Course Title : Android Application Development (Technical Skills-I)			
Course Code: P18HU59	**Semester : 5**	**L:T:P - 0:2:0**	**Credits: 1**
Contact Period : Lecture :26 Hr, Exam: 3Hr		**Weightage :CIE:50% SEE:50%**	

Course Content

Unit-1

Preliminary considerations: Why you might be here? Cost of development, Importance of mobile strategies, Why is mobile development difficult? Mobile development today, Mobile Myths, Third party Frameworks.

Diving into mobile: app or website? Mobile Web Presence, Mobile Applications, Marketing.

Creating consumable web services for mobile devices: What Is a Web Service? Web Services Languages (Formats), Creating an Example Web Service, Debugging Web Services.

6 Hours

Unit-2

Getting Started with Android Programming : What is Android?, Features of Android, Architecture of Android, Android Devices in the Market, The Android Developer Community, Creating Your First Android Application, Anatomy of an Android Application. **Activities, Fragments, And Intents :** Understanding Activities, Linking Activities Using Intents, Fragments, Calling Built-In Applications Using Intents, Displaying Notifications.

5 Hours

Unit-3

Getting To Know The Android User Interface : Understanding the Components of a Screen**:** Views and ViewGroups, LinearLayout, AbsoluteLayout, TableLayout, Relative-Layout, FrameLayou, ScrollView. Adapting to Display Orientation **:** Anchoring Views, Resizing and Repositioning. Managing Changes to Screen Orientation : Persisting State Information during Changes in Configuration, Detecting Orientation Changes, **Controlling the Orientation of the Activity.** Utilizing the Action Bar: Adding Action Items to the Action Bar, Customizing the Action Items and Application Icon. Creating the User Interface Programmatically , Listening for UI Notifications : Overriding Methods Defined in an Activity, Registering Events for Views.

5 Hours

Unit-4

Designing Your User Interface With Views : Using Basic Views : TextView View, Button, ImageButton, EditText, CheckBox, ToggleButton, RadioButton, and RadioGroup Views,ProgressBar View, AutoComplete TextView View. **Using Picker Views:** TimePicker View, DatePicker View, Using List Views to Display Long Lists: ListView View, Using the Spinner View, Understanding Specialized Fragments : Using a ListFragmen, Using a DialogFragment, Using a PreferenceFragment.

Displaying Pictures And Menus With Views: Using Image Views to Display Pictures: Gallery and ImageView Views, ImageSwitcher, GridView, **Using Menus with Views:** Creating the Helper Methods, Options Menu, Context Menu.

5 Hours

Unit- V

Data Persistence : Saving and Loading User Preferences: Accessing Preferences Using an Activity, Programmatically Retrieving and Modifying the Preferences Values, Changing the Default Name of the Preferences File, **Persisting Data to Files:** Saving to Internal Storage,

Saving to External Storage (SD Card), Choosing the Best Storage Option, Using Static Resources, **Creating and Using Databases:** Creating the DBAdapter Helper Class, Using the Database rogrammatically, Pre-Creating the Database.
Messaging : SMS Messaging: Sending SMS Messages Programmatically, Getting Feedback after Sending a Message, Sending SMS Messages Using Intent, Receiving SMS Messages, Caveats and Warnings, Sending E-mail.

5 Hours

Text Books:

1. Wei-Meng Lee, Beginning Android™ 4 Application Development, John Wiley & Sons, Inc. 1st edition.
2. Jeff McWherter, Scott Gowell, Professional Mobile Application Development,WROX, 2012

Reference Books:

1. Neuburg, Programming iOS8, 5th edition, Shroff/O'Reilly Publications, 2014.
2. Chryssa, Android Programming Cookbook, 2016.

Course Outcomes After learning all the units of the course, the student is able to :

1. Develop simple consumable web services for mobile devices
2. Apply Java programming concepts to Android application development.
3. Design and Develop Android application by setting up Android development environment
4. Implement adaptive and responsive graphical user interfaces that work across a wide range of devices.
5. Create mobile application to persist data in Android applications.

Course Articulation Matrix (CAM)														
Course Outcomes	Program Outcomes (PO's)												PSO's	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO 1	2		1											
CO 2	2		1											
CO 3	2	1	2											
CO 4	2	1	3											
CO 5	2	1	3										1	