

## Supplementary Summer Examination – 2023

**Subject Code & Name: BTCOC503 Software Engineering**

***Instructions to the Students:***

- | (Level/CO) | Marks |
|------------|-------|
|------------|-------|

12

- B) Provide an OO design for the following specifications. Analyse **6**

Draw a class diagram in UML.

- Q.2 Solve Any Two of the following.** **12**

1. IOT-based water-level monitoring system.
2. Website development for a restaurant
3. A Mobile application to track students' attendance

12

<b>A)</b>	Given a scenario, design a class diagram for a library management system that includes classes for books, library members, and transactions. Include associations, attributes, and methods.	Create	<b>6</b>
<b>B)</b>	Give the syntax of the following commands and explain their purpose in the context of GitHub. (1) fork, (2) merge, (3) pull request, (4) cloning a repository	Remember	<b>6</b>
<b>C)</b>	Consider a scenario where you are developing software for a medical clinic. Identify and categorize three functional and three non-functional requirements for the software. Explain why each requirement is important for the successful implementation of the system.	Remember	<b>6</b>
<b>Q.4</b>	<b>Solve Any Two of the following.</b>		<b>12</b>
<b>A)</b>	Imagine you're developing a banking application. Describe how you would handle concurrent access to a shared bank account to ensure data consistency and avoid conflicts.	Analyse	<b>6</b>
<b>B)</b>	Define the following quality attributes : (1) Modifiability, (2) Portability, (3) Scalability, (4) Reliability	Remember	<b>6</b>
<b>C)</b>	Analyse a recent software project failure and identify the key reasons behind its failure. Discuss what could have been done differently to prevent or mitigate these issues.	Remember	<b>6</b>
<b>Q. 5</b>	<b>Solve the following.</b>		<b>12</b>
<b>A)</b>	Write pseudocode for a function that takes a list of integers as input and returns the sum of all even numbers in the list.	Remember	<b>6</b>
<b>B)</b>	Define the following quality attributes : (1) Cohesion (2) Coupling (3) LOC (4) Fan-in and Fan-out	Create	<b>6</b>
<b>C)</b>	What is Hyrum's law? Explain with an example	Remember	<b>6</b>

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