

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

#### **TIME SCHEDULE**

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

#### **Course General Outcomes:**

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

#### **3.3 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