Code No: 154CQ **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech II Year II Semester Examinations, April/May - 2023
SOFTWARE ENGINEERING
(Common to CSBS, CSIT, CSE(AIML), CSE(DS))

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)	Define software engineering and explain.	[2]
b)	What is process assessment? Why do we need to asses software process?	[3]
c)	What is interface specification?	[2]
d)	What is feasibility study? What are its types? Explain.	[3]
e)	What is Software Architecture? Define.	[2]
f)	What are called interaction diagrams? Explain their types.	[3]
g)	Why do we need to test software? Explain.	[2]
h)	What is validation testing? Explain.	[3]
i)	What is the purpose of software measurement? Explain.	[2]
j)	What is software review? Explain different types of software reviews.	[3]

PART – B

(50 Marks)

2.a) Compare and contrast different software process models.
b) With a neat sketch, explain Capability Maturity Model Integration (CMMI). [5+5]

OR

3. Explain in detail about personal and team process models. [10]

4.a) What is the goal of requirements analysis phase? Why the requirements analysis phase is a difficult one? Justify your answer.
b) Explain the differences between functional requirements and non-functional requirements by giving suitable examples. [5+5]

OR

5.a) What are the desirable characteristics of a good software requirement specification document? Discuss.
b) Draw a process model showing how a requirements review might be organized. [5+5]

6.a) Draw the class diagram and explain various relationships that exists between classes.
b) Distinguish between sequence and collaboration diagrams. [5+5]

OR

7.a) Draw and explain Use case diagrams and its development process with suitable illustrations.
b) What are the design principles of a good software design? Explain. [5+5]

8.a) What are the various testing strategies used for testing conventional software? Discuss.
b) What is software quality? What are the metrics used for source code analysis? Explain. [5+5]

OR

9.a) What is white box testing? How white box testing is carried out? Demonstrate with example.
b) Discuss about the metrics used for software design model. [5+5]

10.a) What is risk identification? Discuss various methods used for risk identification.
b) Discuss the role of formal technical reviews in achieving good quality software. [5+5]

OR

11.a) Explain ISO 9000 Quality standards.
b) What is Statistical Software Quality Assurance? Discuss its objectives. [5+5]

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