ADVANCED MOBILE APPLICATION DEVELOPMENT

Course Code	**20CS6721**	**Year**	IV	**Semester**	I
Course Category	Honors	**Branch**	**CSE**	**Course Type**	Integrated
Credits	4	**L-T-P**	3-0-2	**Prerequisites**	Programming with Java
Continuous Internal Evaluation:	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		
CO1	Understand fundamental concepts of mobile application development	L2
CO2	Apply the concepts of user interface to develop front end application	L3
CO3	Apply the concepts of various preferences and leveraging content providers to develop mobile application	L3
CO4	Apply testing strategies, tools, and frameworks to identify and resolve issues in applications and publish app on Google Play Store.	L3

CO-PO Mapping

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations														
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1													√	
CO2						√	√						√	
CO3						√	√		√	√			√	
CO4						√	√						√	

Syllabus		
Unit No.	**Contents**	**Mapped CO**
I	An Overview of the Android Platform: A Brief History of Mobile Software Development, The Android Platform, Building Your First Android Application-Creating and Configuring a New Android Project, Core Files and Directories of the Android Application, Creating an AVD for Your Project, Android Application Basics-Understanding the Anatomy of an Android Application -Mastering Important Android Terminology, Performing Application Tasks with Activities-The Lifecycle of an Android Activity, Managing Activity Transitions with Intents, Defining Your Application Using the Android Manifest File - Configuring Android Applications Using the Android Manifest File.	CO1
II	Managing Application Resources-What Are Resources?, Working with Different Types of Resources, Working with Layouts, Exploring User Interface Building Blocks-Introducing Android Views and Layouts, Displaying Text to Users with TextView, Retrieving Data from Users with Text Fields, Giving Users Choices Using Spinner Controls, Allowing Simple User Selections with Buttons and Switches, Retrieving Dates, Times, and Numbers from Users with Pickers, Using Indicators to Display Progress and Activity to Users, Adjusting Progress with Seek Bars	CO1, CO2

III	Designing with Layouts-Creating User Interfaces in Android, Organizing Your User Interface, Using Built-in Layout Classes, Partitioning the User Interface with Fragments-Understanding Fragments, Using the Android Support Package, Displaying Dialogs-Choosing Your Dialog Implementation, Exploring the Different Types of Dialogs, Working with Dialogs and Dialog Fragments	CO1, CO2
IV	Android Application Design Essentials: Using Android Preferences-Working with Application Preferences, Finding Preferences Data on the Android File System, Creating Manageable User Preferences, Working with Files and Directories-Working with Application Data on a Device, Leveraging Content Providers-Exploring Android‘s Content Providers.	CO1, CO3
V	Testing Android Applications-Best Practices in Testing Mobile Applications, Android Application Testing Essentials, Publishing Your Android Application-Choosing the Right Distribution Model, Packaging Your Application for Publication, Publishing to Google Play	CO1, CO4

Learning Resources

Text Book

1. Introduction to Android Application Development by Joseph Annuzzi Jr., Lauren Darcey, and Shane Conde, 4th edition, Addison-Wesley.

References

1. Android Database Best Practices (Android Deep Dive) by Adam Stroud,2016, Addison Wesley
2. Android Programming: Pushing the Limits, by Erik Hellman, 1st edition, 2013, Wiley

e-Resources and other Digital Material

1. **Android Developer Fundamentals** (https://google-developer-training.github.io/android-developer-fundamentals-course-concepts/en/android-developer-fundamentals-course-concepts-en.pdf)
2. **Android Developer Advanced** (https://google-developer-training.github.io/android-developer-advanced-course-concepts/android-developer-advanced-course-concepts.pdf)

Experiments:

List of Experiments		
Exp. No	**Contents**	**Mapped CO's**
I	Develop an android application to demonstrate Activity Life Cycle	CO1, CO2, CO3, CO4, CO5
II	Demonstrate how to allow other apps to start your app activity using Intent and Intent Filters	CO1, CO2, CO3, CO4, CO5
III	Develop Feedback Activity (UI Screen) using different Widgets, Progress and Seek Bars	CO1, CO2, CO3, CO4, CO5
IV	Develop an android application to demonstrate Fragments	CO1, CO2, CO3, CO4, CO5
V	Develop an android application using shared preferences	CO1, CO2, CO3, CO4, CO5
VI	Develop an android application to demonstrate Content Provider	CO1, CO2, CO3, CO4, CO5
VII	Demonstrate how to test Android Application	CO1, CO2, CO3, CO4, CO5

Learning Resources

Text Book

1. Android Programming - Pushing the Limits by E Hellman, John Wiley & Sons Inc; 1st edition (20 December 2013).
2. Android Programming for Beginners - Second Edition: Build in-depth, full-featured Android 9 Pie apps starting from zero programming experience by John Horton, 2nd Edition, Packt

References

1. Head First Android Development 2e: A Brain-Friendly Guide by Dawn Griffiths, David Griffiths , 2017, O′Reilly; 2nd edition
2. The Busy Coder's Guide to Advanced Android Development by MR Mark L. Murphy, 2011, CommonsWare, LLC
3. Professional Android by Reto Meier, Ian Lake, 2018, Wrox; 4th edition.

e-Resources and other Digital Material

1. **https://codedost.com/get-started-android/android-programs/**
2. https://techvidvan.com/tutorials/learn-android/
3. https://o7planning.org/11007/android