# The Open University of Sri Lanka

# Faculty of Engineering Technology

# Department of Electrical and Computer Engineering

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| Study Programme | : Bachelor of Software Engineering Honours |
| Name of the Examination | : Final Examination |
| **Course Code and Title** | **: EEI4267 - Requirement Engineering** |
| Academic Year | : 2019/20 |
| Date | : 28th July 2020 |
| Time | : 0930-1230hrs |
| Duration | : **3 hours** |

## General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **Thirteen (13)** questions in **Five (5)** pages.
3. Section A consist of Ten (10) questions and Section B consist of Three (3) questions.
4. Answer **all** questions.
5. Questions in Section A carry equal marks. Question 1 in Section B carry 40 marks and Question 2 and 3 in Section B carry 20 marks in each.
6. Answer for Section A should mark in the sheet provide.
7. Answer for Section B should write in the book provide and each question should commence from a new page.
8. This is a Closed Book Test **(CBT).**
9. Answers should be in clear hand writing.
10. Do not use red colour pen.

# Section A

[2 x10 marks]

1. In order to understand the working of an organization for which a computer based system is being designed, a business analyst must;
    a. look at only current work and document flow in the organization
    b. discuss with top level and middle level management only
    c. interview top, middle, line managers and also clerks who will enter data and use the system
    d. only clerical and middle level staff who have long experience in the organization and will be users of the system

2. In brainstorming, the following techniques is used for idea reduction;
    a. Imagination
    b. Criticism
    c. Groping
    b. Debate

3. Initial requirements specification is
    a. not changed till the end of the project
    b. continuously changed during project implementation
    c. only a rough indication of the requirement
    d. changed and finalized after feasibility study

4. Requirement validation helps you to;
    a. Do the right requirement
    b. Do the requirement right
    c. Satisfy all the stakeholder
    d. All of the above

5. Considering the example of issue/return of a book, cataloging etc. in a library management. What type of management requirement is being depicted here?
    a. Enduring
    b. Volatile
    c. Both enduring and volatile
    d. All of the above

6. Which one of the following is a requirement that fits in a developer's module?
    a. Availability
    b. Testability
    c. Usability
    d. Flexibility

7. The most important attribute of a business analyst is;
    a. excellent programming skills
    b. very good hardware designing skills
    c. very good technical management skills
    d. very good writing skills

8. We gather requirements from different stakeholders. Select the requirement type used for requirements collected from end users.

    a. User Requirements
    b. Business Requirements
    c. Domain Requirements
    d. Internal Requirements

9. Requirement analysis is critical to the success of a development project.
    a. True
    b. False
    c. Depend on the size of the project
    d. None of the above

10. "Consider a system where, a heat sensor detects an intrusion and alerts the security company." What kind of a requirement the system is providing?
    a. Non-functional Requirement
    b. Functional Requirement
    c. Known Requirement
    d. None of the above

# Section B

## (Essay Questions) Answer All Questions

**Case 1:** E-ticket systems are to provide services for customers to book the seat in a cinema in anytime and anywhere. Below show cases initial requirement gathered to develop an online ticket sales system to be used in a Rio theater.

    a. Admin user should be able to use the system to insert / delete data (ex: movie description, time table) to be updated in the respective theater webpage.

    b. Users must be able to browse for events by name or date or venue.

    c. Searching for events by keywords should also be possible.

    d. User will select ticket price from those offered and also specify the number of tickets they require.

    e. The system should display availability of the tickets within five seconds.

    f. Users must be able to choose their seats and purchase tickets 24/7.

    g. Only registered customers can buy tickets.

    h. Daily reports of ticket sales must be generated. These must be retained for two years.

    i. All data is to be backed up nightly.

    j. It should not be possible to double-book tickets (i.e. buy a ticket that has already been sold).

    k. Ad hoc reporting will be required, showing ticket sales over a week.

    l. It should be possible to vary that time span and look at any duration up to six months.

## Question 1                                [40 marks]

**Answer following questions referring the case 1 given above.**

1. Give one example of each for the requirement types listed below. Justify your selection in each case. Examples should be derived from the **Case 1** described above. [8 marks]
   a. Functional requirement
   b. Non-functional requirement
   c. Ambiguous requirement
   d. Two requirements in conflict with each other (i.e. one conflict across 2 requirements)

2. What elicitation techniques you will be used to elicit the requirements describe in **Case 1**. [6 marks]

3. Identify your stakeholders. Justify your choice. [6 marks]

4. Draw a main use case for the system described in the above case. Generalize the functionalities you have identified as much as possible. List down the assumption you made in drawing the use case diagrams. [20 marks]

## Question 2 [20 marks]

1. Requirements engineering is a process of identifying stakeholder needs and wants and develop them into a set of detailed requirements that can serve as a basis for all subsequent development activities. List down the requirements engineering activities and briefly explain them. [10 marks]

2. There are many styles of requirements documentation. Developing a System/Software Requirement Specification (SRS) is one method of requirements documentation. List down important four sections needs to be available in a typical SRS document. You need to describe briefly what should be included in the respective section. [10 marks]

## Question 3 [20 marks]

1. Briefly explain the term 'Requirements Management'. [2 marks]

2. If you are the business analyst for the project described in **case 1** how are you planning to manage the requirements gathered during the requirements elicitation process. [6 marks].

3. Identify a tool which we can use for requirements management in **Case 1**. List down main two features in the tool. [4 marks]

4. What are the difference and similarities we can expect in requirements management conduct in projects run on agile process and plan driven process (waterfall model)? [8 marks]

*-End of the paper-*

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1. Read all instructions carefully before answering the questions.
2. Answer **all** questions in Section A
3. Questions in Section A carry equal marks.
4. Answer for Section A should mark in this sheet.
5. Attached this answer sheet with Section B answer book.

# ANSWER SHEET FOR SECTION A

INDEX NO:

| | | | | | |
|---|---|---|---|---|---|

1). | i | ii | iii | iv |

2). | i | ii | iii | iv |

3). | i | ii | iii | iv |

4). | i | ii | iii | iv |

5). | i | ii | iii | iv |

6). | i | ii | iii | iv |

7). | i | ii | iii | iv |

8). | i | ii | iii | iv |

9). | i | ii | iii | iv |

10). | i | ii | iii | iv |