ARSD College, University of Delhi

Model Course Handout/Lesson Plan

Course Name : B.Sc. (Physics Sc. Computer Science)						
Semester	**Course Code**	**Course Title**	**Lecture (L)**	**Tutorial (T)**	**Practical (P)**	**Credit (C)**
VIth	**BSCS10A**	**Android Programming**	2		2	4
Teacher/Instructor(s)		Jag Mohan				
Session		2021-22				

Course Objective:

The course is designed for students to learn to develop android applications. They will learn android architecture and key principles underlying its design.

Course Learning Outcomes:

On successful completion of the course, students will be able to:
1. describe the design of Android operating system.
2. describe various components of Android applications.
3. design user interfaces using various widgets, dialog boxes, menus.
4. design application with interaction among various activities/applications using intents.
5. develop application(s) with database handling.

Lesson Plan:

Unit No.	Learning Objective	Lecture No.	Topics to be covered
1.	Introduction to Android	1	Review to JAVA & OOPS Concepts
		2	introduction to Android operating systems and its development tools
		3	android architecture along with components including activities
		4-6	view and view group, services, content providers,
		7-8	broadcast receivers, intents, parcels, instance state. Android virtual device manager, Android SDK manager, Android emulator, Dalvik debug monitor service and debug bridge.

2.	User Interface Architecture		
		9-10	Application context, intents, explicit intents, returning results from activities, implicit intents,
		11-12	intent filter and intent resolution, and applications of implicit intents, activity life cycle, stack, application's priority and its process' states, fragments and its life cycle.
3.	User Interface Design	13-14	Layouts, optimizing layout hierarchies
		15-16	form widgets, text fields, button control, toggle buttons
		17-18	spinners, auto complete textview, edittext, images, image buttons, menu, dialog
4.	Broadcast receivers	19	Broadcast sender, receiver, broadcasting events with intents
		20-22	String class methods, string buffer methods
		23-24	listening for broadcasts with broadcast receivers, broadcasting ordered intents, broadcasting sticky intents
5.	Database using SQLite	25-26	SQLite, content values and cursors
		27-28	creating SQLite databases
		29-30	querying a database, adding, updating, and removing rows

Evaluation Scheme:

No.	Component	Duration	Marks
1.	Internal Assessment ● Quiz ● Class Test ● Attendance ● Assignment		25
2.	End Semester Examination	2 hr	25

Details of the Course		
Unit	**Contents**	**Contact Hours**
1	**Unit 1 - Introduction:** **Review to JAVA & OOPS Concepts, introduction to Android operating systems and its development tools, android architecture along with components including activities, view and view group, services,**	8

	content providers, broadcast receivers, intents, parcels, instance state. Android virtual device manager, Android SDK manager, Android emulator, Dalvik debug monitor service and debug bridge	
2	**Unit 2 - User Interface Architecture: Application context, intents, explicit intents, returning results from activities, implicit intents, intent filter and intent resolution, and applications of implicit intents, activity life cycle, activity stack, application's priority and its process' states, fragments and its life cycle.**	4
3	**Unit 3 - User Interface Design: Layouts, optimizing layout hierarchies, form widgets, text fields, button control, toggle buttons, spinners, auto complete textview, edittext, images, image buttons, menu, dialog.**	6
4	**Unit 4 - Broadcast receivers: Broadcast sender, receiver, broadcasting events with intents, listening for broadcasts with broadcast receivers, broadcasting ordered intents, broadcasting sticky intents, pending intents.**	6
5	**Unit 5 - Database using SQLite: SQLite, content values and cursors, creating SQLite databases, querying a database, adding, updating, and removing rows**	6
	Total	**30**

Suggested Books:

Sl. No.	Name of Authors/Books/Publishers	Year of Publication/Reprint
1.	Griffiths, D., & Griffiths, D. (2015). Head First Android Development. O'reilly.	2015

2.	Meier, R. (2012). Professional Android™ 4 Application Development. John Wiley & Sons, Inc..	2012
3		
Mode of Evaluation:	Internal Assessment / End Semester Exam	

Progress Report:

Unit No.	Learning Objective	Lecture No.	Topics to be covered
1.	Introduction to Android	1	Review to JAVA & OOPS Concepts
		2	introduction to Android operating systems and its development tools
		3	android architecture along with components including activities
		4-6	view and view group, services, content providers,
		7-8	broadcast receivers, intents, parcels, instance state. Android virtual device manager, Android SDK manager, Android emulator, Dalvik debug monitor service and debug bridge.
2.	User Interface Architecture		
		9-10	Application context, intents, explicit intents, returning results from activities, implicit intents,
		11-12	intent filter and intent resolution, and applications of implicit intents, activity life cycle, stack, application's priority and its process' states, fragments and its life cycle.
3.	User Interface Design	13-14	Layouts, optimizing layout hierarchies
		15-16	form widgets, text fields, button control, toggle buttons
		17-18	spinners, auto complete textview, edittext, images, image buttons, menu, dialog
4.	Broadcast receivers	19	Broadcast sender, receiver, broadcasting events with intents

		20-22	String class methods, string buffer methods
		23-24	listening for broadcasts with broadcast receivers, broadcasting ordered intents, broadcasting sticky intents
5.	Database using SQLite	25-26	SQLite, content values and cursors
		27-28	creating SQLite databases
		29-30	querying a database, adding, updating, and removing rows