# UNIVERSITI TUN HUSSEIN ONN MALAYSIA

# FINAL EXAMINATION
## SEMESTER II
## SESSION 2010/2011

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|---|---|---|
| COURSE NAME | : | REQUIREMENTS ANALYSIS AND SOFTWARE SPECIFICATION |
| COURSE CODE | : | BIT 3143 |
| PROGRAMME | : | BACHELOR OF INFORMATION TECHNOLOGY |
| EXAMINATION DATE | : | APRIL/MAY 2011 |
| DURATION | : | 2 HOURS AND 30 MINUTES |
| INSTRUCTION | : | ANSWER **ALL** QUESTIONS. |

## SECTION A

Instruction: Answer **ALL** questions.

**Q1** (a) State the term of Unified Modeling Language (UML).

(4 marks)

(b) Give **THREE (3)** major elements of UML.

(6 marks)

**Q2** (a) Explain **FOUR (4)** important techniques in gathering requirements.

(12 marks)

(b) Differentiate between a survey and a questionnaire in requirements analysis.

(4 marks)

**Q3** (a) Draw a Use-Case Diagram to demonstrate four types of behavioral relationships for Honez's BMW automobile dealership.

(8 marks)

(b) Based on the answer for **Q3 (a)**,
(i) state the common activities involved when a person either leases or buys an automobile.

(2 marks)
(ii) define type of relationship involved when a customer must arrange his own financing.

(2 marks)
(iii) define type of relationship between an employee that is a manager or one that is a salesperson.

(2 marks)

**Q4** Celcom Sdn. Bhd. has a phone exchange that handles calls between callers and recipients. Given these three actors, draw a simple Sequence Diagram for making a simple phone call.

(10 marks)

## SECTION B

Instruction: Answer **ALL** questions.

**Q5** Consider the following scenario:

Berjaya Perisian is an engineering firm with approximately 500 engineers in different specialties. New employees are hired by the personnel manager based on data in an application form and evaluations collected from other manager who interview the job candidates. Prospective employees may apply at any time. Engineering managers notify the personnel manager when a job opens and list the characteristics necessary to be eligible for the job. The personnel manager compares the qualifications of the available pool of applicants with the characteristics of an open job and then schedules interviews between the manager in charge of the open position and the three best candidates from the pool. After receiving evaluations on each interview from the manager, the personnel manager makes the hiring decision based upon the evaluations and applications of the candidates and the characteristics of the job, and then notifies the interviewees and the manager about the decision. Applications of rejected applicants are retained for one year, after which time the application is purged. When hired, a new engineer completes a nondisclosure agreement, which is filed with other information about the employee (Kendall & Kendall, 2008).

(a) Design a systematic table of contents for a requirements document.

(5 marks)

(b) (i) List **FIVE** (5) functional requirements.

(5 marks)

(ii) List **FIVE** (5) nonfunctional requirements.

(5 marks)

(c) Develop Software Requirements Specification (SRS) using object-oriented approach. In your SRS, you should include

(i) Activity Diagram

(5 marks)

(ii) Use-Case Diagram

(10 marks)

(iii) Class Diagram

(10 marks)