



# UTHM

Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
(ONLINE)  
SEMESTER I  
SESSION 2020/2021**

COURSE NAME : REQUIREMENT ENGINEERING  
COURSE CODE : BIE 20103  
PROGRAMME CODE : BIP  
EXAMINATION DATE : JANUARY/ FEBRUARY 2021  
DURATION : 3 HOURS  
INSTRUCTION : 1. ANSWER ALL QUESTIONS.  
2. STUDENT SHOULD UPLOAD  
(PDF/WORD FORMAT)  
WITHIN 30 MINUTES AFTER  
EXAMINATION PERIOD.

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

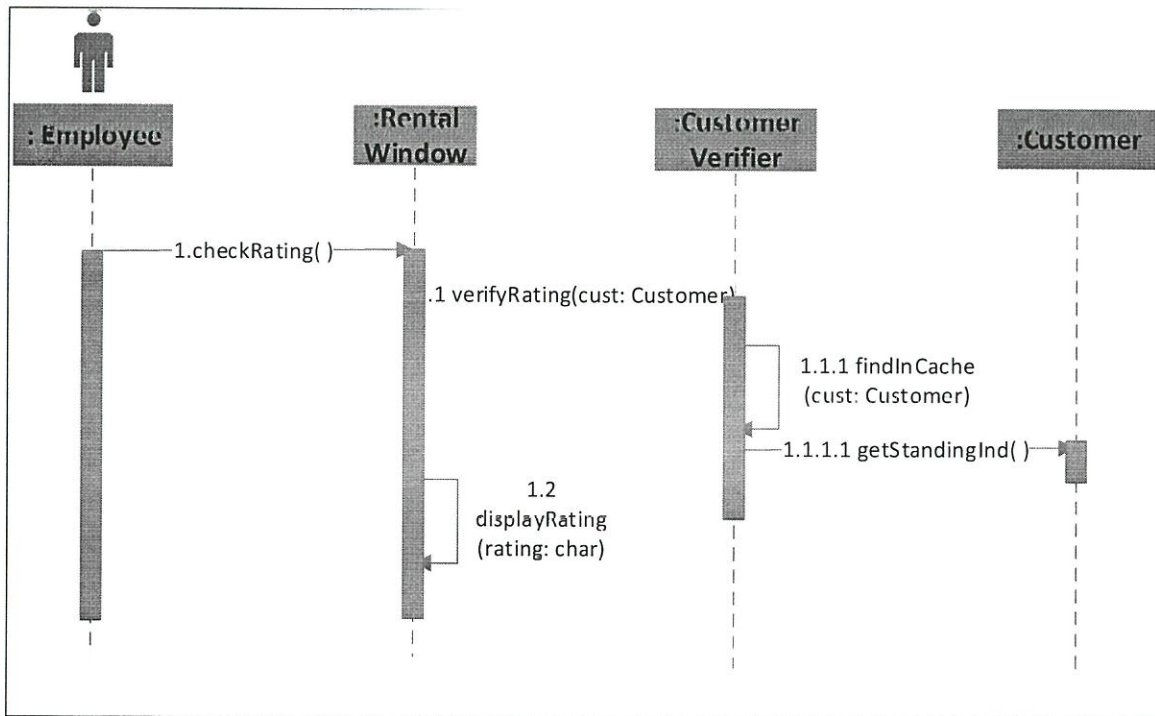
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**Case Study**

A customer may ask an employee about book availability (including a reserved book) or may pick a book from catalogue. The book, identification card and the membership card are scanned and any delinquent or overdue details are brought up for the employee to query any curiosity of the customer. If the customer does not have a delinquent rating, then he or she can hire up to a maximum of 10 books. However if the rating of customer is "unreliable", then a deposit of one rental period for each book is requested and limited to 2 books only. Once the amount payable has been received, the stock is updated and the book is handed to the customer together with the rental receipt. The customer pays by cash, credit card and electronic transfer. Each rental record stores (under the customer's account) the check-out and due-in dates, together with the identification of the employee. A separate rental record is created for each books hired. If the book has not been returned within two days of due date, and a second notice after another two days (and at that time the customer is noted as "delinquent", will receive overdue notice.

**FIGURE Q1(a)**



**FIGURE Q1(b)**

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Q1 Create Use Case Diagram (includes main flow and alternative flow) based on **FIGURE Q1(a)**.

(20 marks)

Q2 Transform **FIGURE Q1(a)** and **FIGURE Q1(b)** into Class Diagram.

(20 marks)

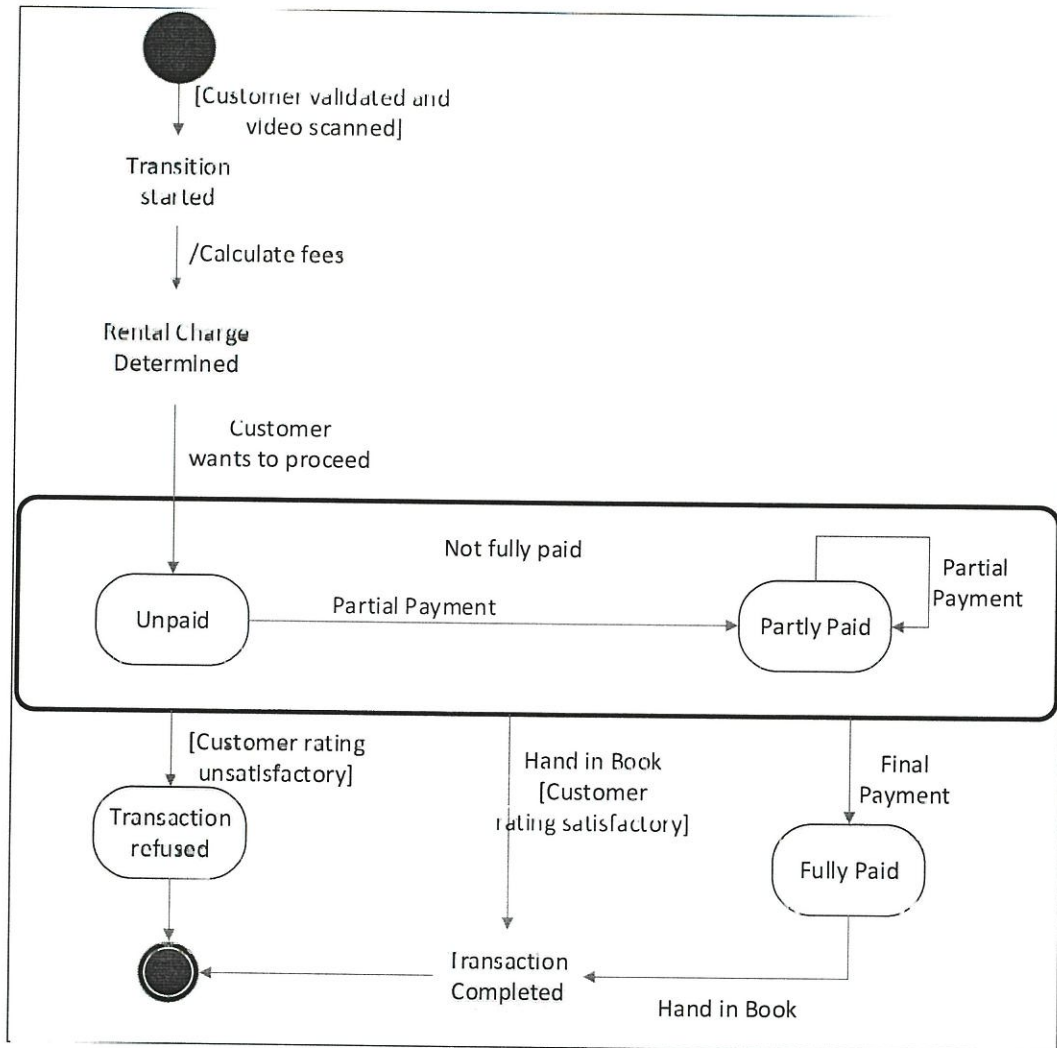


FIGURE Q3

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- Q3**
- (a) Explain all possible Business Rules based on **FIGURE Q3**.  
(15marks)
  
  - (b) State all states based on **FIGURE Q3**.  
(5 marks)
  
  - (c) State all transitions based on **FIGURE Q3**.  
(5 marks)
  
  - (d) State all events with its parameter based on **FIGURE Q3**.  
(5 marks)

**- END OF QUESTIONS -**

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