Web and Mobile Application Testing and Deployment	L	P	C
	3		3

Discipline(s) / EAE / OAE	Semester	Group	Sub-group	Paper Code
EAE	7	FSD-EAE	FSD-EAE-5	FSD-439T

Marking Scheme:
1. Teachers Continuous Evaluation: 25 marks
2. Term end Theory Examinations: 75 marks

Instructions for paper setter:
1. There should be 9 questions in the term end examinations question paper.
2. The first (1st) question should be compulsory and cover the entire syllabus. This question should be objective, single line answers or short answer type question of total 15 marks.
3. Apart from question 1 which is compulsory, rest of the paper shall consist of 4 units as per the syllabus. Every unit shall have two questions covering the corresponding unit of the syllabus. However, the student shall be asked to attempt only one of the two questions in the unit. Individual questions may contain upto 5 sub-parts / sub-questions. Each Unit shall have a marks weightage of 15.
4. The questions are to be framed keeping in view the learning outcomes of the course / paper. The standard / level of the questions to be asked should be at the level of the prescribed textbook.
5. The requirement of (scientific) calculators / log-tables / data – tables may be specified if required.

Course Objectives :

1.	To introduce students to the concepts, methodologies, and best practices of web and mobile application testing and deployment.
2.	To familiarize students with performance testing, optimization, and security considerations in web and mobile application development.
3.	To equip students with the knowledge and skills to implement continuous integration, delivery, and deployment processes.
4.	To enhance students' ability to effectively test, deploy, and maintain web and mobile applications in various environments.

Course Outcomes (CO)

CO 1	Demonstrate a clear understanding of the importance of testing and deployment in the software development life cycle and apply functional testing techniques to ensure the quality and reliability of web and mobile applications.
CO 2	Perform performance testing, analyze results, and optimize web and mobile applications for better performance and Conduct security testing to identify vulnerabilities and implement necessary countermeasures.
CO 3	Implement continuous integration, delivery, and deployment pipelines for efficient software development and deployment and apply industry best practices for deploying web and mobile applications in different environments.
CO 4	Develop the ability to use appropriate tools and technologies for web and mobile application testing and deployment and collaborate effectively in teams to test, deploy, and maintain web and mobile applications.

Course Outcomes (CO) to Programme Outcomes (PO) mapping (scale 1: low, 2: Medium, 3: High)

	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO 1	3	3	3	2	2	3	-	3	3	2	2	3
CO 2	3	3	3	2	2	3	-	3	3	2	2	3
CO 3	3	3	3	2	2	3	-	3	3	2	2	3
CO 4	3	3	3	2	2	3	-	3	3	2	2	3

UNIT I

Introduction to Web and Mobile Application Testing and Deployment: Overview of web and mobile application testing and deployment, Importance of testing and deployment in software development life cycle,

Testing methodologies and strategies, Deployment models and techniques
Functional Testing of Web and Mobile Applications: Introduction to functional testing, Test case design techniques, Test automation frameworks and tools, Cross-browser and cross-platform testing, Mobile application testing

UNIT II

Performance Testing and Optimization: Performance testing concepts and objectives, Load testing and stress testing, Performance measurement and profiling tools, Performance optimization techniques, Mobile performance testing considerations.

UNIT III

Security Testing and Deployment Best Practices: Introduction to security testing, Security vulnerabilities and threats, Security testing techniques and tools, Secure deployment best practices, Compliance and regulatory considerations.

UNIT IV

Continuous Integration, Delivery, and Deployment: Introduction to continuous integration, delivery, and deployment, Continuous integration and build automation tools, Continuous delivery pipelines
Deployment strategies and techniques, Monitoring and error tracking in production

Textbooks:
1. "Software Testing: Principles and Practices" by Srinivasan Desikan and Gopalaswamy Ramesh
2. "Agile Testing: A Practical Guide for Testers and Agile Teams" by Lisa Crispin and Janet Gregory
3. "Software Testing": Yogesh Singh Cambridge University Press

Reference Books:
1. "Effective Software Testing: 50 Specific Ways to Improve Your Testing" by Elfriede Dustin, et al.
2. "Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation" by Jez Humble and David Farley
3. "Selenium WebDriver Recipes in Python: The problem-solving guide to Selenium WebDriver in Python" by Zed A. Shaw
4. "Hands-On Mobile App Testing: A Guide for Mobile Testers and Anyone Involved in the Mobile App Business" by Daniel Knott
5. "The Art of Application Performance Testing: Help for Programmers and Quality Assurance" by Ian Molyneaux
6. "Web Performance Tuning: Speeding Up the Web" by Patrick Killelea
7. "The Web Application Hacker's Handbook: Finding and Exploiting Security Flaws" by Dafydd Stuttard and Marcus Pinto
8. "OWASP Testing Guide" by The Open Web Application Security Project (OWASP)
9. "How to Break Software: A Practical Guide to Testing" by James A. Whittaker
10. "Performance Testing Guidance for Web Applications" by Microsoft Corporation
11. "Software Security: Building Security In" by Gary McGraw
12. "Continuous Integration: Improving Software Quality and Reducing Risk" by Paul M. Duvall