Course Code	18CSO102T	Course Name	MOBILE APPLICATION DEVELOPMENT	Course Category	O	Open Elective	L	T	P	C
							3	0	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Computer Science &Engg	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*	Learning			Program Learning Outcomes (PLO)														
CLR-1 :	*Understand the basics of Android devices andPlatform.*	1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLR-2 :	*Acquire knowledge on basic building blocks ofAndroid programming required for Appdevelopment.*	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO - 1	PSO - 2	PSO – 3
CLR-3 :	*Understand persistence Data storage mechanismin Android*																		
CLR-4 :	*Understand advanced application concepts likenetworking, Animations and Google Maps services etc.*																		
CLR-5 :	*Develop and publish Android applications in toAndroid Market*																		
Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*																		
CLO-1 :	*Acquire the knowledge on Android devices and Platform*	2	80	85	L	-	-	-	H	-	-	-	-	-	-	-	-	-	-
CLO-2 :	*Acquire knowledge on basic building blocks ofAndroid programming required for Appdevelopment.*	2	75	80	L	-	H	-	-	-	-	-	-	-	-	-	-	-	-
CLO-3 :	*Apply the knowledge of persistence Data storage mechanismin Android*	2	85	80	-	-	H	-	-	-	-	-	-	-	-	-	-	-	-
CLO-4 :	*Apply the knowledge in advanced application concepts likenetworking, Animations and Google Maps services etc.*	2	80	75	L	-	H	-	H	-	-	-	-	-	-	-	-	-	-
CLO-5 :	*Design and apply the knowledge to publish Android applications in toAndroid Market*	2	75	85	H	-	-	H	-	-	-	-	-	-	-	-	-	-	-

Duration (hour)		9	9	7	10	10
S-1	SLO-1	*Introduction: Introduction to mobile application development, trends.*	*GUI for Android: Introduction to activities life-cycle*	*Introduction to Different Data persistence schemes*	*Services :introduction to services–localservice,*	*Introduction to Location based services*
	SLO-2					
S-2	SLO-1	*introduction to various platforms,*	*Android v7 supportlibrary form API21 for lower versionsupport*	*Shared preferences*	*remote service and binding theservice,.*	*Google maps V2 services using Google API.*
	SLO-2					
S-3	SLO-1	*introduction to smart phones*	*Intent :intent object*	*File Handling se*	*the communication between serviceand activity, Intent Service*	*Animations and Graphics: Property Animation .*
	SLO-2					
S-4	SLO-1	*Android platform: Android platform,features and architecture,*	*intent filters ,addingcategories*	*Managing data using SQLite databa*	*MultiThreading: Handlers*	*View Animations, DrawableAnimations*
	SLO-2					
S-5	SLO-1	*versions ,comparison added features in each versions.*	*linking activities, user interfacedesign components*	*Content providers:*	*,AsyncTask*	*Media and Camera API: Working withvideo and audio inputs*
	SLO-2					
S-6	SLO-1	*ART(Android Runtime),ADB(AndroidDebug Bridge).*	*Views and View Groups: Basic views,picker views, adapter views, Menu, App Baretc, basics of screen design; differentlayouts.*	*user content provider*	*android network programming:HttpUrlConnection*	*Camera API*
	SLO-2					
S-7	SLO-1	*Development environment/IDE: Android studio and its working environment*	*App widgets.Lollipop Materialdesign: new themes, new widgets,Cardlayouts. RecyclerView*	*Android in build content providers*	*Connecting to REST-based and SOAP based Web services*	*Sensor programming: Motion sensors*
	SLO-2					
S-8	SLO-1	*gradle build system, emulator setup*	*Fragments: Introduction to activities,*		*Broad castreceivers:LocalBroadcastManager,Dynamic broadcast receiver*	*Position sensors, Environmental sensors.*
	SLO-2					
S-9	SLO-1	*Application anatomy:*	*activities life-cycle.*		*System Broadcast. PendingIntent, Notifications*	*Publishing Android Apps: Guide lines.*
	SLO-2	*Applicationframework basics: resources layout, values,asset XML representation*				

		and generatedR.Javafile ,Android manifest file. Creating asimple application.				
S-10					*Telephony Manager:Sending SMS andmaking calls.*	*policies and process of uploading Apps toGoogle play*

Learning Resources	1. *Dawn Griffiths, David Griffiths,"Head First: Android Development" ,OReilly2015,ISBN:9781449362188.* 2. *Greg Milette,Adam Stroud,"PROFESSIONALAndroid™ Sensor Programming", John Wiley and Sons, Inc2012,ISBN/978111265055,9781280678943,978111227459*	3. *PaulDeital, Harvey Deital, AlexanderWald, "Android6 for Programmers, App Drivenapproach",2015, Prentice Hall ,ISBN:9780134289366.* 4. *http://developer.android.com/training/index.htmlas on Date21.4.2016*

Learning Assessment											
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (15%)		CLA – 3 (15%)		CLA – 4 (10%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*40 %*	-	*30 %*	-	*30 %*	-	*30 %*	-	*30%*	-
	Understand										
Level 2	Apply	*40 %*	-	*40 %*	-	*40 %*	-	*40 %*	-	*40%*	-
	Analyze										
Level 3	Evaluate	*20 %*	-	*30 %*	-	*30 %*	-	*30 %*	-	*30%*	-
	Create										
	Total	100 %		100 %		100 %		100 %		100 %	

CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
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