

Database Programming with SQL

Maximum Number of Students: 30

Target Students: III CSE A&B

Total Number of Hours: 90

DAY-01

Section 1 - Introduction

- 1-1 Oracle Application Express
- 1-2 Relational Database Technology
- 1-3 Anatomy of a SQL Statement

Section 2 – SELECT and WHERE

- 2-1 Columns, Characters, and Rows
- 2-2 Limit Rows Selected
- 2-3 Comparison Operators

Section 1 & Section 2 Test

DAY 02

Section 3 - WHERE, ORDER BY, and Intro to Functions

- 3-1 Logical Comparisons and Precedence Rules
- 3-2 Sorting Rows
- 3-3 Introduction to Functions

Section 4 - Single Row Functions Part I

- 4-1 Case and Character Manipulation
- 4-2 Number Functions
- 4-3 Date Functions

Section 3 & Section 4 Test

DAY 03

Section 5 - Single Row Functions Part II

- 5-1 Conversion Functions
- 5-2 NULL Functions
- 5-3 Conditional Expressions

Section 5 Test

DAY 04

Section 6 - JOINS Part I

- 6-1 Cross Joins and Natural Joins
- 6-2 Join Clauses
- 6-3 Inner versus Outer Joins
- 6-4 Self-Joins and Hierarchical Queries

Section 7 - JOINS Part II

- 7-1 Oracle Equijoin and Cartesian Product
- 7-2 Oracle Nonequijoins and Outer Joins

Section 6 & Section 7 Test


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DAY 10

Section 15 - Views

- 15-1 Creating Views
- 15-2 DML Operations and Views
- 15-3 Managing Views

Section 16 - Sequences and Synonyms

- 16-1 Working With Sequences
- 16-2 Indexes and Synonyms

Section 15 & Section 16 Test

DAY 11

Section 17 - Privileges and Regular Expressions

- 17-1 Controlling User Access
- 17-2 Creating and Revoking Object Privileges
- 17-3 Regular Expressions

Section 18 - TCL

- 18-1 Database Transactions

Section 17 & Section 18 Test

DAY 12

Practice and Final End Exam


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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

AI & ML ON IOT Contents

Module: 1

Introduction to IOT, AI and ML.

Understanding the concept of IoT and its applications - IoT Architecture and Components - Connectivity Protocols and Security in IoT - Understanding the basics of AI and its applications - Machine Learning algorithms and its types - Deep Learning and its applications.

Module: 2

Integration of AI and ML in IoT

The role of AI in IoT - Application of ML in IoT - Edge Computing and its advantages - Developing ML Algorithms for the IoT environment - Building predictive models in IoT - Optimization techniques for IoT and ML.

Module: 3

IoT Data Analytics and IoT Security

Data Analytics and its types - Real-time Analytics in IoT - Predictive Analytics in IoT - Security threats in IoT - Security measures and frameworks - Data Privacy in IoT.

Module: 4

IoT applications of AI and ML

Smart home and automation - Healthcare and IoT - Manufacturing and IoT.

Module: 5

Emerging Trends in AI, ML, and IoT

The future of AI, ML, and IoT - Challenges faced in the adoption of AI/ML in IoT - Opportunities and scope of AI and ML in IoT.


Programme Coordinator


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AI & ML ON IOT Contents

Module: 1

Introduction to AI and ML: Overview of AI, ML, IoT, and their intersection in modern-day application.

Data Science for IoT: Understanding various types of data that are generated by IoT devices and ensuring that data is clean and normalized.

Module: 2

Machine Learning Models for IoT: Decision Trees, Random Forests, SVMs, and Naive Bayes algorithms applied to IoT data to identify anomalies and offer predictive analytics.

Deep Learning Algorithms for IoT: Artificial neural networks, feed forward networks, convolution neural networks, and recurrent neural networks applied to IoT data to make intelligent decisions.

Module: 3

Edge Computing and IoT: Introduction to edge computing and how it enables IoT devices to become more autonomous, improve predictions, and increase efficiency. **IoT Security:** Understanding the security issues associated with IoT, including data privacy, data security, and device authentication.

Module: 4

Cloud Computing and IoT: Overview of cloud computing and its usage in IoT applications, the use of platforms like AWS, Google Cloud, and Azure.

Applications of AI and ML for IoT: Case studies and Applications of AI and ML for IoT in different sectors, including manufacturing, healthcare, smart transportation, agriculture, and energy management.

Module: 5

IoT Data Visualization and Analytics: Using AI and ML techniques to present data in meaningful ways for better decision-making.

Future trends in AI and ML for IoT: Exploring the directions of AI and ML for IoT and how it is expected to develop in the future.

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