

**Fourth Semester B.E. Degree Examination, Dec.2019/Jan.2020**  
**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. What is software engineering? Briefly discuss the need for software engineering. (08 Marks)  
b. With a neat diagram, explain the activity model of the insulin pump control system. (08 Marks)  
c. List and explain any four software engineering code of ethics. (04 Marks)

**OR**

- 2 a. With a neat diagram, explain the water-fall model of software development process. List the drawbacks of waterfall model. (08 Marks)  
b. Briefly discuss the important activities of requirements engineering process with a neat diagram. (06 Marks)  
c. What is requirements validation? List and explain any four different checks to be carried out during requirements validation process? (06 Marks)

**Module-2**

- 3 a. Draw and explain state diagram of a microwave oven. (08 Marks)  
b. Explain the terms class diagram, generalization and aggregation. (08 Marks)  
c. Draw the sequence diagram for Patient Information System. (04 Marks)

**OR**

- 4 a. With a neat diagram, explain the Rational Unified Process. (08 Marks)  
b. What is design pattern? Explain four elements of design pattern. (06 Marks)  
c. What is software reuse? State the general models of open source licenses. (06 Marks)

**Module-3**

- 5 a. What is component testing? List and explain the different types of interface errors. (06 Marks)  
b. Explain performance testing in detail. (08 Marks)  
c. Explain the six stages of acceptance testing process. (06 Marks)

**OR**

- 6 a. With a neat diagram briefly discuss the software reengineering process. (08 Marks)  
b. What is software maintenance? Explain the three different types of software maintenance. (04 Marks)  
c. Explain software evolution process. (08 Marks)

**Module-4**

- 7 a. List and explain factors affecting software pricing. (06 Marks)  
b. Explain briefly COCOMOIT model. (08 Marks)  
c. Explain briefly the software review process. (06 Marks)

**OR**

- 8 a. Explain the various inspection checks for software inspection process. (10 Marks)  
b. Discuss in detail the different stages in component measurement process with diagram. (10 Marks)

**Module-5**

- 9 a. Explain the practices involved in extreme programming. (10 Marks)  
b. With a neat diagram explain the process of prototype development. What are the benefits of a prototype? (10 Marks)

**OR**

- 10 Write short notes on the following : (20 Marks)  
a. Agile methods  
b. Testing in XP  
c. Pair programming  
d. Incremental delivery.

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