Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
(Permanently AICTE, New Delhi, Govt. of Maharashtra and Affiliated to the University of Mumbai)
Virar(E), Bombaypada, Shirgaon Taluka Vasai, Dist no. 124001VAS website: www.viva-technology.org
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2023 - 2024 (Even Sem)

Course name: - Flutter App Development
Duration: - Throughout the semester
Venue: - VIVA Institute of Technology
Co-ordinator: - Hima Kantharia
Enrolled students: - 35

Course Objective:-
1. Learn about the features and installation of Flutter
2. Learn about the basic programming constructs of Dart
3. Develop simple mobile applications in Flutter using Dart language
4. Develop mobile applications using database Connections

Course Outcomes: -
After successful completion of the course, the students are able to
1. Installation of Flutter in Android Studio.
2. Build a simple Flutter application using simple widgets and layouts.
3. Build Animation on Flutter.
4. Develop Flutter applications using Dart packages .
5. Construct Flutter application using database.

Course Content:

UNITS	TOPICS AND SUB-TOPICS
UNIT I: Introduction to Flutter	Features of Flutter- Advantages of Flutter- Disadvantages of Flutter. Flutter InstallationInstallation in Windows- Installation in Mac OS- Creating Simple Application in Android Studio - Architecture of Flutter Applications
UNIT II: Flutter Basics	Widgets- Gestures- Concept of State- Layers- Introduction to Dart Programming- Variables and Data types- Decision Making and Loops. Functions- Object Oriented Programming. Introduction to Widgets- Widget Build Visualization
UNIT III: Introduction to Layouts	Type of Layout Widgets- Single Child Widgets- Multiple Child Widgets- Advanced Layout Application-Introduction to Gestures- Statement Management in Flutter. Ephemeral State Management- Application State - scoped model- Navigation and Routing.
UNIT IV: Animation on Flutter	Introduction to Animation Based Classes- Work flow of the Flutter Animation- Working Application- Android Specific

	Code on Flutter: Introduction to Package: Types of Packages: Using a Dart Package: Develop a Flutter Plugin Package: Accessing Rest API: Basic Concepts: Accessing Product service API
UNIT V: Database Concepts	SQL for Cloud Fire store: Internalization on Flutter: Using intl Package: Testing on Flutter Types of Testing: Widget Testing: Steps Involved: Working Example: Deployment: Android Application: IOS Application: Development Tools: Widget Sets: Flutter Development with Visual Studio Code: Dart Dev Tools: Flutter SDK

Report:-

The Value added course on Flutter App Development was conducted by Hina Kantharia, in order to provide basic knowledge of Android App Development to students of second year and third year. This course was conducted throughout the even semester during the free session in timetable. Students learned app development with handson. Also a 2 day workshop was arranged by industry expert Mr. Prathemesh Ahire. Students got detailed knowledge in this workshop. Total 38 students joined this course and successfully completed it.
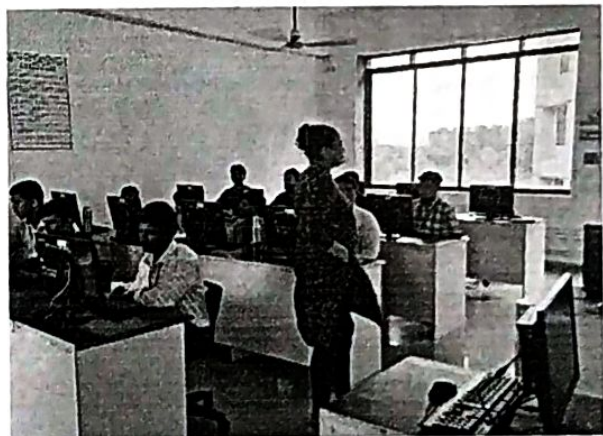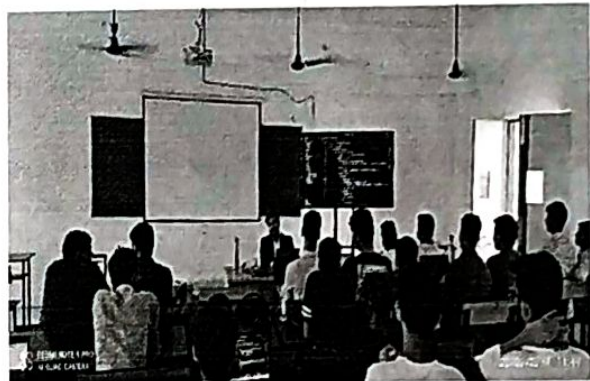
CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	3	-	-	-	-	-	-	-	-
CO3	-	-	-	2	-	-	-	-	-	-	-	-
CO4	-	-	1	-	-	-	-	-	-	-	-	-
CO5	-	-	-	2	-	-	-	-	-	-	-	-

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CO PO Justification: -

COs	POs	Justification
CO1	PO1	Moderately mapped as the students will be able to install flutter application
CO2	PO5	Strongly mapped as the students will be able to identify the tools and techniques required to build a flutter app.
CO3	PO5	Moderately mapped as the students will be able to identify tools and techniques to build animation
CO4	PO3	Slightly mapped as the students will be able to find the solutions to problems stated.
CO5	PO5	Moderately mapped as the students will be able to find tools for the system to be developed.

Janhavi Sangoi
Incharge HOD, Computer Engg.

QR Code for Certificates