

Maharashtra State Board of Technical Education, Mumbai
TEACHING PLAN (TP)

K-1

Academic Year: 2025-26

Date: 12/12/2025

Institute Name: K. K. Wagh Polytechnic, Nashik

MSBTE Code: 0078

Program & Code: Artificial Intelligence & Machine Learning (AN) **Course Code & Abbr.:** 316006(MAD)

Course Name: Mobile Application Development (MAD)

Name of Faculty: Ms. V.N. Lawand

Class: TYAN

Semester: VI **Scheme:** K

Course Index: CO604 **Learning Hrs:** 30

• Teaching-Learning & Assessment Scheme:

Course Title	Course Code / Abbr	Course Category	Learning Scheme				TH Paper Duration (Hrs.)	Assessment Scheme									Total Marks				
			Actual Contact Hrs/Week			Credits		Theory			Based on LL & TSL Practical				Based on SL						
			CL	TL	LL			SLH	NLH	FA TH		Total		FA-PR		SA-PR					
										Max	Max	Max	Min	Max	Min	Max	Min				
MOBILE APPLICATION DEVELOPMENT	316006	DSC	2	-	4	4	-	2	8	FA TH Max	SA TH Max	Total Max	Min	FA-PR Max	SA-PR Min	SLA Max	Min	75			

indicates External Practical Exam.

Abbreviations: CL- Class Room Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, IKS – Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# On Line Examination, @\\$ Internal Online Examination

• Course Outcomes (COs): Theory & Practical

By learning course Microprocessor Programming (MIC-314321), the Second Year students will be able to:

CO No.	TLO No.	Course Outcomes (COs) / Theory Learning Outcomes (TLOs)
CO604.1 (CO1)	Interpret the features of android operating system.	
	TLO 1.1	Differentiate between Android and other operating systems.
	TLO 1.2	Enlist Android OS features.
	TLO 1.3	Explain android architecture.
	TLO 1.4	Identify IDEs for Android Application development.
CO604.2 (CO2)	Use after configuring Android development environment.	
	TLO 2.1	Explain JDK and SDK for developing Mobile application..
	TLO 2.2	Explain different Android tools.
	TLO 2.3	Distinguish between DVM and JVM.
	TLO 2.4	Explain various Android terminologies.
	TLO 2.5	Explain relevant analogy of Android directory structure.
CO604.3 (CO3)	Develop android applications using UI components and layouts.	
	TLO 3.1	Describe to develop user interface for the given Android application.
	TLO 3.2	List steps to implement different layouts
	TLO 3.3	Explain the process of developing Android application using given Android views.
	TLO 3.4	Write the steps to design Splash screen.
CO604.4 (CO4)	Create database driven Android applications.	
	TLO 4.1	Explain the use of given components for Android application development.
	TLO 4.2	Explain the use of different life cycle methods to develop Android Application.
	TLO 4.3	Write the steps to establish database connectivity to fire queries for performing the given database management operations
	Develop advanced Android applications that requires relevant permissions for security.	
CO604.5 (CO5)	TLO 5.1	Write the steps to implement various advanced android concepts to develop an application.
	TLO 5.2	Explain the process to apply security services in android application development.
	TLO 5.3	Write steps to publish the given android application.

• **Teaching Plan:**

Unit No. (Allotted Hrs.)	TLOs	Unit Title with Topic Details/Contents	Plan Dates (From-To & No. of Lectures)	Actual Execution (From-To & No. of Lectures)	Pedagogy used (Teaching Method/ Media)	Remark
01 (02)	11 1.2 1.3 1.4	Unit - I Basics of Android OS [CO604.1] 1.1 Introduction to Android Operating System 1.2 Need and features of Android	18/12/25 To 18/12/25 (01)		Chalk-Board, LCD+PPTs, Notes, Ref. Book, MKCL ERA, Online Web Reference	
		1.3 Android Architecture Framework 1.4 Introduction to Android Application Development IDE (Android Studio, Eclipse, Visual Studio with Xamarin etc.)	19/12/25 To 19/12/25 (01)			
02. (02)	2.1 2.2 2.3	Unit - II Introduction to Android Environment[CO604.2] 2.1 Use of Java JDK and introduction to Android SDK 2.2 Different Android tools like Android Development Tools (ADT), Android Virtual Devices (AVD) and emulators 2.3 Dalvik Virtual Machine (DVM) , difference between DVM and JVM	26/12/25 To 26/12/25 (01)		Chalk-Board, LCD+PPTs, MKCL ERA, Online Web Reference	
		2.4 Terminologies in Android : Android Run Time (ART), Over the Air (OTA), Firmware Over The Air (FOTA), Global Positioning System (GPS) , Google Cloud Messaging (GCM) 2.5 Android directory structure	01/01/26 To 01/01/26 (01)			
03. (06)	3.1	Unit - III Design UI in Android [CO604.3] 3.1 GUI components like : Text View, Edit Text, Button, types of buttons like image button , toggle button, Checkbox, Radiobutton, Radiobutton Group, Progress bar, Scrollbars, List, Custom Toast Alert message etc.	02/01/26 To 08/01/26 (02)		Chalk-Board, LCD+PPTs, MKCL ERA	
	3.2	3.2 Introduction to Layouts and types of Layouts : Constraint layout, Linear Layout, Frame Layout, Relative Layout etc.	09/01/26 To 15/01/26 (02)			
	3.3	3.3 Introduction to views and its types : List view, Grid view, Image view, Scroll view	16/01/26 To 16/01/26 (01)			
	3.4		22/01/26 To 22/01/26			

		3.4 Basics of splash screen , adding styles to splash screen	(01)		MKCL ERA	
04. (10)	4.1	Unit - IV Android Components and Database Connectivity[CO604.4] 4.1 Major components in Android : Intent, Activity, Services, Broadcast Receiver	23/01/26 To 30/01/26 (03)		Chalk-Board, LCD+PPTs, MKCL ERA	
	4.2	4.2 Life cycle of Android components like Activity, Broadcast Receiver, Services etc.	05/02/26 To 12/02/26 (03)		Chalk-Board, LCD+PPTs, MKCL ERA	
	4.3	4.3 SQLite/Firebase database, necessity of SQLite/Firebase, creation and connection of the database, extracting data from the databases	13/02/26 To 27/02/26 (04)		Chalk-Board, LCD+PPTs, MKCL ERA	
05. (10)	5.1	Unit - V Android Application Deployment[CO604.5] 5.1 Advanced Concepts : Fragments, Location based services, SMS telephony, Audio capture, Camera, Bluetooth etc.	05/03/26 To 12/03/26 (03)		Chalk-Board, LCD+PPTs, YouTube Videos	
	5.2	5.2 Security Concepts : Android security model, declaring and using permissions, using custom permission	13/03/26 To 26/03/26 (03)		Chalk-Board, LCD+PPTs	
	5.3	5.3 Application Deployment : Process for creating and deploying Android applications on Google Play store, become a publisher	26/03/26 To 03/04/26 (04)		Chalk-Board, LCD+PPTs, MKCL ERAS	
		Total	30 Hrs.			

- **Chapter wise CO-PO Mapping**

Course Outcomes (COs)	Programme Outcomes (POs)							PSOs	
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability & Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2
CO604.1	2	-	-	1	-	-	-	2	2
CO604.2	2	1	-	3	-	-	1	2	2
CO604.3	3	2	3	2	1	2	2	2	2
CO604.4	2	2	2	2	1	3	1	2	2
CO604.5	2	3	3	2	1	3	1	2	2

- **Legends:-** High:03, Medium:02, Low:01, --:No Mapping

PSO1: Apply fundamental concepts of Computer Engineering and Artificial Intelligence and machine learning to solve technical problems.

PSO2: Implement the domain knowledge to achieve successful career as an engineering professional.

- **Formative Assessment:** Not Applicable
- **Summative Assessment:** Not Applicable

- **Self Learning Activities:**

- The micro project has to be industry based, internet based ,laboratory based or field based as suggested by teacher.
 - Simple chatting application - A real-time chat application is a software application that enables users to exchange messages and communicate with each other in real-time.
 - Class time-table application - It helps to keep track of your classes but also allows you to add events to your weekly schedule.
- Other
 - Complete course of Android App Development on NPTEL
 - Complete course of Android Development Courses on Spoken Tutorial.

- **References:**

1. **Suggested Books for Reference:**

Sr. No	Author	Title of the Book	Publisher
1	Dixit, Prasanna Kumar	Android	Vikas Publication, New Delhi 2014, ISBN : 9789325977884
2	Maclean David , Komatineni Satya, Allen Grant	Pro Android 5	Apress Publications, 2015, ISBN :978-1-4302-4680-0
3	Hortan, John	Android Programming for Beginners	Packet Publications, 2015, ISBN : 978-1-78588-326-2
4	Pradeep Kothari	Android Application Development	Kogent Learning Solutions ISBN : 9789351194095

2. **Learning Websites & Portals:**

Sr. No	Website /Portal Link/URL	Description
1	https://www.udemy.com/topic/android-development	Introduction to Android Operating system
2	https://onlinecourses.swayam2.ac.in/nou21_ge41/preview	Introduction to Android IDE tools.
3	https://www.geeksforgeeks.org/android-tutorial/	Basics of GUI components, layouts and views in android.
4	https://www.tutorialspoint.com/android/index.htm	Advanced components of android like intents, services, broadcast receiver and activities.
5	https://developer.android.com/training/data-storage/sqlite	Steps to insert and retrieve data from the Databases.
6	https://developer.android.com/guide/topics/permissions/overview	Setting permissions in Android.
7	https://firebase.google.com/docs/database/android/start	Connectivity with Firebase database
1	https://www.udemy.com/topic/android-development	Introduction to Android Operating system
2	https://onlinecourses.swayam2.ac.in/nou21_ge41/preview	Introduction to Android IDE tools.

- **Tools for conducting Practicals:**

1. Google classroom 2 . MKCL LMS-Learn Live

Ms. V.N.Lawand
(Faculty Name & signature)

Prof. R.Y.Thombare
(HOD-AN Dept.)

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- a. MAD-316006 Course File