

Sant Gadge Baba Amravati University, Amravati

Part A

Faculty: Science & Technology

Programme: Bachelor of Computer Application (BCA)

Part B

Syllabus Prescribed for 3 Year BCA UG Programme

Programme: Bachelor of Computer Application (BCA)

Semester V

Code of the Course/Subject	Title of the Course/Subject	(Total Number of Periods)
5BCA2	Android Application Development	60 Periods

Cos

1. Understanding of an open source and Linux-based **Operating System** for mobile devices such as smart phones and tablet computers.
2. Knowledge and ability to implement application development for mobile devices
3. Getting programming experience of Android application development on either of the following operating systems –
 - I. Microsoft Windows XP or later version.
 - II. Mac OS X 10.5.8 or later version with Intel chip.
 - III. Linux including GNU C Library 2.7 or later.
 - IV. Acquire the Knowledge of Application Components (the essential building blocks of an Android application) for rapid application development
 - V. Getting the experience of Sqlite Database in Application development.

Unit	Content
Unit I	Introduction to ANDROID : What is Android? Features of Android , Android Applications, Android:Environment Setup, Architecture, Applications Component, Hello World Example, Organizing & Accessing The Resources, Activities, Services, Broadcast Receivers, Content Providers, Fragments, Intents & Filters (12 Periods)
Unit II	Android – UI Layouts, UI Controls, Event Handling, Styles & Themes, Custom Components, Drag & Drop, Notifications, Location-Based Services, Sending Email, Sending SMS, Phone Calls, Publishing Android Application, Alert Dialog (11 Periods)
Unit III	Android – Animations, Audio Capture, Audio Manager, Autocomplete, Bluetooth, Camera, Clipboard, Custom Fonts, Data Backup, Developer Tools, Emulator, Facebook Integration, Gestures, Google Maps, Image Effects, Image Switcher, Internal Storage, Jetplayer (11 Periods)
Unit IV	Android – Loading Spinner, Localization, Login Screen, Media Player, Multitouch, Navigation, Network Connection, PHP/MySQL, Progress Circle, Progress Bar Using Progress Dialog, Push Notification (11 Periods)
Unit V	Android – SDK Manager, Sensors, Session Management, Sqlite Database, Support Library, Testing, UI Design, UI Patterns, UI Testing, Android – Webview (11 Periods)
*SEM: Assignment, Class test, Seminar, Study tour, Industrial visit, Field work, Group discussion or any other innovative practice/activity	

COs:	
<ol style="list-style-type: none">1. Understanding of an open source and Linux-based Operating System for mobile devices such as smart phones and tablet computers.2. Knowledge and ability to implement application development for mobile devices3. Getting programming experience of Android application development on either of the following operating systems – Microsoft Windows XP or later version. Mac OS X 10.5.8 or later version with Intel chip. Linux including GNU C Library 2.7 or later.4. Acquire the Knowledge of Application Components (the essential building blocks of an Android application) for rapid application development5. Getting the experience of Sqlite Database in Application development.	
**Activities	<ol style="list-style-type: none">1. Android:Environment Setup2. Implementation of Android feature in real time application.3. Demonstration of Android – UI Layouts, UIControls & Event Handling4. Execution of Android – Animations, Audio Capture, Audio Manager, Camera5. Implantation of Sqlite Database <p style="text-align: right;">(4 Periods)</p>

Course Material/Learning Resources

Text books:

1. Android Programming for Beginners - Second Edition: Build in-depth, full-featured Android 9 Pie apps starting from zero programming experience, 2nd Edition by John Horton

Reference Books:

1. Android Application Development, Black Book, Dreamtech Press
2. Android Programming: The Big Nerd Ranch Guide, 4th Edition by Bill Phillips, Chris Stewart, Kristin Marsicano, Brian Gardner(O'REILLY)

Weblink to Equivalent MOOC on SWAYAM if relevant:

1. https://onlinecourses.swayam2.ac.in/nou21_ge41/preview
2. https://onlinecourses.swayam2.ac.in/aic20_sp02/preview

Weblink to Equivalent Virtual Lab if relevant:

1. <https://www.youtube.com/watch?v=Xvdn8c7qv0o>

Any pertinent media (recorded lectures, YouTube, etc.) if relevant:

2. <https://www.youtube.com/watch?v=fis26HvvDII>
3. <https://www.youtube.com/watch?v=p0ItPcqqXog>
4. <https://www.youtube.com/watch?v=kMI2jy-WIGM>

IMPORTANT NOTES:

Note: Please use Times New Roman 10 point font

Sant Gadge Baba Amravati University, Amravati
Format and Template for Courses (Theory) of UG/PG Programmes

(After filling the Table, select the Table—Table Properties- Borders and Shading—None, so that all Border Lines will get vanished)

***SEM needs to be designed only for Courses in all UG Programmes**

****Activities/Assignments/tasks/projects (individual/group)**

Some Tips to extract and mine skill components from the Course (for ready reference)

What do you expect Students to LEARN or EXPERIENCE in the SEM/SEC?

Identify Employability Skills for SEM/SEC		
• Interpersonal Skills	<input type="checkbox"/> Information Use	<input type="checkbox"/> Technology Use
• Personal Qualities	<input type="checkbox"/> Communication Skills	<input type="checkbox"/> Applied Academic Skills
• Resource Management	<input type="checkbox"/> Systems Thinking	<input type="checkbox"/> Critical Thinking Skills

Employability Skills Categories

Effective Relationships	Interpersonal Skills Personal Qualities
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Workplace Skills	Resource Management Information Use Communication Skills Systems Thinking Technology Use
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Applied Knowledge	Applied Academic Skills Critical Thinking Skills
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