

**ODD SEMESTER EXAMINATION, 2023 – 24**  
**Ist Year M.Tech (CS&E)**  
**SOFTWARE TESTING**

**Duration: 3:00 hrs****Max Marks: 100**

*Note: - Attempt all questions. All Questions carry equal marks. In case of any ambiguity or missing data, the same may be assumed and state the assumption made in the answer.*

Q 1.	Answer any four parts of the following. a) Why is test planning a critical phase in the testing process? Explain. b) How is the return on investment (ROI) calculated for test automation efforts? c) What is the significance of defect bash elimination in system testing? d) What are the common organizational structures for testing teams within a software development organization? e) What role does testing play as an engineering activity in software development? f) How does state-based testing contribute to detecting complex system behaviors?	5x4=20
Q 2.	Answer any four parts of the following. a) What are the key requirements for selecting a suitable test automation tool? b) How does integration test planning differ from unit test planning? c) Explain the different classes or categories of defects in software testing? d) What is compatibility testing, and why is it important in software testing? e) How does the reporting of test results contribute to project decision-making? f) How do coverage metrics and control flow graphs contribute to assessing test coverage?	5x4=20
Q 3.	Answer any two parts of the following. a) How does system testing ensure that the entire software system functions as intended? Discuss the objectives and scope of system testing in the software development life cycle. b) How does compatibility testing ensure that software functions seamlessly across various platforms and environments? Discuss the strategies for designing effective compatibility tests? c) What is state-based testing, and how is it used in test case design?	10x2=20
Q 4.	Answer any two parts of the following. a) How does the Black Box approach contribute to test case design? Explain the concepts of Boundary Value Analysis and Equivalence Class Partitioning in Black Box testing? b) What is the Testing Maturity Model, and how does it measure the maturity of testing processes? c) What is the role of test automation in the software testing process? How does test automation complement manual testing efforts?	10x2=20
Q 5.	Answer any two parts of the following. a) What is scenario testing, and how does it contribute to the testing process? How do scenarios help in uncovering potential issues and interactions in a real-world environment? b) What are the key steps involved in the testing process? Discuss the iterative nature of testing as a continuous process c) What is acceptance testing, and why is it crucial for stakeholders?	10x2=20