GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATIONS

Programme	Master of Computer Applications	**Branch/Spec.**	Computer Application
Semester	III	**Version**	1.0.0.0
Effective from Academic Year	2023-24	**Effective for the batch Admitted in**	June 2022
Subject Code	P13A5MTA	**Subject Name**	Mobile Testing & Automation

Teaching scheme						**Examination scheme (Marks)**			
(Per week)	**Lecture (DT)**		**Practical (Lab.)**		**Total**		**CE**	**SEE**	**Total**
	L	TU	P	TW					
Credit	2	0	2	0	4	Theory	40	60	100
Hours	2	0	4	0	6	Practical	20	30	50

Objective:

- Students will learn about Mobile testing automation tools, techniques and methods.

Pre-requisites:

- One should have basic knowledge of Fundamental of Software Testing.

Course Outcomes :

- **1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High); "-" = No Correlation**

Name of CO	**Description**
CO1	Differentiate mobile platforms, device types, and testing environments with measurable accuracy.
CO2	Apply and evaluate mobile testing techniques using defined performance and usability metrics.
CO3	Design and execute automated test cases in Appium with measurable error detection success.
CO4	Utilize UiAutomatorViewer and ADB to identify UI elements and configure devices with measurable proficiency.
	Mapping of CO and PO

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	1	1	-	-	-	-
CO2	2	3	2	2	-	-	1	-
CO3	1	2	3	3	2	1	1	-
CO4	2	1	2	3	1	-	-	2

Content:

Unit	**SECTION-I**	Hrs
1	**Mobile Testing:** Overview, Platforms, Device Types, Native Vs Hybrid Vs Mobile Web, Device Vs Application, Emulator, Simulator, Real Testing Device, Key Difference between Emulator and Simulator, Mobile Testing using UI, Planning & Tools, Hardware	6

	Perspective, Frameworks Overview, Android Frameworks, IOS Frameworks.	
2	**Mobile Testing Application:** Functional Testing, Performance Testing, Stress Testing, Security Testing, Usability Testing, Compatibility Testing, Laboratory Testing, Power Consumption Testing, Interrupt Testing, Recoverability Testing, Installation Testing, Uninstallation Testing, Updates Testing, Certification Testing, Advantages of Real device and Emulator/Simulator based testing, Disadvantages of Real device and Emulator/Simulators based testing**.**	9
SECTION-II		
3	**APPIUM:** How APPIUM Works? Prerequisite to use APPIUM, Install APPIUM Desktop, APPIUM Inspector, Attach Android Emulator to APPIUM, APPIUM Test Case for Native Android App (Calculator), Limitations using APPIUM, Common Encountered Errors and Troubleshooting Steps in APPIUM.	7
4	**UiAutomator:** What is UiAutomatorViewer? Download & Install UiAutomator, use UiAutomatorViewer, find objects in my application, identify elements for automation, Error one might encounter while using UiAutomatorViewer. What is Android Debug Bridge (ADB)? USB debugging and ADB Configuration, How to Connect to an Emulator, How to Connect Android Device with ADB, How to Configure ADB for Wi-Fi Support.	8

Practical Content:

List of programs specified by the subject teacher based on above mentioned topics.

Text Books:

1	Effective Methods of Software Testing (3rd Edition) - By William E, Software Perry Wiley, India

Reference Books:

1	Software Testing (A Practical Approach) Rajiv Chopra, Mercury Learning & Information Publisher Illustrated edition 2018

MOOC/Certification Courses:

1	https://www.guru99.com/software-testing.html
2	https://www.tutorialspoint.com/mobile_testing/mobile_testing_overview.htm

Question Paper Scheme:

University Examination Duration: 3 Hours

Note for Examiner: -

(I) Questions 1 and 4 are compulsory with no options.

(II) Internal options should be given in questions 2, 3, 5 and 6.

SECTION – I

Q.1 –8 Marks

Q.2 –11 Marks

Q.3 –11 Marks

SECTION - II

Q.4 –8 Marks

Q.5 –11 Marks

Q.6 –11 Marks