

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Fifth Semester

Artificial Intelligence and Data Science

CCS366 – Software Testing and Automation

(Common to Computer Science and Engineering & Information Technology)

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Compare black-box testing with white-box testing.	UN	1	2
2.	Compare Error vs Defect vs Failure.	UN	1	2
3.	What is bug reporting? Why is it needed?	RE	2	2
4.	What is "Balanced Scorecard" approach to testing metrics, and how it aids in assessing the overall health and performance of a software testing process?	RE	2	2
5.	How path testing differs from data flow testing?	UN	3	2
6.	Identify any two tools or software commonly used for tracking test cases and their execution status.	RE	3	2
7.	Why is load testing important in the context of software testing?	RE	4	2
8.	What is a "user story" in agile, and how does it relate to testing?	RE	4	2
9.	State the differences between findElement() and findElements() in selenium.	UN	5	2
10.	What are test reports in the context of test automation?	RE	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

Q.No	Questions	BLT	CO	Marks
11.	a Elaborate the key phases and activities in the Software Testing Life Cycle (STLC) and their importance in ensuring a robust testing process.	UN	1	13
	Or			
	b Explain the concept and importance of integration testing in the context of the inventory management and order processing application.	UN	1	13
12.	a i Elucidate the resource requirements for a complex software testing project and explain how they influence the testing approach.	UN	2	8
	ii Explain the concept of "Mean Time to Failure" (MTTF) in software testing. How it is calculated?	UN	2	5

Or

- b Compare and contrast the roles and responsibilities of testers and developers in the bug reporting and resolution process. What are the challenges that can arise from misalignment in these roles, and how can they be mitigated? UN 2 13
13. a Explain in detail about boundary value testing and path testing with neat sketch. UN 3 13

Or

- b Elucidate the process of data flow testing and its role in identifying defects related to data handling. Present a real time example of data flow testing in a software system, including the identification of data flow paths and the creation of test cases. UN 3 13
14. a Compare and contrast load testing and volume testing. Provide real time examples for each. UN 4 13

Or

- b Explain the challenges associated with testing online help documentation. How do they differ from testing printed documentation? UN 4 13
15. a Explain about the different web drives with an example. EV 5 13

Or

- b Explain the role of test automation frameworks in automated software testing, and explain how they help structure and manage test suites, reduce redundancy, and enhance code maintainability. EV 5 13

PART – C (Marks 1*15 = 15)

Q.No	Questions	BLT	CO	Marks
16.	a You're a software project manager leading a project where quality is your prime focus. How would you utilize the V-Model to ensure early defect detection and effective testing?	AP	1	15
	Or			
	b A new feature has been added to a web application to handle asynchronous elements. Develop a selenium script that uses explicit waits to interact with these elements during testing. If the developed test script is failing to locate a specific web element consistently, analyze the potential reasons for this issue and suggest troubleshooting steps.	AP	5	15