

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

Course Objectives (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, Components, 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 e-mail, 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: 1. Ability to use an open source and Linux-based Operating System for mobile devices such as smart phones and tablet computers 2. Ability to implement application development for mobile devices 3. Programming experience of Android application development 4. Getting the experience of Sqlite Database in Application development.	
**Activities	1. Android: Environment Setup 2. Implementation of Android feature in real time application 3. Demonstration of Android – UI Layouts, UI Controls & Event Handling 4. Execution of Android – Animations, Audio Capture, Audio Manager, Camera 5. Implantation of Sqlite Database (4 Periods)

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)

Weblinks 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:

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