SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Master of Computer Applications

MCA Semester III

Subject Name: Mobile App Development With Web Integration **Subject Code:** MTCA16304

Type of course: Project

Prerequisite: NA

Rationale: The technologies listed are the latest trends in the IT industry for developing the web applications as well as mobile applications. Working on any of these technologies will give students an advantage as they will be better equipped for the jobs.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
0	0	4	2	0	0	0	60	40	100

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Suggested Frameworks:

- Mobile App Development With Web Integration
  - Mobile App: Android with Kotlin/iOS with Swift/Flutter/ReactNative
  - Web: Web Services in PHP, Web Services in .NET, REST API, Web Sockets

Guidelines:

- It is recommended that the team should be of 2-3 students.
- The project should be free from plagiarism of any kind.

- Project must have proper documentation.
- It is mandatory that the mobile application should be developed. Mobile app can be native app or developed in any cross platform technologies. It should integrate with a web module developed using web services in PHP/.NET or REST API or web sockets.
- This may not be a live project.
- Coding standards should be followed meticulously. At the minimum, the code should be self documented, modular, and should use the meaningful naming convention.
- It is advisable that object-oriented methodology is used with reusability of classes and code, etc.
- Student may be asked to write the code related to the project during examination.
- It is mandatory to include self-declaration in support of non-plagiarism project and project report.

Guidelines for Documentation:

- The project has to be well-documented in the form of a Project Report comprising of the relevant description of the project including design, data dictionary, source code, screenshots, etc.
- **Format:** The student must submit hard copy of the Project report.
  - Print out should be taken on both the side of page with single line spacing.
  - Use Times New Roman of size 10 for normal text.
  - A typical Table of content will be as follows.
  - Suggested table of content is given below

TABLE OF CONTENTS

1. Introduction
   - 1.1. Proposed system and its Objectives
   - 1.2. Core Components
   - 1.3. Minimum and Maximum Software/Hardware requirements
   - 1.4. Advantages and Limitations of the Proposed System
2. Requirement Determination & Analysis
   - 2.1. Requirement Determination
   - 2.2. Targeted Users
3. System Design
   - 3.1. Use Case Diagram
   - 3.2. Class Diagram
   - 3.3. Interaction Diagram
   - 3.4. Activity Diagram
   - 3.5. Data Dictionary
4. Agile Documentation

4.1. Agile Project Charter
4.2. Agile Roadmap / Schedule
4.3. Agile Project Plan
4.4. Agile User Story (Minimum 3 Tasks)
4.5. Agile Release Plan
4.6. Agile Sprint Backlog
4.7. Agile Test Plan
4.8. Earned-value and burn charts
5. Proposed Enhancements
6. Conclusion
7. Bibliography

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
NA	NA	NA	NA	NA	NA

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Sr. no.	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Android Application Development: with Kitkat Support Black Book	Pradeep Kothari	Dreamtech Press ISBN: 978-93-5119-409-5	2017	

Course Outcomes:

Sr. No.	CO Statement After learning this subject, students will be able to	Marks % weightage
CO-1	Demonstrate a sound technical knowledge of their selected project topic	20%
CO-2	Undertake problem identification, formulation and solution.	20%
CO-3	Conduct a survey of several available literature in the preferred open source technology.	20%
CO-4	Compare and contrast the several existing solutions.	20%
CO-5	Demonstrate an ability to work in teams.	10%
CO-6	To report and present the findings of the study conducted in the preferred domain.	10%

Mapping with POs:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO-1	1	3	3	3	3	0	1	2	1	2	3	3			
CO-2	1	3	3	3	3	1	1	2	1	2	3	3			
CO-3	0	3	3	3	3	1	1	2	2	2	3	3			
CO-4	2	3	3	3	3	0	1	2	2	2	3	3			
CO-5	0	1	3	3	3	1	1	2	3	2	3	3			
CO-6	1	3	3	3	3	0	1	2	2	2	3	3			
Rationale*															

Rationale*: Explaining why it is matching this particular program outcome

List of Open learning website:

https://developer.android.com/
https://developer.apple.com/
https://reactnative.dev/
https://flutter.dev/
https://restfulapi.net/

List of Open Source Software:

- Android Studio
- VS Code with appropriate add-ons
- Intellij
- Deco