



The Open University of Sri Lanka

Faculty of Engineering Technology

Department of Electrical and Computer Engineering



Study Programme	: Bachelor of Software Engineering Honours
Name of the Examination	: Final Examination
Course Code and Title	: EEI4267 – Requirement Engineering
Academic Year	: 2022/23

**General Instructions**

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:

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1) 

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a      b      c      d

2) 

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a      b      c      d

3) 

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a      b      c      d

4) 

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a      b      c      d

5) 

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a      b      c      d

6) 

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a      b      c      d

7) 

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a      b      c      d

8) 

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a      b      c      d

9) 

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a      b      c      d

10) 

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a      b      c      d

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Academic Year	: 2022/23
Date	: 21 <sup>st</sup> May 2023
Time	: 0930-1230hrs
Duration	: <b>3 hours</b>

### General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **Thirteen (13)** questions in ~~Five (5)~~ <sup>Four (4)</sup> pages.
3. Answer All questions.
4. Section A has 10 questions and carry 20 marks. Answer should be marked in the answer sheet provided.
5. Section B has three questions. Answer should be written in the answer book provided. Answer for each question should commence from a new page.
6. This is a Closed Book Test (CBT).
7. Answers should be in clear handwriting. Do not use red colour pen.

## Section A - Multiple Choice Questions [20 marks]

Select the most suitable answer.

1. Assume you are a business analyst for a software project. You have already completed the requirement gathering phase. Now in the requirement elicitation phase what method would you use to group those ideas without any duplication or loss?
  - a. KJ Method
  - b. Interviews
  - c. Questions and Surveys
  - d. Observational Methods
2. The \_\_\_\_\_ is the individual who has the primary responsibility to elicit, analyze, document, and validate the needs of the project stakeholders.
  - a. Top Management
  - b. Business Analyst
  - c. Project Manager
  - d. Scrum Master

3. The below mentioned requirement type describes the general software characteristics and is also known as a set of quality attributes.
  - a. Functional Requirements
  - b. Non-Functional Requirements
  - c. Domain Requirements
  - d. Internal Requirements
4. Which of the following property does not correspond to a good Software Requirements Specification (SRS)?
  - a. Verifiable
  - b. Ambiguous
  - c. Complete
  - d. Traceable
5. Out of the diagrams studied at the requirement gathering following is not a diagram studied in Requirement Analysis?
  - a. Use Cases
  - b. Entity Relationship Diagram
  - c. State Transition Diagram
  - d. Activity Diagram
6. 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
7. Out of the stakeholders mentioned below which would be the most important stakeholder?
  - a. Entry level personnel
  - b. Middle level stakeholder
  - c. Managers
  - d. Users of the software
8. 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
9. "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
10. Consider the statement: "The price of a loaf of bread has gone down from Rs. 60 to Rs. 50".
  - a. This is a piece of data
  - b. This is knowledge
  - c. This is information
  - d. This is a concept

## Section B

### (Essay Questions) Answer All Questions

**Case 1:** An event management company intends to develop an online platform that allows users to plan, organize, and manage various types of events, including conferences, workshops, and social gatherings. The platform aims to streamline the event management process, from event registration and ticketing to attendee management and post-event analysis. The company has hired a CODEME software implementation company to work on the product implementation. The company has only one Business Analyst (BA), named Sally, to gather and prepare the necessary requirement documentation, which is required for the product implementation. Following list the features identified by the BA.

List of Features in the Online Event Management Platform:

1. Allow users to create accounts and login securely to access the platform.
2. Implement user authentication mechanisms to ensure data privacy and prevent unauthorized access.
3. If the credentials are valid, the system grants access to the user and proceeds to the user's dashboard.
4. If the credentials are invalid, the system displays an error message and prompts the user to re-enter the correct credentials.
5. Enable event organizers to create and customize event pages, including event details, schedule, and location.
6. Provide options for event categorization, such as corporate, educational, or social events.
7. Allow event organizers to set ticket prices, ticket types, and capacity limits for each event.
8. Include features for event promotion, such as social media sharing, email invitations, and integration with marketing tools.
9. Provide event organizers with analytics and tracking tools to measure the effectiveness of their promotional campaigns.
10. Allow attendees to register for events, select ticket types, and make online payments.
11. Enable event organizers to manage attendee lists, including tracking registrations, ticket sales, and attendee details.
12. Provide communication tools to send event-related notifications, updates, and reminders to registered attendees.
13. Provide a platform for speakers to submit session proposals and manage their profiles.
14. Provide features for event organizers to manage sponsorships and exhibitor booths.
15. Allow sponsors and exhibitors to create profiles, submit materials, and track their involvement in events.

### Question 1 [30 marks]

Answer the following questions referring to the above given 'Case 1'.

- A. User Requirements, System Requirements, and Business Requirements are the different types of requirements. Briefly explain those providing suitable answers referring to the above case. [10 marks]
- B. As a BA professional, you are tasked with guiding Sally from the CODEME team to effectively complete the requirement gathering process for the product implementation, because it was identified that the initial

requirement gathering was not conducted properly. In the context of the waterfall model process, describe three requirements gathering techniques that can be utilized. [10 marks]

- C. Provide a list of three functional requirements extracted from the given case 1. [3 marks]
- D. Provide a list of three non-functional requirements extracted from the given case 1. [3 Marks]
- E. Do you agree with Sally on the non-functional requirements he has written. If your answer is "No," explain the reasons for your disagreement. [4 Marks]

### Question 2 [20 marks]

Answer following questions referring to the above given 'Case 1'.

- A. Sally suggests to the vendor the importance of undertaking a "Project Inception" before commencing the project work. Provide a concise explanation of the term "project inception" and outline three fundamental activities commonly conducted within this phase. [8 Marks]
- B. Sally recommends adopting the Agile Development process for the project and seeks an online project governance tool to track and monitor project requirements. List two online tools that Sally can consider using. Furthermore, provide instructions on utilizing the chosen tool, including explaining the categorization of Agile project requirements and how they can be effectively managed within the tool. [8 Marks]
- C. List down two differences in requirement management in software projects run on waterfall model process and agile process. [4 marks]

### Question 3 [30 marks]

Answer following questions referring to the above given 'Case 1'.

- A. List three stakeholders whom Sally should engage with to gather the necessary requirements. [3 marks]
- B. Sally is not clear on the "Requirement Traceability". As a professional in the subject matter, explain what it is and importance of using it with the project. [7 Marks]
- C. Sally has collected all the requirements and now he wanted to elicit the requirements using a requirement elicitation technique. Can you identify a requirement elicitation technique and elaborate on the use of it. [5 Marks]
- D. Differentiate the requirement validation and verification providing different techniques in each. [5 Marks]
- E. Developing UML diagrams, use cases, context diagrams, story cards are requirement communication techniques used in software development projects. Draw a main use case for the system described in the 'Case 1'. Generalize the functionalities you have identified as much as possible. List down the assumptions you have made in drawing the main use case if there are any. [10 marks]

*-End of the Paper-*