

# CBCS SCHEME

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18CS35

## Third Semester B.E. Degree Examination, Jan./Feb. 2021 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 are the attributes of good software? Explain the key challenges faced in software engineering. (08 Marks)
- b. With a neat diagram, explain the waterfall model of software development process. (06 Marks)
- c. Describe the general model of software design process. (06 Marks)

OR

- 2 a. Define and differentiate functional and non-functional requirements. (06 Marks)
- b. What is requirements specification? Explain various ways of writing system requirements. (08 Marks)
- c. What is ethnography? How ethnography is effective in discovering the types of requirements? (06 Marks)

### Module-2

- 3 a. What is OO development? Explain object oriented themes briefly. (08 Marks)
- b. What are links and associations? Write and explain UML notation for links and association with an example. (06 Marks)
- c. Describe generalization and inheritance with an example. (06 Marks)

OR

- 4 a. What is object orientation? What are the important characteristics of OO approach? Explain. (08 Marks)
- b. Define model. Describe the relationship among three models. (08 Marks)
- c. With the help of a sample class model explain multiplicity and Association and names. (04 Marks)

### Module-3

- 5 a. Draw and explain a contest model for patient information system. (06 Marks)
- b. With a diagram, explain the phases in the Rational Unified Process (RUP). (06 Marks)
- c. With the help of a neat state diagram, illustrate the working of a microwave oven. (08 Marks)

OR

- 6 a. What is model driven engineering? State the three types of abstract system model produced with a neat diagram. (08 Marks)
- b. What are the activities to be carried out in object oriented design process of a system? How the objects are identified? (08 Marks)
- c. What is open source development? Explain general models of open source licensing. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

**Module-4**

- 7 a. What is list driven development? With a neat diagram, explain test driven development process. (08 Marks)
- b. With neat diagram, explain six stages of acceptance testing process. (08 Marks)
- c. What are the different types of interfaces to be tested during component testing? Explain. (04 Marks)

**OR**

- 8 a. Write and explain Lehman's laws related to system charge. (08 Marks)
- b. What is software maintenance? Draw the general model of reengineering process and explain. (08 Marks)
- c. What are the strategic options involved in legacy system management? Discuss. (04 Marks)

**Module-5**

- 9 a. For the set of tasks shown below draw the activity bar chart for the project scheduling.

Task	Duration (Days)	Dependencies
T <sub>1</sub>	10	-
T <sub>2</sub>	15	
T <sub>3</sub>	15	T <sub>1</sub> (M1)
T <sub>4</sub>	10	-
T <sub>5</sub>	10	T <sub>2</sub> , T <sub>4</sub> (M3)
T <sub>6</sub>	5	T <sub>1</sub> , T <sub>2</sub> (M4)
T <sub>7</sub>	20	T <sub>1</sub> (M1)
T <sub>8</sub>	25	T <sub>4</sub> (M2)
T <sub>9</sub>	15	T <sub>3</sub> , T <sub>6</sub> (M5)
T <sub>10</sub>	15	T <sub>7</sub> , T <sub>8</sub> (M6)
T <sub>11</sub>	10	T <sub>9</sub> (M7)
T <sub>12</sub>	10	T <sub>10</sub> , T <sub>11</sub> (M8)

- (08 Marks)
- b. Write and explain the factors affecting software pricing. (05 Marks)
- c. Explain briefly the algorithm cost modeling and write the difficulties. (07 Marks)

**OR**

- 10 a. With a diagram, explain the phase involved in software review process. (08 Marks)
- b. Explain briefly the key stages in the process of product measurement. (08 Marks)
- c. Write any four product and process standards. (04 Marks)

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