

# CBCS SCHEME

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

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. List and explain Software Engineering codes of Ethics. (06 Marks)
- b. With neat diagram explain water-fall model of software development process. (08 Marks)
- c. With the help of diagram explain about insulin pump control system. (06 Marks)

OR

- 2 a. Explain functional and non-functional requirements with one example for each. (06 Marks)
- b. Explain Boehm's spiral model with neat diagram. (08 Marks)
- c. Why the understanding requirements from stakeholders is a difficult task? Explain. (06 Marks)

### Module-2

- 3 a. Explain the three system models. (09 Marks)
- b. Define abstraction and encapsulation. (06 Marks)
- c. How data and behavior can be combined in OO approach? (05 Marks)

OR

- 4 a. Define Multiplicity and differentiate cardinality and multiplicity. (06 Marks)
- b. What is object oriented development? What are the advantages and disadvantages of object oriented development? Explain the stages of OO methodology. (10 Marks)
- c. Explain the terms: Identify, classification inheritance, polymorphism. (04 Marks)

### Module-3

- 5 a. What is design pattern? Explain four elements of design pattern. (06 Marks)
- b. Draw the context model for patient management system. How the interactions are modelled? (08 Marks)
- c. What is behavioural model? Explain with suitable example. (06 Marks)

OR

- 6 a. Explain the phases of Rational Unified Process (RUP) with neat diagram. (06 Marks)
- b. What is model driven engineering? Explain three types of abstract system models produced. (09 Marks)
- c. List and explain all the activities in an object oriented design process. (05 Marks)

### Module-4

- 7 a. Define program evolution dynamics. Explain Lehman's laws for program evolution dynamics. (10 Marks)
- b. What is development testing? Explain three levels of granularity carried out in testing. (05 Marks)
- c. What is user testing? Explain the different stages of acceptance testing process. (05 Marks)

OR

- 8 a. What is test driven development? What are the benefits of test driven development? (06 Marks)
- b. Explain the four strategic options of legacy system management. (06 Marks)
- c. Explain about unit testing and component testing with suitable example. (08 Marks)

Module-5

- 9 a. Explain COCOMO-II estimation model. (08 Marks)
- b. List and explain the factors affecting software pricing. (06 Marks)
- c. Describe plan driven development. (06 Marks)

OR

- 10 a. What are product metrics? Explain two classes of metrics. (06 Marks)
- b. Explain reviews and inspections. (06 Marks)
- c. What are configuration management? Explain four activities of configuration management. (08 Marks)

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