UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2021/2022

COURSE NAME	:	SYSTEM ANALYSIS AND DESIGN
COURSE CODE	:	BIC 21003
PROGRAMME CODE	:	BIS / BIP / BIW / BIM
EXAMINATION DATE	:	JULY 2022
DURATION	:	3 HOURS
INSTRUCTION	:	1. ANSWER ALL QUESTIONS.
		2. THIS FINAL EXAMINATION IS AN **ONLINE** ASSESSMENT AND 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 **SIX (6)** PAGES

TERBUKA

Q1   Answer **Q1** based on the case study in **Figure Q1**.

A craft studio plans to develop Craft Studio Scheduling System. A receptionist should be able to log customer inquiry into the system. The inquiries shall be used by facilities planning department and scheduling department. The scheduling department coordinator searches at online course catalog file to find a course description that best matches the customer's need. Then, using course schedule file, the coordinator searches for available dates and times for that course. Finally, the scheduling coordinator sends the course description along with scheduled dates and times to the customer. Facilities planning department prepare facilities based on courses selected by customer on selected date and time.

Figure Q1

(a)   Draw a context diagram for Craft Studio Scheduling System.

(10 marks)

(b)   Describe **THREE (3)** main possible processes for a Data Flow Diagram (DFD) based on your answer in **Q1(a)**.

(6 marks)

(c)   Draw a Data Flow Diagram (DFD) level 1 for one of the processes based on your answer in **Q1(b)**.

(10 marks)

Q2   Based on **Figure Q2**, answer the following questions.

> See You Soon's showroom sells Malaysia's car, Perodua and Proton. The showroom keeps information about each MANUFACTURER with whom it deals so that employee can get in touch with manufacturers easily. The showroom also keeps information about the models of CAR with its manufacturer. Each model has its sale price, the price that showroom paid to obtain the model and the model name with its series (example: Proton Ertiga Executive MT). The showroom also keeps information about all SALES that it has made. The information stores buyer's name, the car's model that has been sold and the sale amount It also keeps customer information for future contact.

Figure Q2

(a)   State **THREE (3)** business rules.

(3 marks)

(b)   Construct a complete Entity Relationship Diagram (ERD).

(17 marks)

Q3   Given a raw data from a Honda Service & Maintenance System in **Figure Q3**.

> Customer Entity- 012, Anne, 3 Jalan Tuah 1, Batu Pahat, Johor, 83000, JAQ 1461, Honda Accord, Shining Red, VAQ 61, Honda Civic, Millenium Silver, QA 146, Honda HRV, Yellow SE, 3 cars, Service advisor 1, Allen, BP Mechanics, Service advisor 2, Andy, BTR Service Sdn Bhd, Service advisor 3, Danial, Sarawak SC.

Figure Q3

(a)   Describe **THREE (3)** normalization steps from 1 normal form to 3 normal form based on **Figure Q3**.

(9 marks)

(b)   Describe **TWO (2)** drawbacks if Honda Service & Maintenance department hires an outsource developer to build the system.

(4 marks)

(c)   Analyze **TWO (2)** risks that Honda might face based on your answer in **Q3(b)**.

(4 marks)

(d)   Assume that you have been assigned with the task of selecting a

Suitable tool for developing a Honda Service & Maintenance System.

Draw an alternative matrix table using the suitable criteria for **ONE (1)** chosen tool.

(6 marks)

Q4   Discuss **TWO (2)** examples of nonfunctional requirement in terms of Availability, Security, Portability, Customization and Capacity for the cloud gaming architecture.

(10 marks)

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

- A vending machine has four options which are coffee, tea, chocolate, and green tea.
- A customer can buy one type of drinks in one purchase.
- The customer must insert enough coins before pressing the purchasing button.
- If the customer presses purchasing button and the coins are not sufficient, the machine will display message and return coins.

Figure Q5

(a)   Draw a menu bar for types of drinks offered in vending machine.

(3 marks)

(b)   Produce a storyboard interface design for vending machine.

(6 marks)

Q6 Answer **Q6(a)** and **Q6(b)** based on **Figure Q6**.

UTHM

UNIVERSITI TUN HUSSEIN ONN MALAYSIA
BORANG PENGECUALIAN KREDIT KURSUS
APPLICATION FOR CREDIT EXEMPTION

(SILA RUJUK PANDUAN MENGISI BORANG PENGECUALIAN KREDIT KURSUS DI BELAKANG INI)
(PLEASE REFER OVERLEAF FOR THE GUIDELINES ON APPLYING FOR CREDIT EXEMPTION)

BAHAGIAN A : UNTUK DIISI OLEH PELAJAR
SECTION A: TO BE FILLED IN BY THE STUDENT

Nama
Name _____
(Huruf Besar Mengikut Ejaan Dalam Kad Pengenalan)
(In Capital Letters as per the Spelling in Your Identity Card)

No. Kad Pengenalan: □□□□□□□□□□□□   Tahun / Program: 0 1 / B 1 P
Identity Card No.   *Year / Programme*

Sesi / Semester: 2 0 2 2 / 2   Cth.: 1011/1   No. Kad Matrik: □□□□□□□□
Session/Semester   Eg : 1011/1   *Matriculation Card No.*

Fakulti
Faculty : FSKTM

BIL No.	KOD KURSUS / COURSE CODE							NAMA KURSUS / COURSE NAME	KREDIT / CREDITS	
1.	U	Q	I	1	0	1	0	2	PENGAJIAN ISLAM	0	2
2.	U	Q	U	1	0	1	0	3	KENEGARAAN DAN PEMBANGUNAN MUTAKHIR MALAYSIA	0	3
3.	B	I	C	1	0	5	0	3	SENIBINA KOMPUTER	0	3
4.	U	H	B	1	1	6	0	2	BASIC SPANISH / BAHASA ANTARABANGSA	0	2
5.	B	I	E	1	0	1	0	3	PRINSIP KEJURUTERAAN PERISIAN	0	3
6.	B	I	E	2	0	8	0	3	SISTEM PENGOPERASIAN	0	3
7.	B	I	C	2	1	3	0	3	RANGKAIAN KOMPUTER	0	3
8.	U	Q	D	1	0	6	0	1	ILMU FALAK (KO-KURIKULUM I)	0	1
9.	U	Q	B	1	0	6	0	1	MARTIAL ARTS (SILAT CEKAK HANAFI) KO-KURIKULUM II	0	1
10.											
	JUMLAH PENGECUALIAN KREDIT YANG DIPOHON / TOTAL CREDIT EXEMPTIONS APPLIED FOR									2	1

Tandatangan: *Hana nain*   Tarikh: 23/03/2022
Signature   *Date*

BAHAGIAN B : UNTUK KEGUNAAN FAKULTI
SECTION B: FOR FACULTY USE

Jumlah keseluruhan pengecualian kredit: □□□
Grand total of credit exemptions

PENGESAHAN PENASIHAT AKADEMIK & KERJAYA / *ENDORSEMENT OF ACADEMIC & CAREER ADVISOR*	KELULUSAN DEKAN / *APPROVAL OF DEAN*
	* Diluluskan / Tidak diluluskan (Potong yang tidak berkenaan) * Approved / Not approved (Delete if not applicable)
(Cop Rasmi & Tandatangan) *(Official Stamp & Signature)* Tarikh: _____ *Date*	(Cop Rasmi & Tandatangan) *(Official Stamp & Signature)* Tarikh: _____ *Date*

(Salinan Pertama - Untuk Fakulti)

Figure Q6

(a)   Write **FOUR (4)** Entity Relationship Diagram (ERD) entities.

(4 marks)

(b)   Write **FOUR (4)** attributes for each Entity Relationship Diagram (ERD) entity based on your answer in **Q6(a)**.

(8 marks)

- END OF QUESTIONS-