UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAM
SEMESTER I
SESSION 2019/2020

COURSE NAME	:	SYSTEM ANALYSIS AND DESIGN
COURSE CODE	:	BIC 21003
PROGRAMME CODE	:	BIS / BIP / BIW / BIM
EXAMINATION DATE	:	DECEMBER 2019 / JANUARY 2020
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

TERBUKA

THIS QUESTIONS PAPER CONSISTS OF **FIVE (5)** PAGES

Q1   (a)   Give **FOUR (4)** factors that influence the choice of acquisition strategy in IT project?

(4 marks)

(b)   Describe project characteristics based on factors stated in **Q1(a)** for Outsourcing Acquisition strategy.

(6 marks)

(c)   Explain Content Awareness concept that used in interface design.

(2 marks)

(d)   Discuss **THREE (3)** features of interface design that is good in content awareness.

(6 marks)

(e)   List **TWO (2)** types of messages in navigation design.

(2 marks)

Q2   (a)   Why do we need architecture design?

(2 marks)

(b)   Based on **Q2(a)**, what are your suggestion on architecture design to select when a project propose a web based management system with a special security requirements and high process manipulation but does not have expertise in the organization..

(3 marks)

(c)   Give **ONE (1)** difference between virtualization and cloud computing.

(5 marks)

Q3   (a)   Describe **FIVE (5)** steps involve in Requirement Elicitation technique.

(10 marks)

       (b)   List **FOUR (4)** advantages of Open-Ended questions.

(4 marks)

       (c)   Explain **THREE (3)** functions of Joint Application Design (JAD) facilitator.

(6 marks)

Q4   Answer **Q4(a)** - **(c)** based on **Figure Q4**.

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A ballet studio plan to develop Ballet Studio Scheduling
System. A receptionist should be able to log customer inquiry
into the system. The inquiries shall 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.
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FIGURE Q4

       (a)   State **TWO (2)** data stores in **Figure Q4**.

(2 marks)

       (b)   State **THREE (3)** processes in **Figure Q4**.

(3 marks)

       (c)   Draw Data Flow Diagram (DFD) based on **Figure Q4** and the answers from **Q4(a)** and **Q4(b)**.

(20 marks)

Q5   Draw an Entity Relationship Diagram (ERD) for the scenario in **Figure Q5**. Include the entities, primary and foreign key(s), relationship and cardinalities.

UTHM Accommodation Office requires you to design a database to assist the administration of the office and renting of the residences to students.

The housing data stored for each full-time student includes: the student ID number, name (first and last name), home address (street, city, postal code), mobile phone number, email, date of birth, gender, category of student (for example, first-year undergraduate, postgraduate), nationality, special needs, any additional comments, current status (placed/waiting) and academic program. The student information stored relates to those currently renting a room and those on the waiting list. There are many college of residents at UTHM. Students rent a room in a college of residence. When a student joins UTHM, he or she is assigned to a member of staff who acts as his or her Advisor. The Advisor is responsible for monitoring the student's welfare and academic progression throughout his or her time at UTHM. The data held on a student's Advisor includes full name, position, department name, internal telephone number, email, and room number.

Each college of residence has a name, address, telephone number, and a college manager, who supervises the operation of the college. The colleges provide only single rooms, which have a room number, place number, and monthly rent rate. The place number uniquely identifies each room in all colleges controlled by the Accommodation Office and is used when renting a room to a student.

A student may rent a room in a college for various periods of time. New lease agreements are negotiated at the start of each academic year, with a minimum rental period of one semester and a maximum rental period of one year, which includes three semesters: one, two and the summer semester. Each individual lease agreement between a student and the Accommodation Office is uniquely identified using a lease number. The data stored on each lease includes the lease number, duration of the lease (given as semesters), student's name and ID number, place number, room number, address details of the college of

residence, and the date the student wishes to enter the room, and the date the student wishes to leave the room (if known).

At the start of each semester, each student is sent an invoice for the following rental period. Each invoice has a unique invoice number. The data stored on each invoice includes the invoice number, lease number, semester, payment due, student's full name and ID number, place number, room number, and the address of the college. Additional data is also held regarding the payment of the invoice and includes the date the invoice was paid, the method of payment (check, cash, Visa, and so on), and the date the first and second reminder was sent (if necessary).

Rooms at college of residence are inspected by staff on a regular basis to ensure that the accommodation is well maintained. The information recorded for each inspection is the name of the member of staff who carried out the inspection, the date of inspection, an indication of whether the room was found to be in a satisfactory condition (yes or no), and any additional comments.

Some information is also held on members of staff of the Accommodation Office and includes the staff number, name (first and last name), email, home address (street, city, postcode), date of birth, gender, position (for example, College Manager, Administrative Assistant, Cleaner) and location (for example, Accommodation Office or College).

The Accommodation Office also stores a limited amount of information on the courses offered by the university, including the course number, course title (including year), course instructor, instructor's on-campus telephone number, email, room number, and department name. Each student enroll different courses each semester. Each student is also associated with a single program of study.

Figure Q5

(25 marks)

- END OF QUESTIONS -

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