Faculty of Computer Science & Applications
Master of Computer Application (MCA)
(W. E. F.: 2023-24)

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Name of Faculty	:	Faculty of Computer Science & Applications
Name of Program	:	Master of Computer Application (MCA)
Course Code	:	2MCA07
Course Title	:	Mobile Programming
Type of Course	:	Professional Couse
Year of Introduction	:	2023-24

Prerequisite	:	Any Programming Language
Course Objective	:	This Course will enhance the students' ability to program in ANDROID Mobile applications.
Course Outcomes	:	At the end of this course, students will be able to:
	CO 1	Learn Basics of ANDROID
	CO 2	Work with Data in Android
	CO 3	Enhancing user experience and Advanced User experience
	CO 4	Use Advanced Android

Teaching and Examination Scheme

Teaching Scheme (Contact Hours)			Credits	Examination Marks				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	SEE	CIA	SEE	CIA	
2	0	4	4	70	30	30	20	150

*Legends: **L**-Lecture; **T**–Tutorial/Teacher Guided Theory Practice; **P**–Practical, **C** – Credit, **SEE** – Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.))*

Course Content

Unit No,	Topics	Teaching Hrs.	Weightage	Mapping with CO
1	**Basics of ANDROID:** Introduction to ANDROID: ANDROID SDK Features, Introduction to Development Features, Developing for ANDROID, developing for mobile, and embedded devices, ANDROID development tools, Creating Applications using ANDROID, Basics of an ANDROID application, introduction to manifest, externalizing resources, application lifecycle, ANDROID activities.	6	20%	CO1
2	**Using Activities, Fragments, and Intents in Android:** Working with activities, Using	6	15%	CO2

	Intents, Fragments, Using the Intent Object to Invoke Built–in Application.			
3	**Working with Data in Android:** Files, saving state and preferences, Creating, saving and retrieving shares preferences, including static, files as resources, working with the file system Database and content providers, Introducing ANDROID databases, content values and cursors, working with SQLite databases, creating content providers, using, content providers, native ANDROID content providers, Working in background Introducing services, using background threads, using alarms	6	25%	CO2
4	**Enhancing user experience:** Introduction and addition of action bar, Creating and using menus and Action bars action menus, introducing dialogs, let us make toast, Introducing notifications, **Advanced User experience:** Designing for every Screen size and density, Introducing Android Text-to speech, Using speech recognition, Controlling Device vibration, Working with Animations, Enhancing your views, Advanced Drawable resources, Copy, paste, and the clipboard.	6	20%	CO3
5	**Advanced Android:** Audio, video and using the camera: Playing audio and video, manipulating raw audio, using camera to take pictures, recording, video, adding media to media store, Telephony and SMS: Hardware support for telephony, using telephony, introducing SMS and MMS	6	20%	CO4

Suggested Distribution of Theory Marks Using Bloom's Taxonomy						
Level	Remembrance	Understanding	Application	Analyse	Evaluate	Create
Weightage	**20%**	**20%**	**40%**	**10%**	**5%**	**5%**

NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Suggested List of Experiments/Tutorials

Sr. No.	Name of Experiment/Tutorials	Teaching Hours
1.	Write an Android application for calculator.	04
2.	Write an Android application to convert into different currencies for example, Rupees to dollar.	04
3.	Write an android application to count library overdue.	04
4.	Write an android application to convert a ball from size of radius 2(colour red) to radius 4(colour blue) to radius 6 (colour green). The ball must rotate in circle for 1 minute before changing size and colour.	04
5.	Write an application to mark the daily route of travel in map.	04
6.	Write an application to record video and audio on topic "Intent" and play the audio and video.	04
7.	Write an Android application for calculator.	06
8.	Write an Android application to convert into different currencies for example, Rupees to dollar.	06
9.	Write an android application to count library overdue.	06
10.	Write an android application to convert a ball from size of radius 2(colour red) to radius 4(colour blue) to radius 6 (colour green). The ball must rotate in circle for 1 minute before changing size and colour.	06

Major Equipment/ Instruments and Software Required

Sr. No.	Name of Major Equipment/ Instruments and Software
1	Android Studio

Suggested Learning Websites

Sr. No.	Name of Website
1	https://www.udacity.com/course/ud853
2	http://developer.android.com/training/basics/firstapp/index.html
3	http://www.codelearn.org/androidtutorial
4	http://developer.android.com/tools/sdk/eclipse-adt.html
5	http://developer.android.com/sdk/installing/installing-adt.html
6	https://www.eclipse.org/downloads/

Reference Books

Sr. No.	Name of Reference Books
1	Lauren Darcey and Shane Conder, "Android Wireless ApplicationDevelopment", Pearson Education, 2nd ed. (2011)
2	Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd (2009)
3	Sayed Y Hashimi and Satya Komatineni, "Pro Android", Wiley India Pvt Ltd(2009)
4	Android Application Development Black Book by Pradeep Kothari, DreamTech
5	Lauren Darcey and Shane Conder, "Android Wireless ApplicationDevelopment", Pearson Education, 2nd ed. (2011)