

## MOBILE APPLICATIONS AND SERVICES

<b>III Semester: CSE</b>								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
<b>BCSB22</b>	<b>Elective</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CIA</b>	<b>SEE</b>	<b>Total</b>
		3	0	0	3	30	70	100
<b>Contact Classes: 45</b>		<b>Total Tutorials: Nil</b>		<b>Total Practical Classes: Nil</b>		<b>Total Classes: 45</b>		
<b>I. COURSE OVERVIEW:</b>								
<p>In this course on mobile application and services, students learn a range of concepts, skills, and practical knowledge related to developing mobile applications and leveraging mobile services. This course also include mobile computing -more on UIs, network and the web: state machine, platforms and additional issues, security and hacking.</p>								
<b>II. OBJECTIVES:</b>								
<b>The students will try to learn:</b>								
<ol style="list-style-type: none"> <li>I. The three main mobile platforms and their ecosystems, namely Android, iOS, and Phone Gap / Web OS and designing and develop mobile applications using a chosen application development framework</li> <li>II. The emerging technologies and tools used to design and implement.</li> <li>III. The techniques for deploying and testing mobile applications, and for enhancing their performance and scalability account of communications via network by wireless connectivity.</li> <li>IV. How to prepare mobile application for multimedia and learn about additional issue like security, hacking etc..</li> </ol>								
<b>III. COURSE OUTCOMES:</b>								
<b>After successful completion of the course, students should be able to:</b>								
CO 1	Select suitable software tools and APIs for the development of a particular mobile application.						Remember	
CO 2	Use Intents to dial a number or to send SMS Broadcast Receivers.						Apply	
CO 3	Create a file and reading data from files using Persistent Storage.						Create	
CO 4	Use a content provider for inserting, deleting, retrieving and updating data using SQLite.						Apply	
CO 5	Choose an appropriate application development to design, write and test small interactive programs for mobile devices.						Remember	
<b>IV. SYLLABUS</b>								
<b>UNIT-I</b>	<b>INTRODUCTION TO MOBILE COMPUTING</b>						<b>Classes: 09</b>	
<p>Introduction: Introduction to Mobile Computing, Introduction to Android Development Environment, Factors in Developing Mobile Applications, Mobile Software Engineering, Frameworks and Tools, Generic UI Development Android User.</p>								
<b>UNIT-II</b>	<b>MOBILE COMPUTING -MORE ON UIs</b>						<b>Classes: 09</b>	

More on UIs: VUIs and Mobile Apps, Text-to-Speech Techniques, Designing the Right UI, Multichannel and Multimodal UIs, . Storing and Retrieving Data, Synchronization and Replication of Mobile Data, Getting the Model Right, Android Storing and Retrieving Data, Working with a Content Provider.

<b>UNIT-III</b>	<b>NETWORK AND THE WEB:STATE MACHINE</b>	<b>Classes: 09</b>
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Communications via Network and the Web: State Machine, Correct Communications Model, Android Networking and Web, Telephony Deciding Scope of an App, Wireless Connectivity and Mobile Apps, Android Telephony Notifications and Alarms: Performance, Performance and Memory Management, Android Notifications and Alarms, Graphics, Performance and Multithreading, Graphics and UI Performance, Android Graphics

<b>UNIT-IV</b>	<b>PUTTING IT ALL TOGETHER AND MULTIMEDIA</b>	<b>Classes: 09</b>
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Putting It All Together : Packaging and Deploying, Performance Best Practices, Android Field Service App, Location Mobility and Location Based Services Android

Multimedia: Mobile Agents and Peer-to-Peer Architecture, Android Multimedia

<b>UNIT-V</b>	<b>PLATFORMS AND ADDITIONAL ISSUES ,SECURITY AND HACKING</b>	<b>Classes: 09</b>
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Platforms and Additional Issues: Development Process, Architecture, Design, Technology Selection, Mobile App Development Hurdles, Testing, Security and Hacking , Active Transactions, More on Security, Hacking Android.

**Text Books:**

- 1 Wei-Meng Lee, "Beginning Android™ 4 Application Development", 2012 by John Wiley & Sons

**Reference Books:**

1. <http://www.sctie.iitkgp.ernet.in/>
2. <http://www.rkala.in/softcomputingvideos.php>
3. <http://www.sharbani.org/home2/soft-computing-1>
4. [http://www.myreaders.info/html/soft\\_computing.html](http://www.myreaders.info/html/soft_computing.html)

**E-Text Books:**

1. <https://www.books.google.co.in/books?id=bVbj9nhvHd4C>
2. <https://www.books.google.co.in/books?id=GrZHPgAACAAJ&dq=1.+J.S.R.Jang,+C.T.Sun+and+E.Mizutani,+Neuro,+Fuzzy+and+Soft+Computing,+PHI,+2004,Pearson+Education.>