ABOUT THE COURSE

COURSE NAME:	Oracle OCI Professional
TOTAL DURATION:	45 Hrs
MODE OF DELIVERY	PHYSICAL CLASSROOM TRAINING AT RESPECTIVE COLLEGES
TRAINER TO STUDENT RATIO:	1:50
TOTAL MARKS:	75

Table 1	
OVERALL COURSE OBJECTIVE:	1. Evaluate the fundamental concepts of cloud infrastructure and the core components of Oracle Cloud Infrastructure (OCI), enabling learners to understand its role in building scalable, secure, and efficient IT solutions. 2. Design and deploy secure, scalable cloud solutions using OCI services, focusing on virtual machines, containers, networking, storage, and backup strategies to address business growth and operational needs. 3. Develop efficient OCI networking and storage configurations, prioritizing seamless connectivity, optimized performance, and secure data management for diverse enterprise requirements. 4. Create automation scripts using OCI APIs and Command Line Interface (CLI) to streamline cloud resource management and propose optimization strategies for cost-effective and reliable operations. 5. Implement best practices for managing cloud infrastructure, including security protocols, cost optimization strategies, and disaster recovery plans, defending decisions with practical case studies and real-world applications.

LEARNING OUTCOME:	1. **Apply** OCI architecture principles to design cloud infrastructure solutions tailored to business requirements. 2. **Implement** OCI networking, storage, and compute services to build scalable and resilient applications. 3. **Automate** the deployment and management of OCI resources using scripts and APIs to streamline operations.

	4. **Monitor** and optimize cloud performance, security, and cost management using OCI tools and best practices. 5. **Create** secure and efficient OCI environments by integrating advanced security protocols and infrastructure management techniques.

TABLE 2: MODULE WISE COURSE CONTENT AND OUTCOME				
SL.NO	**MODULE NAME**	**MODULE CONTENT**	**MODULE LEARNING OUTCOME**	**DURATION (HRS)**
1	Introduction to Cloud Infrastructure	- Definition and significance of cloud infrastructure - Core components of OCI (compute, storage, networking, identity management) - Benefits of cloud computing (agility, scalability, innovation) - Overview of OCI services and architecture - Case study on transitioning to cloud infrastructure	Evaluate the significance of cloud infrastructure in modern IT environments and organize OCI components to build scalable, efficient solutions.	8
2	Designing and Deploying Cloud Solutions	- Planning cloud infrastructure with scalability and security - Deploying virtual machines and containers on OCI	Design and construct secure and scalable cloud infrastructures, leveraging OCI tools to address	10

		- Managing OCI networking and load balancers - Implementing OCI storage and data backup solutions - Activity: Design and deploy cloud infrastructure for a growing business	evolving business needs.	
3	OCI Networking, Storage, and Compute	- Depository participant roles and transactions - Dividend processing, transposition, and pledging of securities - Registrar and Transfer Agent (RTA) responsibilities (shareholder records, physical shares, corporate actions)	Develop frameworks for managing depository operations and justify the importance of RTAs in maintaining shareholder records and handling corporate actions.	11
4	Automating and Optimizing OCI Resources	- Introduction to OCI APIs and scripting - Using OCI CLI for automation - Automating resource scaling and deployment - Performance optimization techniques - Final project: Automate cloud infrastructure setup	Create automation scripts for OCI resource management and evaluate optimization techniques to enhance performance and cost-effectiveness.	9

		using OCI tools and scripts		
5	Best Practices in Cloud Infrastructure	- Ensuring security with IAM in OCI - Cost optimization strategies - Monitoring and managing resource performance - Implementing backup and disaster recovery - Case study: Managing scalable, secure, and cost-efficient cloud infrastructures	Defend OCI security practices, prioritize cost management strategies, and propose robust disaster recovery plans for business continuity.	7

TABLE 3: OVERALL COURSE LEARNING OUTCOME ASSESSMENT CRITERIA AND USE CASES			
LEARNING OUTCOME	**ASSESSMENT CRITERIA**	**Performance Criteria**	**USE CASES**
Evaluate cloud infrastructure and organize OCI components for scalability	Assess understanding of cloud infrastructure fundamentals and OCI architecture.	Demonstrates the ability to identify OCI components and organize them into a scalable architecture.	Design a scalable cloud solution for a retail business migrating its operations to Oracle Cloud Infrastructure.
Design and deploy secure, scalable cloud solutions	Assess the ability to create and deploy secure OCI-based cloud environments.	Develops and deploys cloud solutions with appropriate scalability and	Build a secure cloud infrastructure for a growing e-commerce

using OCI tools		security considerations.	platform, ensuring high availability and secure data handling.
Develop OCI networking and storage configurations for optimized performance	Evaluate networking setups, load balancers, and storage solutions for efficiency.	Configures OCI networking and storage components, ensuring connectivity and data reliability.	Set up a Virtual Cloud Network (VCN) with subnets, routing, and load balancers for an enterprise-level application on OCI.
Create automation scripts and optimize OCI resources for cost-effectiveness	Assess automation and optimization strategies using OCI CLI and scripting tools.	Demonstrates the ability to automate resource scaling and optimize OCI performance and costs.	Automate resource scaling and deployment for a SaaS product on OCI, ensuring cost efficiency and high reliability.
Implement best practices in OCI for security, cost, and disaster recovery	Assess the application of security protocols, cost strategies, and disaster recovery plans.	Implements security best practices, cost-saving measures, and robust disaster recovery strategies.	Develop a disaster recovery plan for a multinational organization using OCI tools, incorporating backup and failover mechanisms.

TABLE 4: LIST OF FINAL PROJECTS (PROJECTS THAT COMPREHENSIVELY COVER ALL THE LEARNING OUTCOME)	
SL.NO	**FINAL PROJECT**
1	Designing a Scalable Cloud Infrastructure for a Growing E-Commerce Platform on OCI

2	Building a High-Performance Data Processing Pipeline Using OCI Compute and Storage
3	Automating Virtual Machine Deployment and Scaling in Oracle Cloud Infrastructure
4	Implementing a Secure Multi-Tier Web Application on OCI with Load Balancing and Auto-Scaling
5	Optimizing Cloud Storage for Large-Scale Media Hosting on OCI
6	Developing a Disaster Recovery Strategy for a Financial Institution Using OCI Tools
7	Setting Up a Secure and Cost-Efficient Cloud Environment for a Healthcare Application
8	Creating an AI-Powered Data Analytics Platform with OCI Services
9	Implementing a Scalable and Cost-Optimized Cloud Infrastructure for a SaaS Product
10	Automating Cloud Resource Scaling Using OCI CLI and APIs for E-Commerce Websites
11	Deploying a Global E-Commerce Platform with Load Balancers and Networking in OCI
12	Optimizing OCI Compute and Storage Resources for Real-Time Big Data Analytics
13	Securing Sensitive Data with IAM and Encryption in OCI for a Healthcare Application
14	Designing a Cloud-Based Backup and Disaster Recovery System with OCI Storage Solutions
15	Implementing Continuous Integration and Deployment (CI/CD) for Cloud Applications Using OCI Tools

16	Building a Cost-Efficient Cloud Infrastructure for a Financial Institution on OCI
17	Designing and deploying an AI/ML Infrastructure on OCI for Predictive Analytics
18	Automating Cloud Security Best Practices with OCI APIs and IAM Policies
19	Managing Cloud Infrastructure Performance and Cost for a Global SaaS Platform on OCI
20	Deploying and Managing a Cloud-Based Enterprise Resource Planning (ERP) System on OCI

TABLE 5: COURSE ASSESSMENT RUBRICS (TOTAL MARKS: 75)					
ASSESSMENT CRITERIA	**Learning Outcome**	**Fair (1–5)**	**Good (6–10)**	**Excellent (11–15)**	**TOTAL MARKS**
Cloud Infrastructure	Evaluate the significance of cloud infrastructure and organize OCI components for scalable solutions.	Demonstrates limited understanding of cloud infrastructure concepts and basic organization of OCI components.	Shows a good grasp of cloud infrastructure concepts and effectively organizes OCI components to support scalability.	Exhibits a deep understanding of cloud infrastructure and masterfully organizes OCI components for optimized, scalable solutions.	15
Designing and Deploying Cloud Solutions	Design and construct secure, scalable cloud	Creates basic cloud solutions with minimal	Develops functional and moderately secure	Designs comprehensive, highly secure, and fully scalable	15

	infrastructures using OCI tools.	scalability or security considerations.	cloud solutions with effective scalability.	cloud solutions tailored to business needs.	
Networking, Storage, and Compute in OCI	Develop networking and storage setups and justify configurations for application performance.	Configures basic networking and storage setups with limited optimization for performance.	Implements effective networking and storage setups with adequate performance optimization.	Develops advanced networking and storage setups, justifying configurations for seamless and optimized application performance.	15
Automating and Optimizing OCI Resources	Create automation scripts and evaluate optimization techniques for OCI resources.	Automates basic OCI tasks with minimal optimization for performance or cost.	Develops functional scripts for OCI automation and applies effective optimization strategies.	Creates advanced automation scripts and expertly evaluates optimization techniques for enhanced performance and cost efficiency.	15
Implementing Best Practices in OCI	Defend security practices, prioritize cost strategies, and propose	Identifies basic security measures and cost strategies with limited disaster	Implements robust security, cost strategies, and practical disaster	Demonstrates comprehensive security protocols, advanced cost strategies,	15

	disaster recovery plans.	recovery planning.	recovery plans.	and well-structured disaster recovery plans tailored to needs.	