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21CST601

Sixth Semester B. E. Degree Semester End Examination (SEE)

Model Question Paper – 2

SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

Time: 3 Hours]

[Maximum Marks: 100]

Instructions to Students:

| Q No | Questions | Marks | CO | RBT Cognitive Level |
|-----------|--|-------|-----|---------------------|
| 1 | a) List various prescriptive process models. Explain any two models in detail. | 7 | CO1 | L2 |
| | b) With a neat diagram, describe the unified process model for software development. | 7 | CO1 | L2 |
| | c) With a neat diagram, illustrate the Extreme Programming process. | 6 | CO1 | L3 |
| OR | | | | |
| 2 | a) Define software engineering and the software process. Describe a generic process framework for software engineering. | 10 | CO1 | L2 |
| | b) Explain the following agile process models: Scrum, DSDM and Agile Modeling. | 10 | CO1 | L2 |
| OR | | | | |
| 3 | a) Develop a complete use cases for the following activities: (i) University Library System (ii) Buying a Stock using an online brokerage account (iii) Using credit card at a Restaurant | 9 | CO2 | L4 |
| | b) Suggest who might be stakeholders in a Hospital management system. Explain why it is almost inevitable that the requirements of different stakeholders will conflict in some way. | 6 | CO2 | L4 |
| | c) How to validate requirements? Describe with suitable examples. | 5 | CO2 | L2 |
| OR | | | | |
| 4 | a) Prepare a complete SRS for Gasoline pump control system. | 8 | CO2 | L4 |

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| | b) | Discuss the significance of use cases in requirements engineering process. Design various use cases for University Employee management system. | 7 | CO2 | L5 |
| | c) | Briefly explain Scenario-based modeling. | 5 | CO2 | L2 |
| | | | | | |
| 5 | a) | What is meant by design classes? List and explain four characteristics of a well-formed design class. | 6 | CO3 | L2 |
| | b) | Suggest and justify the architectural style for the online Jewellery Mart system. Also identify major components used in designing online Jewellery Mart system. | 6 | CO3 | L4 |
| | c) | Describe basic design principles applicable to Component level design. | 8 | CO3 | L3 |
| OR | | | | | |
| 6 | a) | Illustrate dimensions of the design model with a neat sketch. | 8 | CO3 | L2 |
| | b) | Design architectural context diagram for the following systems: (i) Online Gaming System (ii) Agricultural Products Management System | 4 | CO3 | L4 |
| | c) | Describe Component based development in detail. | 8 | CO3 | L3 |
| | | | | | |
| 7 | a) | Distinguish between white-box and black-box testing. | 6 | CO4 | L3 |
| | b) | Describe any three system testing types with real time examples. | 6 | CO4 | L3 |
| | c) | Explain Basis path testing in detail. | 8 | CO4 | L2 |
| OR | | | | | |
| 8 | a) | Design various test cases for digital advertisement agency management system. | 6 | CO4 | L4 |
| | b) | Distinguish between Top-down Integration testing and Bottom-up Integration testing. | 6 | CO4 | L3 |
| | c) | Explain graph based testing methods and boundary value analysis with suitable real time examples. | 8 | CO4 | L3 |
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| 9 | a) | Briefly explain an empirical estimation models for computer software. | 6 | CO5 | L2 |
| | b) | Illustrate the roles of software teams and team leaders in software project management. | 6 | CO5 | L3 |
| | c) | How to establish a software metrics program? Illustrate with various steps and goals. | 8 | CO5 | L3 |
| OR | | | | | |
| 10 | a) | “Effective software project management focuses on four P’s”. Justify this statement with suitable analogy. | 8 | CO5 | L4 |
| | b) | Illustrate the concept of integrating metrics within the software process using collection process. | 7 | CO5 | L3 |
| | c) | List and explain various project resources. | 5 | CO5 | L2 |

1. Answer FIVE FULL questions as per choice.

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