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21CST601

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

### Model Question Paper – 3

## SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

**Time: 3 Hours]**

**[Maximum Marks: 100]**

### Instructions to Students:

Q No	Questions	Marks	CO	RBT Cognitive Level
1	a) “Scrum is a subset of Agile”. Justify.	5	CO1	L3
	b) Describe concurrent development model used in software development.	8	CO1	L3
	c) List and explain seven principles that focuses on software engineering practice as a whole.	7	CO1	L2
<b>OR</b>				
2	a) With a neat diagram, explain the process of XP for developing a software.	7	CO1	L2
	b) Compare and contrast waterfall and evolutionary software development model.	8	CO1	L3
	c) Describe a generic process framework for software engineering.	5	CO1	L2
<b>OR</b>				
3	a) Give the IEEE standard structure of an SRS. Prepare an SRS for Agricultural Information Management System which will be helpful for farmers.	8	CO2	L4
	b) With suitable example, describe the Scenario-based modeling.	7	CO2	L2
	c) Develop use cases for the following: (i) Train Reservation System (ii) Unified Insurance Management System	5	CO2	L4
<b>OR</b>				
4	a) Define requirements engineering. List and explain seven distinct tasks of requirements engineering.	8	CO2	L2
	b) Discuss the significance of use cases in requirements engineering process. Design various use cases for Super market management system.	7	CO2	L5

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	c)	How to negotiate and validate requirements? Illustrate with examples.	5	CO2	L3
5	a)	List and explain all the fundamental software design concepts.	10	CO3	L2
	b)	Develop a complete architectural design for Safe home product. Also identify various components used in Safe home product.	10	CO3	L4
<b>OR</b>					
6	a)	Describe basic design principles applicable to Component level design.	8	CO3	L3
	b)	With suitable examples, describe Architectural styles and Architectural Genres.	8	CO3	L2
	c)	Design architectural context diagram for the following systems: (i) Stock Market Trading System (ii) Consumer Products Management System	4	CO3	L4
7	a)	With a neat diagram, describe the debugging process.	6	CO4	L2
	b)	With suitable example, explain basis path testing in detail.	6	CO4	L2
	c)	Describe Validation and System Testing with examples.	8	CO4	L3
<b>OR</b>					
8	a)	Explain a strategic approach to software testing.	8	CO4	L2
	b)	Explain graph based testing methods and boundary value analysis with suitable real time examples.	8	CO4	L3
	c)	Design various test cases for unified seat reservation system.	4	CO4	L4
9	a)	The decisions made by senior management can have a significant impact on the effectiveness of a software engineering team. Provide five examples to illustrate that this is true.	6	CO5	L4
	b)	How to establish a software metrics program? Describe with various steps and goals.	7	CO5	L2
	c)	Describe Empirical estimation models used during estimation of software projects.	7	CO5	L2
<b>OR</b>					
10	a)	“Effective software project management focuses on four P’s”. Justify this statement with suitable analogy.	8	CO5	L4
	b)	Describe any three software metrics used for software measurement.	6	CO5	L3
	c)	Briefly explain various decomposition techniques used during software project estimations.	6	CO5	L2

1. Answer FIVE FULL questions as per choice.

