PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

Offered to: M.C.A

22CA4E7: SOFTWARE TESTING & PROJECT MANAGEMENT

CourseDescriptionandPurpose: Software Testing & Project Management (22CA4E9) is a course that illustrates Introduction of Software Testing, Software Testing Activities, Software Verification, Metrics and Models in Software Testing, Functional Testing, Structural Testing and Object Oriented Testing.

Course Objectives: Thiscoursewillhelp enable the students t o understand and learn fundamentals of Software Testing, Software Testing Activities, Software Verification, Metrics and Models in Software Testing, Functional Testing, Structural Testing and Object Oriented Testing.

Course Outcomes:
On successful completion the students should be able to
CO1: Remember Object Oriented Testing Methodologies.
CO2: Understand Fundamentals of Software Testing and Testing Activities.
CO3: Apply various Functional Testing Strategies.
CO4: Analyze Software Verification Methods and Metrics and Models in Software Testing.
CO5: Create Structural Testing Methods.

CO-PO MATRIX							
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**
	CO1	M				M	
	CO2	M				M	
	CO3	M		M			
	CO4	M	M				
	CO6	M		M			

UNIT-I (12 Hours)

Introduction: Some Software Failures, Testing Process, Terminologies, Limitations of Testing, The V Shaped Software Life Cycle Model.

Software Testing Activities: Levels of Testing (Unit Testing, Integration Testing, System Testing, Acceptance Testing), Debugging, Software Testing Tools, Software Test Plan.

UNIT-II (12 Hours)

Software Verification: Verification Methods, SRS Document Verification, SDD Document Verification, Source Code Reviews, User Documentation Verification.

Metrics and Models in Software Testing: Software Metrics, Categories of Metrics, Object Oriented Metrics used in Testing, What should we measure during Testing

UNIT-III (12 Hours)

Functional Testing: Boundary Value Analysis, Equivalence Class Testing, Decision Table Based Testing, Cause-Effect Graphing Technique.

UNIT-IV (12 Hours)

Structural Testing: Control Flow Testing, Data Flow Testing, Slice Based Testing, Mutation Testing.

UNIT-V (12 Hours)

Object Oriented Testing: What is Object Orientation? , What is Object Oriented Testing? , Path Testing, State based Testing, Class Testing.

Prescribed Text Book			
S.No	Author	Title	Publisher
1	Yogesh Singh	Software Testing	Cambridge University Press, 2012 ISBN: 978-1-107-01296-7

Reference Text Book			
S.No	Author	Title	Publisher
1	Aditya P.Mathur	Foundations of Software Testing	2nd Edition, Pearson Education, 2013 ISBN: 978-8131794760

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M.C.A **Semester:IV**

Course Code: 22CA4E7 Course Name: Software Testing & Project Management

Time: 3 Hours **Max Marks: 70**

SECTION-A

Answer the following questions. (5×4=20Marks)

1. (a) Explain YK2 Failure. (CO2, L2)

(or)

(b) Explain Acceptance Testing (CO3, L2)

2. (a) Explain issues related to Acceptance Testing. (CO2, L1)

(or)

(b) Explain the Quality of Software Code. (CO4, L2)

3. (a) Summarize Do-Not-Care condition of Rule Count. (CO6, L2)

(or)

(b) Explain procedure to create Equivalence Classes. (CO3, L2)

4. (a) How do u create Program Slices. (CO4, L1)

(or)

(b) Write about Control Flow Testing. (CO4, L1)

5. (a) List Various Levels of Testing. (CO4, L4)

(or)

(b) List various issues related to Class Testing (CO4, L4)

SECTION-B

Answer the following questions.(5×10=50Marks)

6. (a) Explain Why, Who & What is Testing? (CO1, L2)

(or)

(c) Discuss (i) Unit Testing (ii) Integration Testing. (CO3, L2)

7. (a) Discuss significance of SRS Document. (CO4, L6)

(or)

(b) Build various Object Oriented Metrics used in Testing. (CO1, L6)

8. (a) Explain Cause Effect Graphing Techniques. (CO6, L5)

(or)

(b) Evaluate Boundary Value Analysis. (CO3, L5)

9. (a) Explain Data Flow Testing. (CO6, L5)

(or)

(b) Explain Mutation Testing. (CO2, L5)

10 (a) Explainvarious aspects of Object Oriented Testing. (CO1, L5)

(or)

(b) Explain the significance of Statebased Testing. (CO6, L5)