UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020

COURSE NAME	:	REQUIREMENTS ANALYSIS AND MODELING
COURSE CODE	:	BIE 30603
PROGRAMME CODE	:	BIP
EXAMINATION DATE	:	DECEMBER 2019 / JANUARY 2020
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

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

Q1 (a) Define a use case.

(2 marks)

(b) Give **THREE (3)** reasons why use cases are used to model requirements.

(6 marks)

(c) Question **Q1(c) (i)** to **Q1(c)(vi)** are based on **Figure Q1(c)**. State **TRUE** or **FALSE** for each statement.
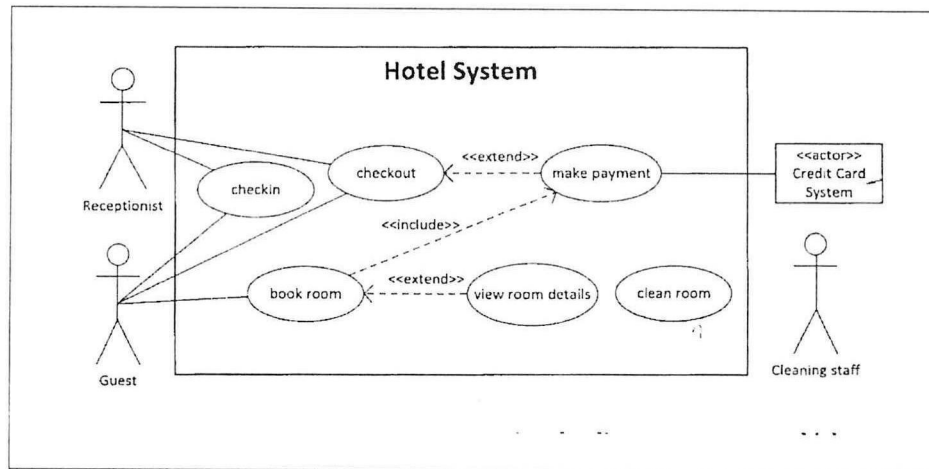

FIGURE Q1(c)

(i) The diagram clearly defines for the use case checkin the primary and secondary actor.

(2 marks)

(ii) For the use case checkout, either the actor Guest or the actor Receptionist has to take part.

(2 marks)

(iii) A guest that is checking out always has to pay the hotel bill using a credit card.

(2 marks)

(iv) The use case diagram conforms to UML.

(2 marks)

(v) When booking room online, the guest has the option to view the room details.

(2 marks)

(vi)   The use case `make payment` is included in the use case `book room` and therefore adding functionality to book room.

(2 marks)

Q2   (a)   Give **THREE (3)** goals of negotiation activity.

(6 marks)

(b)   Which of the following statements concerning the negotiation of requirements are **TRUE** or **FALSE**?

(i)   Often conflicts between stakeholders are caused by conflicting requirements.

(1 marks)

(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 marks)

(iii)   Requirements negotiation leads to a common and agreed understanding of the requirements.

(1 marks)

(iv)   Negotiation of requirements causes additional costs for the project.

(1 marks)

(c)   In a project, five stakeholders disagree on an important requirements. Two different options have been discussed and no common solution could be found so far. Suggest **TWO (2)** suitable techniques to resolve the conflict. Justify your answer.

(5 marks)

(d)   Based on **Figure Q2 (c)**, 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 Q2(c)

(5 marks)

Q3   (a)   Describe **THREE (3)** dimension of requirements artefacts validation.

(6 marks)

(b)   Compare the **THREE (3)** dimension validation.

(6 marks)

(c)   A company produces supplier parts for the automotive industry. The management has decided to make the company's product catalogue available on their website and to create the possibility of direct web-based online orders. This option had been particularly demanded by one important major customer. The company has started a corresponding development project. Now, the requirements specification has been finished. The project manager wants to have the specification checked using a walkthrough.

(i) Justify the appropriateness of using a walkthrough as a review technique.

(4 marks)

(ii) Suggest how the process can be done for this situation.

(4 marks)

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Q4   Questions **Q4(a)-Q4(d)** are based on **Figure Q4.**

```
Musixscore.com is an online service providing sheet music to
customers. On the "browse music" Web page, customers select a genre
of music from a drop-down list. The Web page uses Ajax to obtain a
list of performers, musicians, or groups that match the genre, which
is formatted as a drop-down list. When a selection is made from the
performers drop-down list, the Web page uses Ajax to display a third
drop-down list displaying all of the CDs or other works of the
performer. When a CD is selected, the Web page uses Ajax to obtain
all the songs on the CD in a fourth drop-down list. The viewer may
make multiple selections. When the Add to Shopping Cart image is
clicked, the songs are added to the shopping cart. The viewer may
change any of the drop-down lists to select additional sheet music,
and the process is repeated.
                                          (Kendall& Kendall 2013)
```

Figure Q4

(a)   Develop a use case diagram.

(10 marks)

(b)   Develop a requirements traceability matrix.

(10 marks)

(c)   Choose one use case from **Q4 (a),**

(i) Write a use case specification. The specification must contains the following items (use case id, use case name, actors, brief description, pre-condition, main flow, alternative flow, post condition)

(10 marks)

(ii) Develop a class diagram

(10 marks)

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- END OF QUESTIONS -