

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	CSC-502C	2018-'19	B.Sc.(MPCs, MCCs)
SEMESTER – V	PAPER – VI	Max. Marks	75

Syllabus

SOFTWARE ENGINEERING

NO of Hours: 4

No Of Credits: 3

Pass Marks 30

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

UNIT-I: Introduction to Software Engineering & Process 12Hrs

The Evolving Role of Software– Software - The Changing Nature of Software, Software Myths, Legacy Software.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMI) - Process Patterns, Process Assessments - Personal And Team Process Models: Personal Software Process(PSP), Team Software Process (TSP).

Unit-II: Process Models 12Hrs

The Waterfall Models - Increment Process Models: The Increment Model, The RAD Model - Evolutionary Process Models: Prototyping, The Spiral Model, The Concurrent Development Model - The Unified Process: Phases of The United Process, Unified Process Work Products.

Unit-III: Requirements Engineering 14 Hrs

Requirements Engineering Tasks - Initiating The Requirements Engineering Process - Eliciting Requirements: Collaborative Requirements Gathering, Quality Function Deployment, User Scenarios, Elicitation Work Products - Negotiating Requirements - Validating Requirements.

Unit-IV: Analysis Model 12 Hrs

Requirements Analysis -Analysis Modelling Approaches - Data Modelling Concepts - Object-Oriented Analysis - Scenario-based Modelling - Flow-Oriented Modelling - Class-Based Modelling - Creating a Behavioural Model: Identifying Events with the Use-Case, State Representations.

Unit-V: Design Engineering 10Hrs

Design Process And Design Quality - Design Concepts - The Design Model: Data Design Elements, Architectural Design Elements, Interface Design Elements, Component-Level Design Elements, Deployment -Level Design Elements.

Prescribed Text Book:

1. Software Engineering – A Practitioner’s Approach, Sixth Edition - Roger S Pressman, TATA McGrawHill: Chapters: 1,2,3,7,8 and 9)

Reference Books:

1. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, “Software Engineering”, Eighth Edition, Pearson Education, 2007

Student Activity: Visit any financial organization nearby and prepare requirement analysis report 2. Visit any industrial organization and prepare risk chart.

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Model Paper

SOFTWARE ENGINEERING

NO of Hours: 4

No Of Credits: 3

Pass Marks 30

Section – A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **4x5=25M**

1. Write about Software Layered Technology
2. Explain about Process Framework?
3. Explain about RAD Model
4. Explain about Component Based Development Model
5. Write about Requirement Analysis?
6. Explain Validating Requirements
7. Explain about Domain Analysis?
8. Explain about Modularity?

Section – B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. Explain about CMMI
10. Explain about Software Myths
11. Explain about Incremental Model
12. Explain about Unified Process
13. Explain about Requirements Engineering Tasks
14. Explain Eliciting Requirements.
15. Explain Scenario based Modelling.
16. Write about design concepts in design engineering.

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SEMESTER – V	PAPER – V	Max. Marks 75	Pass Marks 30

Guidelines for paper setting '**SOFTWARE ENGINEERING**'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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SEMESTER – V

PAPER – VI

Max. Marks 50

Lab List

SOFTWARE ENGINEERING

Pass Marks 25

No. of Hours per week: 2

External: 25

Internal: 25

Credits: 2

A. ATM

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|--|--------------------------------------|
| 1. Objective of an ATM System. | 2. Use-case Diagram of an ATM System |
| 3. Class Diagram of an ATM System | 4. Sequence Diagram of an ATM System |
| 5. Activity Diagram of an ATM System | 6. State Diagram of an ATM System |
| 7. Deployment Diagram of an ATM System | 8. ER Diagram of an ATM System |

B. Library management System

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|--|---|
| 1. Objective of Library management System. | 2. Use-case Diagram of Library management |
| 3. Class Diagram of Library management System | 4. Sequence Diagram of Library management |
| 5. Activity Diagram of Library management System | 6. State Diagram of Library management |
| 7. Deployment Diagram of Library management System | 8. ER Diagram of Library management |

C. Barcode Reader

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|---|---------------------------------------|
| 1. Objective of Barcode Reader | 2. Use-case Diagram of Barcode Reader |
| 3. Class Diagram of Barcode Reader | 4. Sequence Diagram of Barcode Reader |
| 5. Activity Diagram of Barcode Reader | 6. State Diagram of Barcode Reader |
| 7. Deployment Diagram of Barcode Reader | 8. ER Diagram of Barcode Reader |

D. Safe Home System

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|---|---|
| 1. Objective of Safe Home System. | 2. Use-case Diagram of Safe Home System |
| 3. Class Diagram of Safe Home System | 4. Sequence Diagram of Safe Home System |
| 5. Activity Diagram of Safe Home System | 6. State Diagram of Safe Home System |
| 7. Deployment Diagram of Safe Home System | 8. ER Diagram of Safe Home System |

E. Online Book Store System

1. Objective of Online Book Store System
2. Use-case Diagram of Online Book Store System
3. Class Diagram of Online Book Store System
4. Sequence Diagram of Online Book Store
5. Activity Diagram of Online Book Store System
6. State Diagram of Online Book Store System
7. Deployment Diagram of Online Book Store System
8. ER Diagram of Online Book Store