UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024

COURSE NAME	:	SOFTWARE DESIGN
COURSE CODE	:	BIE 20203
PROGRAMME CODE	:	BIP
EXAMINATION DATE	:	JULY 2024
DURATION	:	3 HOURS
INSTRUCTIONS	:	1. ANSWER ALL QUESTIONS
		2. THIS FINAL EXAMINATION IS CONDUCTED VIA
		☐ Open book
		☒ 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 **THREE (3)** PAGES

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Q1   Based on **Figure Q1.1**, suggest **FOUR (4)** software design quality aspects that should be considered to design a system.

> FreshCart is a medium-sized grocery store located in a suburban area. With a wide range of products and a focus on quality and customer service, FreshCart has established itself as a popular destination for residents. However, the store faces challenges in managing its operations efficiently and meeting the evolving needs of its customers. To address these challenges, FreshCart has decided to implement a comprehensive Grocery Management System (GMS).

Figure Q1.1

(10 marks)

Q2   Answer **Q2(a)** to **Q2(c)** according to the information given in **Figure Q2.1**.

> UrbanFlow is a sophisticated traffic management software designed to address the challenges of urban congestion, improve road safety, and enhance overall mobility in metropolitan areas. Developed in collaboration with city authorities, transportation agencies, and traffic engineers, UrbanFlow leverages cutting-edge technologies to optimize traffic flow, minimize congestion, and provide real-time traffic insights.

Figure Q2.1

(a)   Describe **FIVE (5)** components of dynamic view.

(10 marks)

(b)   Identify **FOUR (4)** dynamics interactions.

(8 marks)

(c)   Define **FIVE (5)** runtime behaviours.

(10 marks)

(d)   Draw a dynamic view.

(15 marks)

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Q3   Answer **Q3(a)** to **Q3(d)** according to the information given in **Figure Q3.1**.

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Functional requirements for Zoo Ticketing system:
1. Search and Booking: The system must be able to allow visitors to
   search for available tickets by date and type either general
   admission or group ticket. The system must be able to enable
   visitors to book tickets for selected dates and times.
2. Ticket Customization: The system must be able to provide options
   for different ticket types either adult, child, senior, or
   membership.
3. Payment Processing: The system must be able to enable secure
   payment processing for ticket purchases. The system must be able
   to support multiple payment methods such as credit/debit cards
   or digital wallets.
4. Ticket Confirmation: The system must be able to confirm booked
   tickets via email, SMS, or in-app notifications. The system must
   be able to issue digital tickets for entry to the zoo.
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Figure Q3.1

(a)   Construct **FOUR (4)** types of requirements that can differ among locales.

(8 marks)

(b)   Determine **FIVE (5)** suitable languages.

(5 marks)

(c)   Draw a user interface for search and booking.

(14 marks)

(d)   Draw a user interface for ticket confirmation.

(10 marks)

- END OF QUESTIONS -

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