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Printed Page:-2 **Subject Code:- BCSBS0304Z**

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)
B.Tech
SEM: III - THEORY EXAMINATION (2025- 2026)
Subject: Software Engineering

Time: 2 Hours **Max. Marks: 50**

General Instructions:

IMP: *Verify that you have received the question paper with the correct course, code, branch etc.*
1. *This Question paper comprises of* ***three Sections -A, B, & C.*** *It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.*
2. *Maximum marks for each question are indicated on right -hand side of each question.*
3. *Illustrate your answers with neat sketches wherever necessary.*
4. *Assume suitable data if necessary.*
5. *Preferably, write the answers in sequential order.*
6. *No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.*

SECTION-A 15

1. Attempt all parts:-

1-a. Spiral model integrates risk analysis in each iteration.(CO1,K2) 1

(a) Risk analysis in iteration
(b) Testing phase only
(c) Design optimization
(d) Maintenance phase

1-b. ISO 9126 defines software quality in terms of six main characteristics.(CO2,K2) 1

(a) Six quality characteristics
(b) Four design metrics
(c) Five testing phases
(d) Eight maintenance steps

1-c. Cyclomatic complexity measures independent paths in code.(CO3,K2) 1

(a) Independent paths
(b) Execution time
(c) File size
(d) Testing coverage

1-d. Validation ensures software meets user requirements.(CO4,K2) 1

(a) Validation
(b) Verification
(c) Testing
(d) Refactoring

1-e. Cohesion measures relatedness of functions within a module.(CO4,K2) 1

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(a) Cohesion
(b) Coupling
(c) Encapsulation
(d) Abstraction

2. Attempt all parts:-

2.a.	State key features of McCall's quality model.(CO1,K2)	2
2.b.	Mention attributes of FURPS model.(CO2,K3)	2
2.c.	Define functional and non-functional requirements.(CO3,K2)	2
2.d.	State purpose of state transition table.(CO3,K2)	2
2.e.	Discuss the principle behind boundary value testing.(CO4,K2)	2

SECTION-B 15

3. Answer any three of the following:-

3-a.	Compare McCall, Boehm, and FURPS quality models.(CO1,K3)	5
3-b.	Evaluate effectiveness of cost estimation models in large projects.(CO2,K3)	5
3-c.	Demonstrate configuration management using version control system.(CO2.K2)	5
3.d.	Prepare decision table for student grading system.(CO3,K3)	5
3.e.	Evaluate role of metrics in improving software quality.(CO4,K4)	5

SECTION-C 20

4. Answer any five of the following:-

4-a.	Discuss major phases of software project planning (CO1,K2)	4
4-b.	Discuss process of feasibility analysis in software development.(CO1,K2)	4
4-c.	Describe ISO 9126 quality characteristics in detail.(CO2,K2)	4
4-d.	Explain Dromey quality model and its advantages. (CO2,K2)	4
4-e.	Explain structure and purpose of SRS document. (CO3,K3)	4
4-f.	Discuss major UML diagrams used in requirement analysis.(CO3,K3)	4
4-g.	Describe metrics-based control methods in software engineering.(CO4,K3)	4
4-h.	Describe how modularity improves design quality.(CO4,K3)	4