COURSE NAME:	Oracle Application Development
TOTAL DURATION:	45 Hrs
MODE OF DELIVERY	Virtual Instructor led by Industry Experts + Physical Session facilitated by FDP faculty
TRAINER TO STUDENT RATIO:	1:60
TOTAL MARKS:	75

Table 1	
OVERALL COURSE OBJECTIVE:	1. Analyze and deconstruct Oracle's Cloud Application Platform to determine suitability for enterprise-level projects. 2. Design and develop scalable applications using Oracle's cloud-native services with CI/CD automation. 3. Integrate multiple cloud services to construct robust, modern, and agile software systems. 4. Leverage cloud productivity tools to streamline collaborative development workflows. 5. Evaluate and select optimal Oracle tools for diverse real-time scenarios with strategic architectural decisions.

LEARNING OUTCOME:	1. Critique the architecture and service offerings of Oracle's Cloud Development Platform. 2. Develop cloud-native applications by synthesizing Oracle APEX, Visual Builder, and Functions. 3. Deploy and configure applications using CI/CD pipelines and container services like OKE. 4. Utilize and automate project workflows using DevOps and Developer Cloud tools. 5. Analyze use cases and recommend Oracle Cloud tools that align with development and business objectives.

TABLE 2: MODULE WISE COURSE CONTENT AND OUTCOME				
SL.NO	**MODULE NAME**	**MODULE CONTENT**	**MODULE LEARNING OUTCOME**	**DURATION (HRS)**
1	**Introduction to Oracle's Cloud Application Development Platform**	- Overview of Oracle Cloud Infrastructure (OCI) - Evolution of Oracle Cloud for application development - Key components and services - Oracle Cloud regions and architecture	Critique the architecture and service offerings of Oracle's Cloud Development Platform.	8
2	**Cloud Services for Application Development**	- Oracle APEX - Oracle Visual Builder - Oracle Functions (Serverless) - Oracle Integration with REST and SOAP APIs	Develop cloud-native applications by synthesizing Oracle APEX, Visual Builder, and Functions.	12
3	**Cloud Services for Application Deployment**	- Oracle Cloud Infrastructure (OCI) for deployment - Container Engine for Kubernetes (OKE) - Oracle DevOps Service - Deployment	Deploy and configure applications using CI/CD pipelines and container services like OKE.	10

		pipelines and CI/CD integration		
4	**Cloud Services that Enhance Developer Productivity**	- Oracle Developer Cloud Service - Source Control with Git - Build automation and issue tracking - Collaboration tools	Utilize and automate project workflows using DevOps and Developer Cloud tools.	8
5	**Scenario-Based Application Design and Best Practices**	- Real-time application use cases - Choosing the right Oracle tools - Designing cloud-native applications - Security and compliance basics	Analyze use cases and recommend Oracle Cloud tools that align with development and business objectives.	12

TABLE 3: OVERALL COURSE LEARNING OUTCOME ASSESSMENT CRITERIA AND USE CASES

LEARNING OUTCOME	ASSESSMENT CRITERIA	PERFORMANCE CRITERIA	USE CASES
Critique the architecture and service offerings of Oracle's Cloud Development Platform.	Explain key components and structure of Oracle Cloud	Identifies Oracle Cloud services, deployment models, and architecture layers correctly	Prepare a comparison report between Oracle Cloud and another cloud provider focusing on architecture and core services

Develop cloud-native applications by synthesizing Oracle APEX, Visual Builder, and Functions.	Identify and describe core Oracle services like APEX, Visual Builder, and Functions	Accurately maps service functionality to appropriate use cases in app development	Create a simple web app using Oracle APEX with backend logic using Oracle Functions
Deploy and configure applications using CI/CD pipelines and container services like OKE.	Demonstrate application deployment using OCI and CI/CD tools	Deploys a sample application using Oracle DevOps pipeline and configures services correctly	Build and deploy a task management app using Visual Builder and deploy it on OCI
Utilize and automate project workflows using DevOps and Developer Cloud tools.	Apply Developer Cloud tools for source control, build automation, and collaboration	Sets up version control, manages issues, and automates builds successfully	Use Oracle Developer Cloud to create a team project with Git integration and automated builds
Analyze use cases and recommend Oracle Cloud tools that align with development and business objectives.	Analyze a scenario and choose relevant services from Oracle Cloud	Justifies tool/service selection with logical reasoning and system design	Given a business need (e.g., food delivery app), propose a development plan using suitable Oracle Cloud tools

TABLE 4: LIST OF FINAL PROJECTS (PROJECTS THAT COMPREHENSIVELY COVER ALL THE LEARNING OUTCOME)	
S.No	**Project Titles**
1	Build a Personal Portfolio Site using Oracle APEX
2	Create a Student Registration Form using Oracle Visual Builder
3	Develop a Calculator App using Oracle Functions (Serverless)
4	Design a Product Catalog using Oracle APEX and Oracle Database
5	Set Up a Git Repository in Oracle Developer Cloud Service
6	Build and Deploy a To-Do List App using Visual Builder and Oracle Functions
7	Create a CI/CD Pipeline for a Java App using Oracle DevOps
8	Develop an Employee Management System using APEX
9	Deploy a Node.js Microservice on OCI using Container Engine (OKE)
10	Design a Feedback Collection System for Workshops
11	Create a Travel Booking Portal with APEX and Oracle REST Data Services (ORDS)
12	Build a Cloud-native Inventory Tracking System
13	Develop a Role-based Login System using APEX

14	Design a Leave Management System for HR Teams
15	Implement a Real-Time Notification System using Oracle Streaming Service
16	Online Food Ordering App using Oracle Visual Builder, Functions, and DB
17	Student Performance Analysis Dashboard
18	Hospital Appointment Scheduling System
19	E-commerce Product Recommendation System (Prototype)
20	City Services Complaint Management System

TABLE 5: COURSE ASSESSMENT RUBRICS (TOTAL MARKS: 75)					
ASSESSMENT CRITERIA	**Learning Outcome**	**Fair (1–5)**	**Good (6–10)**	**Excellent (11–15)**	**TOTAL MARKS**
Oracle Cloud Platform Architecture	Critique the architecture and service offerings of Oracle's Cloud Development Platform.	Identifies a few basic components of the Oracle Cloud platform with limited clarity.	Explains most components and architecture layers with correct terminology and examples.	Presents a thorough explanation of the platform architecture, services, and deployment models using real-world context.	15

Oracle Services for Application Development	Develop cloud-native applications by synthesizing Oracle APEX, Visual Builder, and Functions.	Mentions some services without clear differentiation or use cases.	Provides relevant services with practical examples of their use in development scenarios.	Demonstrates expert-level understanding by mapping services to application types with real use case design.	15
Application Deployment and Integration	Deploy and configure applications using CI/CD pipelines and container services like OKE.	Deploys with assistance; understanding of deployment process is limited.	Independently deploys applications with basic integration across services.	Efficiently deploys, integrates multiple services (e.g., Functions, DB, Visual Builder) with documentation.	15
Productivity & DevOps Tools in Oracle Cloud	Utilize and automate project workflows using DevOps and Developer Cloud tools.	Has limited interaction with Oracle DevOps or Developer Cloud tools.	Uses tools effectively for version control, build automation, or issue tracking.	Demonstrates deep integration of DevOps practices with CI/CD, team collaboration, and live project tracking.	15
Cloud-based Decision Making for Solution Architecture	Analyze use cases and recommend Oracle Cloud	Makes unclear or partial choices for service	Provides logical justifications for service selection	Selects optimal services for complex scenarios with detailed	15

	tools that align with developme nt and business objectives.	selection in scenarios.	with reasonable system design.	reasoning, architectural diagrams, and alternatives.	