



## 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 :  
a. Agile methods  
b. Testing in XP  
c. Pair programming  
d. Incremental delivery.

(20 Marks)

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