Module 1 –Android GUI Development Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Targeting Android –The Big Picture.	Introducing Android Stacking up Android Booting Android development· An Android application· Summary	Development environment The Android SDK Fitting the pieces together Building an Android application in Eclipse The Android Emulator Debugging· Summary
Day2 : Android: Guts & GUIs	What makes up an Android application Using XML for UI layout Basic widgets Introductions to Linear Layout Relative Layout ,and Table Layout	Create a simple form Application.
Day3: Development Tools	Hierarchy Viewer DDMS and log results· DDMS and simulating calls DDMS and file upload/download DDMS and screenshots Making and using SD card image	Create a fancier form· Home assignment
Day4: Selection Widgets	The role and use of adapters Lists Spinners Grids Auto-completion fields	Add a selection list to the form Home assignment
Day5: Hands On	Small Project based on the knowledge gained during this Module	Continue same Project

Module 2 –Advance GUI Development Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Presentation Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Fancy Lists	Using custom layouts in list entries· Populating list entries· Recycling views·	Using the holder pattern· Add icons to the selection list
Day2 : Fancy Widgets	· Date and time pickers· Tabbed dialogs· View Flipper· Galleries	Make the form span multiple tabs: list on one, details on another
Day3: Menus and Messages	· Adding option menus· Adding popup menus· Showing dialogs	Raising toasts· Add a menu to the app that raises a toast
Day4: Threads	· The “one thread to rule them all” rule· Handlers· Alternatives to Handler· Progress bars	Add a menu choice that does fake background processing and updates a progress bar
Day5: Hands On	Small Project based on the knowledge gained during this Module.	Continue same Project Module 2 –Advance GUI Development

Module 3 –Advance Android Programming Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Session Duration: 1.30Hours Mode : Code
Code Day 1 : The Activity Lifecycle	· How activities are supposed to behave· on Create() and on Destroy()· on Pause() and on Résumé()· on Save Instance State()	Stop the fake background processing when the activity is paused, pick up again when resumed
Day2 : Resources	-General theory of resources-Drawables-Values-XML-Offering multiple resource sets·	Support a different layout for landscape instead of portrait views
Day3: Using Multiple Activities	-Having multiple activities in your project-Starting other activities from your project-Getting results from activities-Using URIs to launch system activities·	Remove the tabs, put the list on one activity and the detail form on a sub-activity
Day4: Preferences and Files	Using shared preferences-Preference screens-Preference XML configuration-Preference change notification-Simple reading and writing of file	Allow users to configure default values
Day5: Hands on	Small Project based on the knowledge gained during this Module	Continue same Project

Module 4 –Data Structure Programming Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Working With Database	-Introducing SQLite-SQLite Open Helper and creating a database-Opening and closing a database-Working with cursors-Inserts, updates, and delete.	Creating SQLITE Database and executive different types of SQLquery.b. Using SQLITE database in the project.
Day2 : XML Processing/parsing	a. XML and RSS - XML Parsing, working on RSS feeds b. Document Object Model (DOM) c. Simple API for XML (SAX) d. An RSS Reader Application	Developing simple RSS Reader application.
Day3: Using Http Client	Overview of native networking options-Simple HTTP GET	using Http Client-Posting forms-Cookies-Authentication-XML and JSON· Writing simple Http Client
Day4: Consuming Web services [SOAP and REST]	a. SOAP -Developing SOAP Client, Consuming and parsing soap response. REST – consuming REST Web Services, JSON Objects	Developing application which takes data from SOAP and RESTAPI.
Day5: Hands On	Small Project based on the knowledge gained during this Module.	Continue same Project

Module 5 –Inbuilt Device Programming Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Handling Location	a. Location Tracking Android's location tracking model, Getting updates as you move,Getting the latest fix, Proximity alerts, Choosing providers via criteria, Testing viands b. Google Maps API Rules and API keys, Adding a map, with centre and zoom Levels, Overlays and My Location Overlay, Custom overlays with push-pins, Zoom controls	a. add “L:30.010,-90.007”-style emarkup on user request to tweets, using current location b. A S Impel Location-aware Application with GMAP integration.
Day2 : Working with Devices	Handling Rotation Events-Theory of rotation in Android, Using on Save Instance State(), Using on Retain NonConfiguration Instance(), Using on Configuration Changed(), Blocking screen rotation Working with Audio - Playing and recording audio file, using media picker controller class and searching the iPod library. a. Working with video - Playing, recording and streaming video. B.Accessing Device Informationc. Taking and selecting Picturesd. Monitoring Device Battery - Battery level, Battery state, Battery state and level notifications.	Moving a Ball on screen with accelerometer .b. Developing audio recorder and Playerc. Developing Video recorder and Playerd .Application which monitor battery level.
Day3: Internationalization/Multilingual	Internationalization/Multilingual support - string Localization, Date Formatting and Number Formatting.	Developing sample multilingual application.

Day4: Advanced Networking	a. Determining Network Connectivity. Uploading Multimedia Content. Computing MD5 Hash Valued. Multithreaded Downloads. Push notification. peer to peer networking	a. Voice chat application development
Day5: Hands On	Small Project based on the knowledge gained during this Module. Continue	same Project

Module 6 –Android Services Programming Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Creating Local Services	-Role of services-Service lifecycle methods-Sharing state in local services-Threads and local services	poll for friends timeline updates
Day2 : Using Local Services	-Starting and stopping services-Getting updates via shared state-Getting updates via Intents and Broadcast Receivers	populate List View with friends timeline updates
Day3: Remote Services	-Role of remote services-Creating AIDL interfaces-Exporting and importing AIDL interfaces-Call-backs from service to client	make the polling service be remote, using AIDL for control andc all backs for a syncupdates
Day4: Notifications	Role of notifications, Raising a notification, Augmenting notifications via hardware, Reacting to selected notifications, Handling multiple notification-worthy events	raise notifications when posts hither timeline containing a keyword
Day5: Hands On	Small Project based on the knowledge gained during this Module.	Continue same Project

Module 7 –Android NDK Programming Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Extending Android with JARs	-Simple mechanics of the labs/ directory-What will and will not work-How best to integrate a third-party JAR Patchy:	experiment with third-party Twitter API wrappers
Day2 : Android Deprogramming	-Introduction to Android NDK-A Note About When to Use NDK-Creating the Project-Adding Some C Code-Calling Native From Java-Adding the Native Code Make File-Compiling the Native Code-Running the Code-Adding Another Native Function	Creating Simple program using Android NDK.
Day3: Device Driver Programming Part I	-Intel x86 Fundamentals-Linux Kernel source tree-Character, Block device drivers-Memory Management	Writing simple Device Driver
Day4: Device Driver Programming Part II	-System Call hooking-Kernel Threading and synchronization-Virtual File System driver	Writing device driver for the external device.
Day5: Hands On	Small Project based on the knowledge gained during this Module.	Continue same Project

Module 8–Game Engine Anatomy Part I Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Introduction to Game Engine Anatomy	a. Application Framework. Game State Manager. Graphics Engine : Introduction Texturing , Animation , Physics Engine , Audio Engine ,Player Input ,Game Logic	Compiling codes of COCOS2DGamesamples
Day2 : Graphics Engine -	Texturing a. Texturing Pixel, Textures and Images ,Transparency ,Texture Blending ,Rotation, Clipping	Writing program to add texture in the game.
Day3: Graphics Engine -	Rotation Rotation Two-dimensional animations: sprites, Three-dimensional animation :Models ,Animation Controllers ,Particle Systems ,Culling ,Texture sorting ,Texture files, Resource management ,Level of detail	Writing program to add and animate sprites/character in the program.
Day4: Physics Engine :	Part I a. Collision detection versus collision resolutionb. Two-dimensional collision detection	Write program which simulate 2DCollision detection.
Day5: Hands On	Small Project based on the knowledge gained during this Module.	Continue same Project

Module 9–Game Engine Anatomy Part II Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Physics Engine : Part II	a. Three-dimensional collision detectionb. Collision resolution	Write program which simulate 3DCollision Detection.
Day2 : Audio Engine	Sound samples ,playing sound ,Multichannel sound ,Music versus SFX, Output devices and interruptions	Write program which gives Multi-Channel sound Output.
Day3: Player Input	a. Touch eventsb. Resolving into high-level events	Write a program to handle touch event in game.
Day4: Game Logic	a. High-level eventsb. Artificial intelligencec. Transparent suspend and resumed. Frame-based versus time-based logice. Game logic Organization	Write a simple Game Logic program.
Day5: Hands On	Small Project based on the knowledge gained during this Module.	Continue same Project

Module 10 –2D Game Engine Part I Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Game Design	a. Feature List. User Input Schemec. Learning curve: Level1, Level2, Level3, Level4 etc...	Design an addictive game.
Day2 : Tile Engine	a. Unique Tilesb .Drawing Tilesc. Tile World Class : Loading, Rendering, Camera and Physics	Write a program which renders the set of Game.
Day3: Animation and sprite Classes	a. Property listb .Animation Classc. Sprite class	Write a program which does different type of animation to sprite.
Day4: Physics	A.Entitiesb. Entity-to-Worldc. Special Tilesd. Entity-to-Entity	Write different types of physics simulation to a 2D Game.
Day5: Level 1Implementation	gsEmu Level, Tile World Main Character -Entity, gem Loveland User Input Emu Chicks -Entity, gsEmu Level Emu Mother ,Game Logic ,Sound	Writing Level 1 of assigned Live project Game

Module 11 -2D Game Engine Part II Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : Level 2 Implementation	gsLion Level,TileWorld,Mc Guffin ,Main Character ,Lion Entities : Entity and gsLion Level, Sound	Writing Level 2 of assigned Live project Game
Day2 : Level 3 Implementation	gsMazeLevel,TileWorld,But tons ,Doors ,Cat and Mouse ,User Input Game Logic : Initialization, Context action, update Sounds	WritingLevel3 of assigned Live project Game
Day3: Level 4 Implementation	gsRiverLevel,TileWorld,Cr ocodiles ,Logs ,Tom ,User Input Game Logic : Initialization, Update Sounds	Writing Level 4 of assigned Live project Game
Day4: Game State Serialization	Initialize Storage End Game Modify UI	Writing program to serialize the Game State.
Day5: Using COCOS2D to Develop Game	Developing sample game using Cocos2D	Continue same Project

Module 12 -3D Game Development Total Hours = 20 Hours		
Days/Topics	Theory Scope Duration: 1.30Hours Mode : Presentation	Lab Session Duration: 1.30Hours Mode : Code
Day 1 : OpenGL ES	GLESGameState3D Class POWERVR : Vectors and matrixes, Model format, 3ds Max Plug-inSprite3DAccelerometer	Writing Program to change the behavior of 3D character through Accelerometer
Day2 : 3D Game Design	a. Graphics: Ship, Hoops, Skybox, Particle System, 2D Element. Input: Accelerometer, Thrusterc. Camera. Logic	Designing Set of 3D Game.
Day3: Implementation I	a. Camera. Skybox. Input - Calibration, Thrustersd. Rings -Layout ,Implementation	Writing a code to implement Camera, skybox, input and Rings in 3D Game.
Day4: Implementation II	a. Particle System. Logic. Best Times. End Game	Writing code to implement Particle system, Logic, Best Times and Ending Game.
Day5: Using 3DGameEngine to Develop Game	Developing sample game using 3D Game Engine	Continue same Project