

--	--	--	--	--	--	--	--	--	--



# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Computer Science and Engineering

Semester End Examination; Dec. - 2019

Software Engineering

Time: 3 hrs

Max. Marks: 100

*Note: Answer FIVE full questions, selecting ONE full question from each unit.*

## UNIT - I

- 1 a. Define software engineering. Explain essential attributes of good software. 6
- b. List and explain any five software engineering code of ethics. 6
- c. With the help of neat diagram, discuss Insulin pump control system. 8
- 2 a. Write a block diagram for illustrating incremental development model. Also state at least two benefits and the problems in incremental development. 10
- b. List four basic process activities used in software development process. Also with neat diagram, discuss briefly requirements engineering process. 10

## UNIT - II

- 3 a. Explain plan driven and agile development methods. 6
- b. Describe the principles of agile methods. 6
- c. List and describe extreme programming practices. 8
- 4 a. Define Non-functional requirements and the metrics used for specifying non-functional requirements. 6
- b. Write and explain the structure of requirement document as suggested by IEEE. 8
- c. Briefly discuss the different checks to be carried out during requirements validation process. 6

## UNIT - III

- 5 a. Explain the following terms with suitable examples:
  - i) Generalization 6
  - ii) Aggregation
- b. Draw state diagram of microwave oven, also list states and stimulus for the same. 10
- c. What is model driven engineering. State types of abstract system models produced by model driven engineering. 4
- 6 a. Define architectural design. Illustrate layered architecture with an example. 8
- b. With a neat diagram describe different types of architectural views. 6
- c. With the diagram, explain repository architecture for a language processing system. 6

Contd...2

**UNIT - IV**

- 7 a. Define design pattern. Explain the four elements of design patterns. 8
- b. What is software reuse? State the general models of open source licenses. 6
- c. List three different types of user testing with relevant example. 6
- 8 a. Define Test Driven Development (TDD) and with neat diagram describe TDD activities along with its benefits. 10
- b. With neat diagram, briefly describe the six stages in the acceptance testing process. 10

**UNIT - V**

- 9 a. List and explain terminologies used in configuration management. 10
- b. With neat diagram, briefly describe continuous integration in system building. 10
- 10 a. List the advantages of group cohesiveness. 4
- b. Briefly discuss the effectiveness and efficiency of communications that are influenced by group communication. 10
- c. Write different types of risk indicators used in risk monitoring. 6

\* \* \*