Maharashtra State Board of Technical Education, Mumbai
LABORATORY PRACTICAL PLANNING
Academic Year: 2025–2026

K2-A

Academic Year: 2025-26   **Date:** 12/12/2025

Institute Name & Code: K. K. Wagh Polytechnic, Nashik-3 (0078)

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

Course Name: Mobile Application Development   **Name of Faculty:** Ms.V. N. Lawand

Class: TYAN   **Course Index:** 604   **Semester:** VI   **Scheme:** K   **Total Hrs:** 60

- ## Course Outcomes (COs):

By learning course Mobile Application Development (MAD-316006) Third Year students will be able to:

- CO604.1 - Interpret the features of android operating system.
- CO604.2 - Use after configuring Android development environment.
- CO604.3 - Develop android applications using UI components and layouts..
- CO604.4 - Create database driven Android applications.
- CO604.5 - Develop advanced Android applications that requires relevant permissions for security.

- ## Teaching-Learning and Assessment Scheme:

Course Title	Course Code / Abbr	Course Category	Learning Scheme							Assessment Scheme											Total Marks
			Actual Contact Hrs/Week			SLH	NLH	Credits	TH Paper Duration (Hrs.)	Theory				Based on LL & TSL Practical				Based on SL			
			CL	TL	LL					FA TH	SA TH	Total		FA-PR		SA-PR		SLA			
										Max	Max	Max	Min	Max	Min	Max	Min	Max	Min		
MOBILE APPLICATION DEVELOPMENT	316006	DSC	2	-	4	2	8	4	-	-	-	-	-	25	10	25#	10	25	10	75

# indicates External Practical Exam.

- ## Laboratory Learning Outcome (LLO)

LLO 1.1 Install any Android IDE .

LLO 2.1 Use IDE to wirte and exceute Java program for Android application

LLO 3.1 Change the attributes in the directory structure

LLO 4.1 Develop a program to implement Auto complete Text View and Edit Text.

LLO 5.1 Use different types of buttons in Android application.

LLO 6.1 Write a program to demonstrate the use of Checkbox and Radiobutton.

LLO 7.1 Implement progress Bar in android application.

LLO 8.1 Create a login form using various UI components

LLO 9.1 Build android application using Linear and Constraint Layouts.

LLO 11.1 Create Android application to implement different types of views.

LLO 12.1 Create an application to implement grid layout.

LLO 13.1 Write program to develop relevant GUI for given application.

LLO 14.1. Design a convertor application.

LLO 15.1 Implement a timer application.

LLO 16. Construct a date picker in application.

LLO 17.1 Construct a time picker in application.

LLO 18.1 Create android activities.

LLO 19.1 Implement intents in android application development.

LLO 20.1 Implement android services to develop android applications.

LLO 21.1 Implement the concept of broadcast receiver to develop and android application.

LLO 22.1 Implement the database operations with android front end.

LLO 26.1Create application to Send and Receive SMS.

LLO 27.1Implement an email application.

LLO 29.1Build an Navigation drawer application.

- **Lab Plan:**

Sr. No.	CO	LLO	Name of Practical	Planned Date	Performance Date	Remarks	Related Self Learning (if any)
1.	CO604.1	1.1	*Install Android IDE and create Android virtual device.	A-15/12/2025 B-16/12/2025 C-17/12/2025			
2.	CO604.2	2.1	Develop a program to display "Hello World" on screen	A-18/12/2025 B-19/12/2025 C-20/12/2025			
3.	CO604.2	3.1	*Explore the directory structure in Android IDE	A-22/12/2025 B-23/12/2025 C-24/12/2025			
4.	CO604.3	4.1	* Develop android application using View Text and Edit Text.	A-29/12/2026 B-26/12/2026 C-27/12/2026			
5.	CO604.3	5.1	*Develop a program to implement Button, Image Button and Toggle Button	A-29/12/2026 B-30/12/2026 C-31/12/2026			
6.	CO604.3	6.1	*Develop a program to design Checkbox and Radiobutton.	A-01/01/2026 B-02/01/2026 C-03/01/2026			
7.	CO604.3	7.1	Develop a program to implement Progress Bar	A-05/01/2026 B-06/01/2026 C-07/01/2026			
8.	CO604.3	8.1	*Develop a program to create a login form using the above UI controls	A-08/01/2026 B-09/01/2026 C-10/01/2026			
9.	CO604.3	9.1	* Write program to implement Linear layout and Constraint layout to create any registration form with Custom Toast Alert	A-12/01/2026 B-13/01/2026 C-14/01/2026			
10.	CO604.3	11.1	*Develop a program to implement Grid View, Image View, Scroll View, List View for any management system like library management/hotel management	A-15/01/2026 B-16/01/2026 C-17/01/2026			
11.	CO604.3	12.1	Develop a simple calculator which uses grid layout and GUI concepts	A-19/01/2026 B-20/01/2026 C-21/01/2026			
12	CO604.3	13.1	* Develop a splash screen in android	A-22/01/2026 B-23/01/2026 C-24/01/2026			
13	CO604.3	14.1	*Design and develop any convertor application like temperature convertor /currency convertor/ volume convertor	A-18/03/2026 B-27/01/2026 C-28/01/2026			
14	CO604.3	15.1	Design and develop a simple countdown timer	A-29/01/2026 B-30/01/2026 C-31/01/2026			
15	CO604.5	16.1	*Develop a program to implement Date Picker in application	A-02/02/2026 B-03/02/2026 C-04/02/2026			
16	CO604.5	17.1	Develop a program to implement Time Picker in	A-05/02/2026 B-06/02/2026			

			application	C-07/02/2026			
17	CO604.5	18.1	Develop a program to create two simple activities for Login application	A-09/02/2026 B-10/02/2026 C-11/02/2026			
18	CO604.5	19.1	*Develop a program to implement new Activity using explicit intent and implicit intent to open any other website	A-12/02/2026 B-13/02/2026 C-14/02/2026			
19	CO604.5	20.1	*Develop a program to implement services like bluetooth/wifi	A-16/02/2026 B-17/02/2026 C-18/02/2026			
20	CO604.5	21.1	*Develop a program to implement a broadcast receiver to switch between different modes like Airplane mode/Silent Mode/Loud Mode	A-23/02/2026 B-20/02/2026 C-21/02/2026			
21	CO604.4	22.1	*Develop a registration application to insert and retrieve the data from the database	A-26/02/2026 B-24/02/2026 C-25/02/2026			
22	CO604.5	26.1	* Write a program for SMS application	A-02/03/2026 B-27/02/2026 C-28/02/2026			
23	CO604.5	27.1	*Develop a program to send and receive email	A-05/03/2026 B-03/03/2026 C-07/03/2026			
24	CO604.5	29.1	*Write a program that creates Navigation drawer using fragment concepts	A-09/03/2026 B-10/03/2026 C-11/03/2026			

- **Formative Assessment Criteria :**

Sr. No	Performance Indicators	Weightage in %
	Process Related(10 Marks)	**30%**
1	Logic Formulation	10%
2	Debugging Ability	10%
3	Follow Ethical Practices	05%
	Product Related(15 Marks)	**70%**
4	Expected Output	20%
5	Timely Submission	10%
6	Answer to practical related question	20%
7	Interactive GUI	20%
	Total(25 Marks)	**100%**

- **Rules for Formative Assessment:**
   1. Formative assessment of each practical is based on Process related (15 marks) and Product related (20 marks) - Total out of 25 marks as per the assessment scheme prescribed by MSBTE,
   2. Final assessment of 25 Marks for all practicals.
   3. Final Formative Assessment (F.A.) of 25 marks is calculated as follows: FA Marks = ((Total obtained marks))/ (25*Total Number of practical)

- **Rules for Summative Assessment:**
  1. A comprehensive Final Practical End Semester examination (SA-PR of 25 Marks) will be conducted by MSBTE at the end of semester. Examiner for this examination will be External examiner. The schedule of MSBTE Practical Examination will be display on Notice board prior to examination.
- **Rules for Self Learning Assessment:**
  1. Self-learning assessment includes micro-project or assignment.
  2. SLA Marks Shall be awarded as per the continuous assessment record
  3. SLA will be of 25 Marks.
  4. Following are some SLA topic or similar self-learning topic could be added by SLA:
     i. Simple chatting application
     ii. Class time-table application

- **Practical wise LLO-CO Mapping:**

PR. No.	LLO	CO604.1	CO604.2	CO604.3	CO604.4	CO604.5
Practical 1	1.1	✔				
Practical 2	2.1		✔			
Practical 3	3.1		✔			
Practical 4	4.1			✔		
Practical 5	5.1			✔		
Practical 6	6.1			✔		
Practical 7	7.1			✔		
Practical 8	8.1			✔		
Practical 9	9.1			✔		
Practical 10	11.1			✔		
Practical 11	12.1			✔		
Practical 12	13.1			✔		
Practical 13	14.1			✔		
Practical 14	15.1			✔		
Practical 15	16.1					✔
Practical 16	17.1					✔
Practical 17	18.1					✔
Practical 18	19.1					✔
Practical 19	20.1					✔
Practical 20	21.1					✔
Practical 21	22.1				✔	
Practical 22	26.1					✔
Practical 23	27.1					✔
Practical 24	29.1					✔

- **SUGGESTED LEARNING MATERIALS / BOOKS**

Sr.No	Author	Title	Publisher
1	Richard Petersen	Linux The Complete Reference	McGraw Hill, 6th edition
2	Richard Blum	Linux command line and shell scripting	Wiley India
3	Prof. Dayanand Ambawade	Linux Lab: Hands on Linux	Dreamtech Press
4	Sumitabha Das	Unix Concepts and Applications	McGraw-Hill Education (India)

- **LEARNING WEBSITES & PORTALS**

Sr.No	Link / Portal	Description
1	https://maker.pro/linuthutorial/basic-linux-commands-for-beginners	Linux Basic Commands
2	https://www.guru99.com/must-know-linux-commands.html	Linux Basic Commands
3	https://www.shellscript.sh/	Shell Scripts and Programs
4	https://www.tutorialspoint.comfunix/shell_scripting.html	Shell Scripts and Programs examples
5	https://spoken-tutorial.org/tutorial	Online Course

- **Tools for conducting Practicals:**

1. Android Studio   2.Google classroom   3. MKCL LMS-Learn Live

Ms. V.N.Lawand   Mrs. R. Y. Thombare
   Faculty   **(HOD-AN)**

CC: 1. Lab File   2. Course File-MAD   3. Notice Board-AN Lab-05   4. Formative Assessment