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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2022/2023**

- COURSE NAME : REQUIREMENTS ENGINEERING
COURSE CODE : BIE 20103
PROGRAMME CODE : BIP
EXAMINATION DATE : FEBRUARY 2023
DURATION : 3 HOURS
INSTRUCTION : 1. ANSWER ALL QUESTIONS.
2. THIS FINAL EXAM IS CONDUCTED BY **CLOSED BOOK.**
3. STUDENT ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED BY CLOSED BOOK.

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

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- Q1** (a) Give **THREE (3)** goals of negotiation activity. (6 marks)
- (b) State the following statements concerning the negotiation of requirements either **TRUE** or **FALSE**.
- (i) Often conflicts between stakeholders are caused by conflicting requirements. (1 mark)
 - (ii) Unresolved conflicts in requirements are not as serious as requirements errors since they can still be resolved at a later time in the project. (1 mark)
 - (iii) Requirements negotiation leads to a common and agreed understanding of the requirements. (1 mark)
 - (iv) Negotiation of requirements causes additional costs for the project. (1 mark)
- (c) Based on **Figure Q1(c)**, suggest **TWO (2)** suitable techniques to resolve the conflict. Justify your answer.

In a project, five stakeholders disagree on an important requirement. Two different options have been discussed and no common solution could be found so far.

Figure Q1(c)

(5 marks)

- (d) Based on **Figure Q1(d)**, determine **TWO (2)** most suitable conflict types to describe the conflict. Justify your answer.

Two stakeholders in a project disagree on a requirement about the payment of orders in an online shop. One stakeholder argues for using PayPal voicing that it is more user friendly to pay, the other argues against it, expressing that PayPal charges too much for a transaction. The requirements engineer also perceives that the stakeholders treat each other with missing respect.

Figure Q1(d)

(5 marks)

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Q2 Questions Q2(a) - Q2(c) are based on **Figure Q2**.

BP Motor enterprise produces parts for the automobile industry. The executive board has decided that the firm's product catalog shall be available on the web allowing direct electronic ordering via web. An important large customer was pushing the idea. The firm has accordingly launched a development project. The requirements specification has just been released, and the project leader decides to have the specification reviewed in a technical review using inspection.

Figure Q2

- (a) Evaluate the chosen requirements validation techniques. (4 marks)
- (b) Discuss the validation criteria need to be considered for the review session. (6 marks)
- (c) Propose **FIVE (5)** stakeholders that are suitable as the participant and the role they play for the review session. (10 marks)

Q3 Questions Q3(a) and Q3(b) are based on **Figure Q3**.

A new student that has received an offer letter from UTHM will be required to login into their own account on the new student registration system by providing the username and password based on their assigned matric card number as the username and identification card (IC) as the password. Thus, only those with legal matric number assigned from UTHM shall be granted access into the system and register their student profile accordingly. New students will be required to upload related documents into the system and finally shall receive a confirmation email that been attached with a QR Code for registration purpose during enrolment day. At the beginning of the process, a new student will be verified either he is a student belongs to the group under a particular faculty such as Faculty of Technical and Vocational Education (FPTV), Faculty of Electrical and Electronic Engineering (FKEE) or Faculty of Engineering Technology (FTK) course and only then will proceed to the next station that is the verification of student fees with UTHM Bursary. At this stage, the student fees either completed or still in outstanding status shall be updated by Bursary staff and several documents will be collected during that moment. Thereafter is the final verification process for this system, which is verification with the Academic Management Office (AMO) staff. This is the main module of the proposed system as it is incorporating the Bursary Module as well as student health report from University Health Centre (PKU) to complete a new student registration status into UTHM.

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Figure Q3**TERBUKA****CONFIDENTIAL**

(a) Develop a use case diagram. (15 marks)

(b) Based on **ONE (1)** use case answered in **Q3(a)**,

(i) Write a use case specification based on template in **Table Q3**. (15 marks)

Table Q3

History Log	1.0.0	1.	
	1.0.1	1.	
	2.0.0	1.	
Version			
Use Case ID			
Use Case Name			
Created By			
Date Created			
Actors			
Description			
Preconditions			
Post conditions			
Normal Flow	1.		
Alternative flow	1.		
Exceptions	1.		
Related requirement	ID	Requirement	Priority

(ii) Develop an activity diagram. (10 marks)

(iii) Develop a sequence diagram. (10 marks)

(iv) Develop a class diagram. (10 marks)

-END OF QUESTIONS -

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