Code No.:CS833OE | R20 | H.T.No. | | | 8 | R | | | | | |

**CMR ENGINEERING COLLEGE: : HYDERABAD**
**UGC AUTONOMOUS**
**IV–B.TECH–II–Semester End Examinations (Advanced Supply) – June - 2025**
**SOFTWARE TESTING METHODOLOGIES**
**(ECE)**

**[Time: 3 Hours]** **[Max. Marks: 70]**

**Note:** This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A** **(20 Marks)**

| | | |
|---|---|---|
| 1. a) | List out differences between flow chart and control flow graph. | [2M] |
| b) | List and explain the reasons for testing. | [2M] |
| c) | What is transaction flow testing? | [2M] |
| d) | List the uses of domain testing. | [2M] |
| e) | State the use of regular expression in software testing. | [2M] |
| f) | What is mean by path expression? | [2M] |
| g) | Explain about Unit Testing and Integration Testing. | [2M] |
| h) | Explain about path selection in transaction-flow testing. | [2M] |
| i) | Distinguish between manual testing and automated testing. | [2M] |
| j) | Give examples for usage of node reduction algorithm. | [2M] |

**PART-B** **(50 Marks)**

| | | |
|---|---|---|
| 2. | List the elements of flow graph and explain each element with suitable diagram. | [10M] |
| | **OR** | |
| 3.a) | State and explain various path selection rules. | [5M] |
| b) | What are structural bugs? Explain. | [5M] |
| 4. | Explain how transaction flow occurs, illustrate with examples and add a note on inspections, reviews and walkthroughs in ensuring error free transactions. | [10M] |
| | **OR** | |
| 5.a) | Discuss about data flow model. | [5M] |
| b) | Define Domain testing? Explain about nice domain in detail. | [5M] |
| 6.a) | Explain about reduction procedure in path testing. | [5M] |
| b) | Write the specifications of logic based testing. | [5M] |
| | **OR** | |
| 7. | Give an account of usage of regular expression in flow anomaly detection. | [10M] |
| 8.a) | Explain good state graph with suitable example. | [5M] |
| b) | List out the objectives of State transition diagram. | [5M] |
| | **OR** | |
| 9. | Briefly demonstrate various software testing strategies. Highlight the reasons why we do test? | [10M] |
| 10.a) | Explain the properties of relations. | [5M] |
| b) | Discuss about matrix representation software and its building tools. | [5M] |
| | **OR** | |
| 11.a) | State the myths and facts about software testing. | [5M] |
| b) | How do you represent Graph matrices for testing process? Explain. | [5M] |

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