



G.PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY

(Accredited by NAAC with 'A' Grade of UGC Approved by AICTE, New Delhi & Permanently Affiliated to JNTUA, Ananthapuramu)

(Recognized by UGC under 2(f) & 12(B) & ISO 9001:2008 Certified Institution)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NAME OF THE SUBJECT: SOFTWARE TESTING METHODOLOGIES

SUBJECT CODE: 13A05605

YEAR/SEM: III B.Tech II SEM

NAME OF THE FACULTY: R.Sandeep Kumar

UNIT-5 PART-I STATES, STATE GRAPHS AND TRANSITION TESTING

1. The behavior of a finite state machine is invariant under all encodings. Justify?
2. Write testers comments about state graphs
3. What are the types of bugs that can cause state graphs?
4. What are the principles of state testing? Discuss advantages and disadvantages.
5. Write the design guidelines for building finite state machine into code.
6. What are the software implementation issues in state testing?
7. Explain about good state and bad state graphs.
8. Explain with an example how to convert specification into state-graph. Also discuss how contradictions can come out.
9. Write short notes on:
 - i. Transition Bugs
 - ii. Dead States
 - iii. State Bugs
 - iv. Encoding Bugs

UNIT-5 PART-II GRAPH MATRICES AND APPLICATION

1. How can the graph be represented in Matrix form?
2. Write a partition algorithm.
3. Discuss node reduction algorithm.
4. How can a node reduction optimization are done.
5. What are the matrix operations in tool building?
6. Discuss the algorithm for finding set of all paths

7. How can a relation matrix be represented and what are the properties of relations?
8. Explain cross-term reduction and node term reduction optimization.
9. Write about matrix powers and products.
10. Write about equivalence relation and partial ordering relation
11. What are the advantages and disadvantages of array representations?
12. Write about loops in matrix representation
13. What are graph matrices and their applications?
14. Discuss the linked list representation.