

**Program:** S.Y.B.Sc IT                      **Semester:** IV                      **Program Code:** UGIT01  
**Course:** Software Engineering                      **Course Code:** NUIT402  
**Duration:** 1 Hour                      **Examination Pattern:** NEP Autonomous External                      **Max. Marks:** 30

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.

**Examination:**  
**REGULAR**

Q. 1	Attempt any TWO of the following.	[10]	Course Outcome	Knowledge Level
(a)	List any ten Software Development Process Models and briefly explain any two of them with suitable examples.		CO1	L1
(b)	Explain the difference between Functional Requirements and Non-Functional Requirements with suitable examples.		CO2	L2
(c)	Analyze the Incremental Model of software development. Illustrate its structure with a neat diagram and examine how each increment contributes to the overall system development and risk reduction.		CO3	L4
(d)	State the advantages of the Classical Waterfall Model.		CO3	L2
(e)	Critically evaluate Scrum as an Agile framework. Discuss its strengths and potential limitations in real-world software development environments.		CO4	L5
Q. 2	Attempt any TWO of the following.	[10]	Course Outcome	Knowledge Level
(a)	Discuss any five types of White Box Testing with suitable explanation.		CO6	L2
(b)	Design a comprehensive automation testing framework for a software project. Construct a detailed explanation of how automation testing operates, and formulate a justified list of its advantages in enhancing software quality, efficiency, accuracy, and overall testing effectiveness..		CO6	L6
(c)	Describe the importance of test cases in software testing.		CO5	L2
(d)	Explain Non-Functional Testing and discuss its benefits.		CO6	L2
(e)	Differentiate between Verification and Validation in software engineering.		CO5	L2

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