Code No: 155DB

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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]

8.a) What is integration testing? Explain in detail.
b) Discuss about metrics for testing in detail. [5+5]

OR

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

11. Explain the following:
a) Statistical SQA
b) Developing a risk table. [5+5]

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