

R18

Code No: 155DB

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, January/February - 2023

SOFTWARE ENGINEERING
(Common to CSE, IT, ECM, ITE)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) What are software engineering layers? [2]
- b) Write about process assessment. [3]
- c) Define procedural interfaces. [2]
- d) Discuss about requirements validation in brief. [3]
- e) What is UML? Write the principles of modelling. [2]
- f) Give an example of a class diagram. [3]
- g) Define white-box testing and black –box testing. [2]
- h) How debugging differs from testing? [3]
- i) What is software risk? [2]
- j) What are the metrics for software quality? [3]

PART – B

(50 Marks)

- 2.a) Define software. Explain in detail about software myths.
- b) Discuss in detail about water fall process model. [5+5]

OR

- 3.a) What is a process model? Explain about prototyping model in detail.
- b) What is CMMI? Explain about CMMI levels. [5+5]

- 4.a) Explain about requirements management phases of requirement engineering process.
- b) Explain about state machine models with examples. [5+5]

OR

- 5.a) Based on your experience with a bank ATM, draw a data-flow diagram modelling the data processing involved when a customer withdraws cash from the machine.
- b) Discuss about architectural design in brief. [5+5]

- 6.a) What are building blocks of the UML? Explain.
- b) Explain about refining the architecture into components. [5+5]

OR

- 7.a) Distinguish between sequence and collaboration diagrams.
- b) Briefly explain about the design model. [5+5]

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- 8.a) What is integration testing? Explain in detail.
- b) Discuss about metrics for testing in detail.

[5+5]

OR

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- 9.a) Distinguish between verification and validation. Explain about organizing for software testing.
- b) Explain about the metrics for design model.

[5+5]

- 10. Explain the following:
 - a) Software quality concepts
 - b) Risk identification.

[5+5]

OR

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- 11. Explain the following:
 - a) Statistical SQA
 - b) Developing a risk table.

[5+5]

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