

# CBCS SCHEME

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15CS42

## Fourth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Software Engineering

Time: 3 hrs.

Max. Marks: 80

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

### Module-1

- 1 a. Define Software Engineering. Explain the different types of software products. (04 Marks)
- b. What are Professional and Ethical Responsibility of Software Engineering? (06 Marks)
- c. Explain the water – fall model of Software Development process, with neat block diagram. (06 Marks)

**OR**

- 2 a. Explain the structure of Requirement documentation. (08 Marks)
- b. Distinguish functional and non – functional Requirement. Explain types of non – functional Requirement, with neat diagram. (08 Marks)

### Module-2

- 3 a. Explain Data flow model with an example of insulin pump. (08 Marks)
- b. Draw a contact model for patient information system. How the interaction are modeled. (08 Marks)

**OR**

- 4 a. Describe Rational Unified process, with a block diagram. (08 Marks)
- b. Draw and explain the sequence and state diagram for a typical whether station. (08 Marks)

### Module-3

- 5 a. Explain Software inspection and testing with neat diagram. What are the advantages of inspection over testing? (08 Marks)
- b. What is Test Driven Development [TDD]? Explain. State the benefits of Test Driven Development. (08 Marks)

**OR**

- 6 a. Define Program Evolution Dynamics. Describe the Lehman's Law for program evolution dynamics. (08 Marks)
- b. What is Software Maintenance? Explain System Reengineering process, with neat block diagram. (08 Marks)

### Module-4

- 7 a. Explain Project Planning Process, with neat diagram. Define Milestones and Deliverables. (08 Marks)
- b. List and explain various COCOMO2 cost estimation model. (08 Marks)

**OR**

- 8 a. With neat diagram, explain the Pre – Review activities and Post – Review activities of Software Review process. (08 Marks)
- b. Explain the various inspection checklist for Software Inspection process. (08 Marks)

**Module-5**

- 9 a. Explain the ways of coping with change and reduction of Rework cost. (08 Marks)  
b. Describe the extreme programming release cycle with neat diagram. List the practices followed in extreme programming. (08 Marks)
- OR**
- 10 a. Explain the principles of Agile methods. List the problem with Agile method. (08 Marks)  
b. How the Agile method are scaled? Explain scaling of long system development. (08 Marks)

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