COURSE TITLE   :   **SMART DEVICE PROGRAMMING**
COURSE CODE   :   **6133**
COURSE CATEGORY :   **A**
PERIODS/WEEK   :   **5**
PERIODS/SEMESTER :   **75**
CREDITS   :   **4**

TIME SCHEDULE

MODULE	TOPICS	PERIODS
1	Android and Development Environments	**20**
2	Simple Android Application Development	**19**
3	UI Design and Data storage	**18**
4	HTML 5.0 and JavaScript	**18**

Course General Outcomes:

Sl.	G.O	On completion of this course the student will be able :
1	1	Describe Different mobile technologies
2	1	Develop Simple Android application
3	1	Describe android UI designing and Data Storage
	2	Applications with Data Storage and retrieval
	3	Develop applications and publish
4	1	Develop applications using HTML 5 and JavaScript

Specific Outcomes:

Module 1   Android and Development Environments
      1.1   To Understand Different mobile technologies
          1.1.1 To List various mobile technologies
          1.1.2 To Compare Apple IOS and Android
          1.1.3 To describe how Eclipse, Android Studio and Android sdk is installed
          1.1.4 To describe how Android virtual device is created
          1.1.5 To explain how a "Hello World" program is developed and run.
          1.1.6 To List features of Eclipse and Android Studio for professional software Development

Module 2   Simple Android Application Development

    2.1 To Understand Simple Android application Development
        2.1.1 To explain how Android Virtual device operates
        2.1.2. To describe activity in android
        2.1.3. To explain how activities can be linked using intent
        2.1.4. To describe how data can be passed between activities
        2.1.5. To List various android basic components

Module 3   UI Design and Data storage
    3.1. To Understand android UI designing
        3.1.1. List different layout systems.
        3.1.2. List basic and popular components in android UI
        3.1.3. Describe how data storage is done in Android

    3.2 To Understand Data Storage
        3.2.1. List various storage technologies
        3.2.2. Explain how SQLite database and operations are used for data storage and retrieve
        3.2.3. Understand various content Providers and their relative advantages and disadvantages3.3 To develop applications and publish
        3.3.1. Explain how SMS service is provided in Android
        3.3.2. Describe how to publish the developed application in Google Play Store

Module 4   Mobile Application development using HTML 5.0 and JavaScript
    4.1 To develop applications using HTML 5 and JavaScript
        4.1.1. Describe how HTML 5 is used for mobile application development
        4.1.2. Describe how JavaScript is used for mobile application development
        4.1.3. List HTML 5 tags and attributes for mobile development
        4.1.4. Describe advantages and uses of PhoneGap
        4.1.5. Build Applications with camera, geolocation, Media Files, Storage options

CONTENT DETAILS

Module1. Introduction to Android and Development Environments
Various mobile technologies- Apple IOS – Android operating system- install and configure Eclipse, Android Studio andn Android sdk - android virtual device- creation of android virtual device- sample programs – features of Eclipse and Android studio.

Module 2. Simple Android Application Development
Sample programs- Operation of Android Virtual device - activity in android –Life cycle of an activity intent – linking activities using intent- data passing between activities using intent -   android components: activities, services, broadcast receivers, content providers.

Module 3. UI Design and Data storage
UI components: -Layout: Linear, Absolute, Table, Frame. - Views: Text, Edit, Button, ImageButton, CheckBox, ToggleButton, RadioButton, RadioGroup, List, Image, Grid . Menus – Options, Context- Action bar, Notifications- data storage in Android- various storage technologies- operations for data storage and retrieval to/from internal and external memory - SQLite database- - content Providers and their relative advantages and disadvantages - SMS service in Android - publish application in Google Play Store.

Module 4 . Mobile Application development using HTML 5.0 and JavaScript
HTML components for mobile applications-HTML 5 tags and attributes for mobile development- Styling Mobile Pages with CSS3 - Simple applications using HTML5 and JavaScript- Building a mobile web application - Introduction to PhoneGap.

TEXT BOOK(S):

1. **Beginning Android Application Development- Wei-Meng Lee- Wrox-First Edition.**
2. **HTML 5 Mobile Application Development- SAMS publications- Jennifer KyrninJennifer Kyrnin.-First Edition**

REFERENCE:

Beginning PhoneGap – Thomas Myer-2011