COURSE TITLE	**APPLICATION TESTING**
COURSE CODE	**05MB0305**
COURSE CREDITS	**2**

Objective:

1. Understand the core concepts, purpose, and methodologies of application testing.
2. Learn different levels and types of software testing and their importance in the software development life cycle.
3. Gain hands-on knowledge of writing and executing test cases manually and using automation tools.
4. Learn testing strategies for mobile, web, and cross-platform applications.
5. Understand bug life cycles, test reporting, and quality metrics to ensure reliable and efficient applications.

Course Outcomes: After completion of this course, student will be able to:

1. Explain the fundamentals, methodologies, and importance of application testing.
2. Differentiate between testing types, levels, and models used in software projects.
3. Create effective test plans, strategies, and test cases using industry practices.
4. Identify and manage bugs efficiently through test documentation and defect tracking.
5. Use popular automation testing tools for executing and reporting test results.
6. Apply specific testing techniques for mobile and cross-platform applications.

Pre-requisite of course: Basic Knowledge of Programming and Software Development Lifecycle

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	**Fundamentals of Application Testing** Introduction to Software/Application Testing, Importance of Testing in SDLC, Principles of Testing, Types of Testing: Manual vs. Automation, Levels of Testing: Unit, Integration, System, Acceptance, Testing Models: Waterfall, V-Model, Agile Testing, Test Planning: Test Strategy, Test Plan Components, Entry and Exit Criteria, Test Case Design Techniques: Black Box, White Box, Equivalence Partitioning, Boundary Value Analysis, Bug/Defect Life Cycle, Test Reporting and Documentation	15

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Contents : Unit	Topics	Contact Hours
2	**Testing Tools, Automation, and Mobile App Testing** Introduction to Automation Testing, Popular Tools: Selenium, Appium, JUnit/TestNG, Postman, Writing and Executing Automated Test Scripts, Regression Testing and Smoke/Sanity Testing, Performance Testing: JMeter Basics, Mobile Application Testing, Mobile Testing Types: Functional, UI, Compatibility, Performance, Testing Native, Web, and Hybrid Mobile Apps, Device and Emulator-Based Testing, Challenges in Mobile Testing - Introduction to CI/CD for Testing - Overview of Bug Tracking Tools (JIRA, Bugzilla)	15
Total Hours		**30**

Textbook :

1 Software Testing: Principles and Practices, Srinivasan Desikan, Gopalaswamy Ramesh, Pearson Education India, 2005

2 Foundations of Software Testing, Dorothy Graham, Erik van Veenendaal, Cengage Learning, 2019

References:

1 Software Testing Techniques, Software Testing Techniques, Boris Beizer, Van Nostrand Reinhold Company, 1990

2 Full Stack Testing: A Practical Guide for Delivering High Quality Software, Full Stack Testing: A Practical Guide for Delivering High Quality Software, Gayathri Mohan, O'Reilly Media, Inc., 2022

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking / Creative**
10.00	20.00	25.00	25.00	10.00	10.00

Instructional Method:

1 PPT, Board work

Supplementary Resources:

1 https://www.softwaretestinghelp.com

2 https://www.guru99.com/software-testing.html

3 https://www.browserstack.com/guide/mobile-application-testing

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