

## Mobile Technologies

Semester II

Subject Code: MS21902

### Learning Outcomes:

#### Learner will able to,

- Apply the fundamental design paradigms and technologies to mobile computing applications.
- Develop consumer and enterprise mobile applications using representative mobile devices and platforms using modern development methodologies.
- Design effective mobile interfaces using human computer interaction principles.
- Appraise the quality and performance of mobile applications.
- Synthesize new knowledge in the area of mobile computing by using appropriate research methodologies and techniques.
- gain knowledge of installing Android Studio and Cross Platform Integrated Development Environment.
- use the techniques, skills, and modern technology.
- develop high levels of technical competence in the field of mobile technology.



## Mobile Technologies


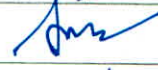
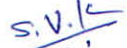

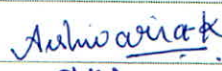

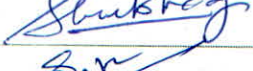

<b>Semester I</b>	<b>Subject Code: MS21902</b>	<b>Lectures: 60</b>
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### Objectives:

The syllabus aims in equipping students with,


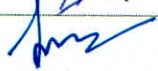
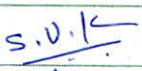
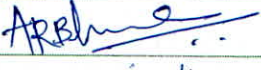
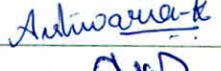

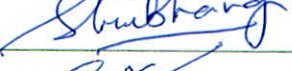

- understanding the basic wireless communication systems
- an exposure for students to various aspects of mobile computing
- Understanding the fundamentals of Android OS, PhoneGap and IOS
- learning the Android programming and PhoneGap programming

<b>Unit 1: Introduction to Mobile computing and Android</b>	<b>10</b>
<b>Chapter 1 : Introduction to Mobile Computing</b> <ul style="list-style-type: none"> <li>• Introduction and need for Mobile computing</li> <li>• Mobility and portability</li> <li>• Mobile and Wireless devices</li> <li>• Mobile Applications</li> </ul> Mobile Operating system – IOS, BlackBerry, Windows phone, Plam OS, Symbian OS, PhoneGap	<b>3</b>
<b>Chapter 2 : Android Fundamentals</b> <ul style="list-style-type: none"> <li>• Introduction to Android - Overview and evolution of Android , Features of Android, Android architecture</li> <li>• Components of an Android Application, Manifest file</li> <li>• Android Activity</li> <li>• Service Lifecycle</li> </ul>	<b>7</b>

Sr. No.	BOS member	Subject Expert	Sign
1	Prof. Seema Chouhan	Subject Expert	
2	Prof. M. B. Lonare	Subject Expert	
3	Prof. Shilpa Kadilkar	Subject Expert	
4	Mr. Anuradha Bhamre	Industry Expert	
5	Ms. Aaishwarya K.	Alumni	
6	Prof. Ashwini Kulkarni	Chairman	
7	Prof. Shubhangi Jagtap	Internal Faculty	
8	Prof. Swati Pulate	Internal Faculty	


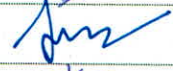


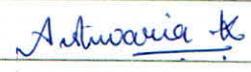
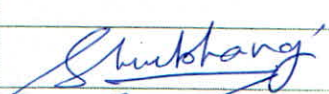



<b>Unit 2: Android Programming</b>	<b>18</b>
<b>Chapter 3 : Android UI Design</b> <ul style="list-style-type: none"> <li>• Basic UI Designing (Form widgets ,Text Fields , Layouts ,[dip, dp, sip, sp] versus px)</li> <li>• Intent(in detail)</li> <li>• All components (e.g Button , Slider, Image view, Toast) Event Handling</li> <li>• Adapters and Widgets</li> <li>• Menu</li> </ul>	<b>6</b>
<b>Chapter 4 : Android Thread and Notification</b> <ul style="list-style-type: none"> <li>• Threads running on UI thread (runOnUiThread)</li> <li>• Worker thread</li> <li>• Handlers &amp; Runnable</li> <li>• AsyncTask (in detail)</li> <li>• Broadcast Receivers</li> <li>• Services and notifications</li> <li>• Toast</li> <li>• Alarms</li> </ul>	<b>7</b>
<b>Chapter 5 : Advanced Android Programming</b> <ul style="list-style-type: none"> <li>• Content Providers – SQLite Programming</li> <li>• JSON Parsing</li> <li>• Accessing Phone Service(Call, SMS, MMS)</li> <li>• Location based services</li> </ul>	<b>5</b>

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<b>Unit 3: PhoneGap Programming and IOS Fundamentals</b>	<b>20</b>
<b>Chapter 6 : PhoneGap Programming</b> <ul style="list-style-type: none"> <li>• Why Use PhoneGap?</li> <li>• How PhoneGap Works</li> <li>• Designing for the Container</li> <li>• Writing PhoneGap Applications</li> <li>• Building PhoneGap Applications</li> <li>• PhoneGap Limitations</li> <li>• PhoneGap Plug-Ins</li> <li>• Hello, World! Program</li> <li>• PhoneGap APIs –1</li> </ul> <b>Accelerometer:</b> <ul style="list-style-type: none"> <li>• Querying Device Orientation</li> <li>• Watching a Device's Orientation</li> <li>• Creating a Contact, Searching for Contacts, Cloning Contacts, Removing Contacts.</li> </ul>	<b>12</b>
<b>Chapter 7 : IOS Fundamentals</b> <ul style="list-style-type: none"> <li>• <b>Introduction</b> - What is IOS ,IOS Architecture, Frameworks, Application Life Cycle, Features</li> <li>• <b>Swift</b> - Introduction to Swift ,General Concepts of Swift</li> <li>• <b>Xcode</b> - Introduction to Xcode , Navigator, Editor Utility, Tools, Console, Document, Simulator, Instruments</li> <li>• <b>Startup</b> - Application Templates, Introduction to Storyboard , Hello World Application, How 'Hello World' Working, Debugging Database, Plist, Preference, Sqlite Web Service, Restful Web Service (JSON &amp; XML)</li> </ul>	<b>8</b>

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\*Contact hours=12

