Course Code	PIT21E202J	Course Name	Mobile Application Development	Course Category	D	*Discipline Elective* Course …	L	T	P	C
							3	0	2	4

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

Course Learning Rationale (CLR):	The purpose of learning this course is to
CLR-1:	Learn and apply software patterns for the development of the application models
CLR-2:	Learn and work within the capabilities and limitations of mobile devices.
CLR-3:	Design, implement and deploy mobile applications using an appropriate software development environment.
CLR-4:	Understand the need for cross platform tools to build rich commercial mobile applications
CLR-5:	Develop, distribute and monetize the mobile applications

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	PLO 1 Engineering Knowledge	PLO 2 Problem Analysis	PLO 3 Design & Development	PLO 4 Analysis, Design, Research	PLO 5 Modern Tool Usage	PLO 6 Society & Culture	PLO 7 Environment & Sustainability	PLO 8 Ethics	PLO 9 Individual & Team Work	PLO 10 Communication	PLO 11 Project Mgt. & Finance	PLO 12 Life Long Learning	PSO - 1	PSO - 2	PSO – 3
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLO-1:	Build mobile applications	3	80	70	H	H	M	-	-	-	-	-	H	H	-	-	M	H	H
CLO-2:	Use the reusability concepts to rebuild the existing applications for the present day need without losing the nature of the app's behavior	3	85	75	H	H	H	H	H	-	M	-	H	H	-	-	M	H	H
CLO-3:	Understand the concept of virtualization for running the code using emulators	3	75	70	H	H	M	H	H	-	M	-	H	H	-	-	M	H	H
CLO-4:	Experiment the application in the mobile device	3	85	80	H	H	H	-	-	-	-	-	H	M	-	-	M	H	H

CLO-5:	Handle data storage	3	85	75	H	M	M	M	M	M	M	-	H	H	-	M	M	H	H
CLO-6:	Simulate existing applications with rich UIs	3	80	70	H	H	M	-	-	-	-	-	H	H	-	-	M	H	H

Duration (Hour)		15	15	15	15	15
S-1	SLO-1	What is mobile computing?	Mobile Development: Introduction, Advantages, Limitations	Android Overview	Understanding Activity	Animations
	SLO-2	History of mobile environments				
S-2	SLO-1	early mobile phones to smart phones and tablets	Features useful for mobile phones	Features, Architecture	Activity Lifecycle	OpenGL
	SLO-2	Development for mobile environments	Geolocation			
S-3	SLO-1	Differences from traditional application development	Offline applications	Android applications	Multi device suppot	Wireless Connections
	SLO-2					
S-4-5	SLO-1	Laboratory 1: Understanding the installation procedure of android environment	Laboratory 4: Animations and Graphics (2D/3D)	Laboratory 7: Android libraries	Laboratory 10: Intents	Laboratory 13: Location Aware Applications
	SLO -2					
S-6	SLO-1	Trends in mobile development	Offline storage	Android framework	Fragments	Data Syncing
	SLO-2					
S-7	SLO-1	Understanding emulator Knowledge about build tools	Audio and Video	Android Kernal	MediaPlayer: Audio	Best Practices for the development of remarkable applications
	SLO-2					
S-8	SLO-1	Web applications and mobile applications	Framework: Phone Gap	Application stores and publishing	Image Capture	Mobile App Distribution
	SLO-2					
S-9-10	SLO-2	Laboratory 2:Understanding Virtualization and enabling it in the Operating system to support emulation process	Laboratory 5: Framework: HTML5	Laboratory 8: Android Ecosystem	Laboratory 11: MediaPlayer: Video	Laboratory 14: 1Monetization
	SLO-2					
	SLO-2					
S-11	SLO-1	Understanding SDK tools	Jquery Mobile Framework	Android Development Tools, SDK, Emulator	Color	Focusing on security
	SLO-2					
S-12	SLO-1	mobile websites	Comparison of framework	Android Activity Lifecyle	Font	Monetization Models
	SLO-2					
S-13	SLO-1	Google services for mobile applications	features and utilities	Android Layouts	Information Design Tools	Knowing Monetization tools
	SLO-2					
S-	SLO-2			Laboratory 9:	Laboratory 12:	Laboratory 15:

14-15	SLO-2	Laboratory 3: Installing Android and setup environment	Laboratory 6: Using HTML5 implement geolocation, cookies	Using Android implement Activity methods, Layout, TextView, Password, Button	Using Android implement MediaPlayer, Images ProgressBar, RatingBar	Using Color, Font, Intent

Learning Resources	1. Ed Burnette, (2010) "Hello Android: Introducing Google's Mobile DevelopmentPlatform", The Pragmatic Programmers, 3rd edition. (For Units I to III) 2. Jeff McWherter and Scott Gowell, (2012),Professional Mobile Application Development", Wrox. (For Units IV to V)	1. Charlie Collins, Michael Galpin and Matthias Kappler, (2012), "Android in Practice", DreamTech. 2. James Dovey and Ash Furrow, (2012), "Beginning Objective C", Apress.

Learning Assessment										
Bloom's Level of Thinking		Continous Learning Assessment(50% Weightage)								Final Exa wei
		CLA – 1 (10%)		CLA – 2 (10%)		CLA – 3 (20%)		CLA – 4# (10%)		
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory
Level 1	Remember	20%	20%	15%	15%	15%	15%	15%	15%	15%
	Understand									
Level 2	Apply	20%	20%	20%	20%	20%	20%	20%	20%	20%
	Analyze									
Level 3	Evaluate	10%	10%	15%	15%	15%	15%	15%	15%	15%
	Create									
	Total	100 %		100 %		100 %		100 %		

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

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