

Code No: 156FU

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, March - 2024

SOFTWARE ENGINEERING

(Common to CSE(CS), CSE(N))

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) Why does it take so long to get software finished? [2]
- b) Write down the pros and cons of water fall process model. [3]
- c) Define object and class in UML. [2]
- d) Discuss about domain requirements. [3]
- e) Why is architecture important? [2]
- f) Explain terms and concepts of usecase diagram. [3]
- g) What are user interface design metrics? [2]
- h) What is system testing? Explain. [3]
- i) Define risk refinement. [2]
- j) What are formal approaches to SQA? Explain. [3]

**PART – B****(50 Marks)**

- 2.a) What are phases of the Unified process model? Explain in detail.
  - b) Explain about PSP process model in detail. [5+5]
- OR**
- 3.a) Discuss about the phases of waterfall process model.
  - b) What are seven broad categories of computer software? Explain. [5+5]
- 4.a) Write a set of non-functional requirements for the ticket-issuing system, setting out its expected reliability and its response time.
  - b) Explain about requirements management planning in detail. [5+5]
- OR**
- 5.a) Develop an object model, including a class hierarchy diagram and an aggregation diagram showing the principal components of a personal computer system and its system software.
  - b) Who should be involved in a requirements review? Draw a process model showing how a requirements review might be organized. [5+5]

- 6.a) What are interface design elements? Explain.  
b) Draw use case diagram and class diagram for Library Management System. [5+5]

**OR**

- 7.a) Describe refining the architecture into components in detail.  
b) What are interaction diagrams? Explain with examples. [5+5]

- 8.a) What are debugging strategies? Explain in detail.  
b) Describe metrics for testing and maintenance. [5+5]

**OR**

- 9.a) Distinguish between white-box and black-box testing techniques.  
b) What are class-oriented metrics? Explain with examples. [4+6]

10. Explain the following:  
a) Web engineering project metrics  
b) RMMM. [5+5]

**OR**

11. Explain the following:  
a) Formal Technique Reviews  
b) Software safety. [5+5]

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