDate
001	Med_A	12/1/18	8.00	D123	Sally	2 times	3 perday	1/1/20
005	Med_B	20/1/18	10.00			2 times	2 perday	1/1/20
111	Med_B	25/1/18	9.00	D112	Halim	3 times	3 perday	1/1/20
210	Med_C	10/2/18	14.00	D222	Farah	3 times	2 perday	1/1/20

CONFIDENTIAL

TERBUKA

CONFIDENTIAL

BIT 20803

- (i) Convert the relation into a set of First Normal Form (1NF) relations. (3 marks)
- (ii) Convert the relation into Second Normal Form (2NF). (4 marks)
- (iii) Convert the relation into Third Normal Form (3NF). (6 marks)
- Q5** (a) Draw database lifecycle (DBLC) phases. (8 marks)
- (b) List **TWO (2)** phases of database design. (2 marks)
- (c) Give **ONE (1)** comparison between dynamic web pages and static web pages. (3 marks)
- (d) Standardization are one of Web-DBMS advantage. Discuss. (4 marks)
- (e) Cost is one of Web-DBMS disadvantage. Justify. (3 marks)

- END OF QUESTIONS-

CONFIDENTIAL

TERBUKA