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Course Code

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Second Semester MCA Degree Examinations, August 2026

SOFTWARE ENGINEERING

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO: PI)</u>
<u>MODULE – 1</u>			
1.	a. Define software engineering. Explain software process activities in detail.	10	(2:1:1.4.1)
	b. Explain the concept of a perspective process model and describe the different phases of the Waterfall model with a neat diagram.	10	(2:1:1.4.2)
(OR)			
2.	a. What is agility? Explain extreme programming core practices.	10	(2:1:1.4.1)
	b. Define specialized process model. Explain different phases in rational unified process model.	10	(2:1:1.4.2)
<u>MODULE – 2</u>			
3.	a. Explain the concept of requirement specification and describe various methods used to write requirement specifications in a Software Requirements Specification (SRS) document.	10	(2:2:3.1.1)
	b. Explain the requirement engineering process and describe its key activities with the help of a diagram.	10	(2:2:4.2.3)
(OR)			
4.	a. Define requirement discovery. Explain different techniques / methods of requirement discovery.	10	(2:2:3.1.4)
	b. What is requirement validation? Describe the different types of checks involved in the requirements validation process.	10	(3:2:3.1.2)
<u>MODULE – 3</u>			
5.	a. Define class diagrams in UML. Describe the different components of a class diagram and explain various relationships with notation and examples.	10	(3:3:3.1.4)
	b. Explain the standard notations used in data flow diagrams and describe how Level-0 and Level-1 DFDs are constructed for a cloth ordering system.	10	(2:3:3.1.4)
(OR)			
6.	a. Explain the software design process and describe its various stages in detail.	10	(2:3:3.1.2)
	b. Explain the concept of a state chart diagram and describe its notations with a suitable example.	10	(2:3:3.1.4)

MODULE – 4

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| 7. | a. | Explain the concept of white box testing and describe the different techniques used in it with suitable examples. | 10 | (3:4:5.3.2) |
| | b. | Describe the process of regression testing and explain different types of it. | 10 | (2:4:5.3.2) |

(OR)

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| 8. | a. | Describe the key differences between black box Testing and white box testing. | 10 | (2:4:5.3.4) |
| | b. | Explain the concept of system testing. Describe its types, and advantages. | 10 | (3:4:5.3.4) |

MODULE – 5

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| 9. | a. | Explain Software Quality Management (SQM) process with neat diagram and illustrate its different objectives. | 10 | (3:5:6.4.4) |
| | b. | Define program Inspection in software engineering. Explain Inspection checklists in identifying software defects. | 10 | (3:5:6.4.3) |

(OR)

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|-----|----|---|----|-------------|
| 10. | a. | Describe software component analysis and explain its key stages with the help of a process diagram in the context of software quality assessment. | 10 | (2:5:5.3.4) |
| | b. | What is risk management? Explain risk management process in detail with neat diagram. | 10 | (2:5:5.3.4) |

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