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## Third Semester B.E. Degree Examination, July/August 2022 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 and why it is important? Explain software engineering ethics. (10 Marks)
- b. With a neat block diagram, explain the requirement elicitation and analysis process. (06 Marks)
- c. What is requirement validation? Explain the different types of checks carried out during the process. (04 Marks)

OR

- 2 a. What do you mean by software design and implementation? With neat block diagram, explain the general model of the design process. (10 Marks)
- b. Write note on the following:
  - (i) Non-functional requirements with example.
  - (ii) Notations used for writing system requirements. (10 Marks)

### Module-2

- 3 a. What a Object Oriented Development? Explain the different stages of object oriented development. (10 Marks)
- b. Write note on the following:
  - (i) Association End Names.
  - (ii) Purposes of Model. (10 Marks)

OR

- 4 a. Write note on :
  - (i) OO Themes
  - (ii) The Three models. (10 Marks)
- b. Describe the various OCL (Object Constraint Language) constructs for traversing class models with example. (10 Marks)

### Module-3

- 5 a. Describe Event-driven model with a state diagram of microwave oven application. (10 Marks)
- b. What do you mean by design pattern? Explain the essential elements of design pattern. (10 Marks)

OR

- 6 a. Describe the three main aspects of implementation important to software engineering. (10 Marks)
- b. Describe interaction models with example. (10 Marks)

### Module-4

- 7 a. Describe the three different types of user testing. (10 Marks)
- b. Explain software reengineering process with a neat block diagram. (10 Marks)

OR

- 8 a. Describe the Lehman's laws of program evolution dynamics. (10 Marks)  
b. Discuss the following with respect to Legacy system management :  
(i) Strategic options  
(ii) Clusters of system. (10 Marks)

Module-5

- 9 a. Describe the following with respect to project plan development :  
(i) Sections of project plan. (10 Marks)  
(ii) Project scheduling. (10 Marks)  
b. Discuss the software review process and inspections of quality assurance. (10 Marks)

OR

- 10 a. Describe the key stages in the process of product measurement. Also briefly explain the factors affecting software pricing. (10 Marks)  
b. Write note on the following:  
(i) Static software product metrics.  
(ii) Algorithmic cost modeling. (10 Marks)

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