



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 - 2017/Jan - 2018

Software Engineering

Time: 3 hrs

Max. Marks: 100

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

UNIT - I

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| 1 a. | “Software is a Product” Justify this statement. | 4 |
| | b. Why there are fundamental ideas of software Engineering that apply to all types of software systems? Explain. | 6 |
| | c. Why system development as prototypes should not normally be used as complete system? Explain. | 10 |
| 2 a. | Briefly discuss the reliability terminologies and mention the approaches to system reliability enhancement and achievements. | 10 |
| | b. Describe briefly the phases of the system engineering process with a neat diagram. | 10 |

UNIT - II

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|------|--|----|
| 3 a. | List the different problems with Agile method. | 5 |
| | b. State the various scrum benefits. | 5 |
| | c. Identify and describe four types of requirements that may be defined for a computer based system. | 10 |
| 4 a. | State the advantages and disadvantages of extreme programming. | 8 |
| | b. Write a set of non-functional requirements for the ticket-issuing system, setting out its expected reliability and response time. | 12 |

UNIT - III

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|------|---|----|
| 5 a. | Develop a sequence diagram showing the interactions involved when a student registers for a course in a university. | 8 |
| | b. Explain the terms: | |
| | i) Architectural styles | 12 |
| | ii) Architecture attributes | |
| | iii) Architectural design decisions. | |
| 6 a. | Draw an activity diagram that models the data processing involved when a customer withdraws cash from the machine. | 10 |
| | b. Explain briefly: | |
| | i) Call-Return control model | 10 |
| | ii) Broadcast control model. | |

UNIT - IV

- 7 a. Draw and explain state diagram for a typical telephone system. 10
- b. With a neat diagram, describe the different stages in the acceptance testing process. 10
- 8 a. Explain briefly about requirement based testing. 10
- b. Write a short note on open source licensing. 10

UNIT - V

- 9 a. Identify the different possible risks that could arise in software project. 10
- b. Describe the essential features that should included in a tool to support change management process. 10
- 10 a. Describe the difficulties that may arise when building a system from its components. 10
- b. Write short notes on the following :
 - i) Risk management 10
 - ii) Different types of risks planning in strategy.

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