LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

Introduction to Big Data Concepts

Workshop Level

LAPT — London Academy of Professional Training

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Reference IT-DSA-W • IT Centres

UKPRN 10067351 • Registered in England and Wales, company 4984798

6	18	72	440	60%	Lifetime
SUBJECTS	CHAPTERS	CLASSES	TOTAL MARKS	PASS MARK	VALIDITY

AT A GLANCE

REFERENCE	**IT-DSA-W**
AWARD	**Certificate**
ASSESSMENT	**440 marks — 264 to pass (60%)**
PREREQUISITES	**None**
VALIDITY	**Lifetime**
AWARDING BODY	**LAPT — London Academy of Professional Training**

CURRICULUM

1 Basic Statistical Analysis

3 chapters · 12 classes **65 marks**

- **1 Chapter 1 — Understanding Basic Statistical Concepts** — 4 classes
  - 1.1 Exploring Descriptive Statistics: Mean, Median, and Mode
  - 1.2 Understanding Data Dispersion: Variance and Standard Deviation
  - 1.3 Visualizing Data: Histograms and Box Plots
  - 1.4 Analyzing Relationships: Correlation vs Causation
- **2 Chapter 2 — Descriptive Statistics for Big Data** — 4 classes
  - 2.1 Understanding Key Descriptive Statistics Concepts
  - 2.2 Exploring Measures of Central Tendency
  - 2.3 Analyzing Measures of Dispersion in Big Data
  - 2.4 Applying Descriptive Statistics to Real Big Data Sets
- **3 Chapter 3 — Inferential Statistics in Big Data Analysis** — 4 classes
  - 3.1 Understand the Role of Inferential Statistics in Big Data
  - 3.2 Explore Key Inferential Statistical Methods
  - 3.3 Apply Hypothesis Testing in Data Analysis
  - 3.4 Interpret Statistical Evidence from Big Data

2 Big Data Storage Solutions

3 chapters · 12 classes **65 marks**

- **1 Understanding Big Data Storage Fundamentals** — 4 classes
  - 1.1 Exploring Key Concepts in Big Data Storage
  - 1.2 Identifying Components of Big Data Storage Systems
  - 1.3 Analyzing Data Storage Methodologies
  - 1.4 Applying Big Data Storage Solutions to Real-World Scenarios
- **2 Exploring Distributed File Systems and Databases** — 4 classes
  - 2.1 Understanding the Basics of Distributed File Systems
  - 2.2 Examining Key Characteristics of Distributed Databases
  - 2.3 Comparing Use Cases for File Systems and Databases
  - 2.4 Applying Distributed Storage Concepts to Real-World Scenarios
- **3 Implementing Big Data Storage Solutions in Practice** — 4 classes
  - 3.1 Understanding the Architecture of Big Data Storage
  - 3.2 Exploring Data Storage Technologies and Their Applications
  - 3.3 Configuring Big Data Storage Solutions for Optimal Performance
  - 3.4 Evaluating and Selecting the Right Storage Solution for Big Data Needs

3 Big Data Tools and Platforms

3 chapters · 12 classes **65 marks**

- **1 Understanding Big Data Ecosystems** — 4 classes
  - 1.1 Exploring the Components of Big Data Ecosystems
  - 1.2 Distinguishing Big Data Tools and Technologies
  - 1.3 Analyzing the Architecture of Big Data Platforms
  - 1.4 Applying Big Data Solutions to Real-World Scenarios
- **2 Exploring Big Data Tools and Technologies** — 4 classes
  - 2.1 Discovering Key Big Data Platforms
  - 2.2 Understanding Distributed Computing with Hadoop
  - 2.3 Exploring Cloud-Based Data Solutions
  - 2.4 Analyzing Data with Apache Spark
- **3 Leveraging Cloud Platforms for Big Data Solutions** — 4 classes
  - 3.1 Understanding Cloud Infrastructure for Big Data
  - 3.2 Exploring Key Cloud Service Providers for Big Data
  - 3.3 Integrating Big Data Tools with Cloud Platforms
  - 3.4 Implementing Big Data Solutions in the Cloud

4 Data Collection and Preprocessing

3 chapters · 12 classes **90 marks**

- **1 Understanding Data Collection Techniques and Tools** — 4 classes
  - 1.1 Exploring Data Collection Methods
  - 1.2 Identifying Data Sources
  - 1.3 Utilizing Data Collection Tools
  - 1.4 Applying Data Collection Techniques
- **2 Data Cleaning and Transformation Processes** — 4 classes
  - 2.1 Understand the Role and Significance of Data Cleaning
  - 2.2 Identify and Handle Missing Data
  - 2.3 Detect and Correct Data Errors and Anomalies
  - 2.4 Apply Data Transformation Techniques for Analysis
- **3 Implementing Data Preprocessing Techniques** — 4 classes
  - 3.1 Understanding Data Cleaning Processes
  - 3.2 Applying Data Transformation Techniques
  - 3.3 Implementing Feature Scaling Methods
  - 3.4 Executing Data Integration and Reduction Strategies

5 Designing Data Workflows

3 chapters · 12 classes **90 marks**

- **1 Chapter 1 — Understanding Data Workflow Principles** — 4 classes
  - 1.1 Exploring the Fundamentals of Data Workflows
  - 1.2 Identifying Components of Effective Data Workflows
  - 1.3 Analyzing Data Flow Patterns and Structures
  - 1.4 Applying Workflow Principles to Real-World Scenarios
- **2 Chapter 2 — Tools and Techniques for Data Workflow Design** — 4 classes
  - 2.1 Exploring Essential Data Workflow Tools
  - 2.2 Understanding Data Transformation Techniques
  - 2.3 Implementing Data Collection Strategies
  - 2.4 Optimising Workflow Efficiency through Automation
- **3 Chapter 3 — Implementing and Optimizing Data Workflows** — 4 classes
  - 3.1 Understanding Data Workflows in Big Data
  - 3.2 Building Efficient Data Pipelines
  - 3.3 Applying Optimization Techniques to Data Workflows
  - 3.4 Evaluating and Iterating Data Workflow Performance

6 Introduction to Big Data

3 chapters · 12 classes **65 marks**

- **1 Understanding the Basics of Big Data** — 4 classes
  - 1.1 Exploring the Fundamentals of Big Data
  - 1.2 Identifying Key Characteristics and Components of Big Data
  - 1.3 Understanding Big Data's Importance and Impact
  - 1.4 Applying Basic Big Data Concepts to Real-World Examples
- **2 Big Data Technologies and Tools** — 4 classes
  - 2.1 Exploring Big Data Frameworks: Hadoop and Spark
  - 2.2 Understanding Data Storage Options: NoSQL and Data Lakes
  - 2.3 Analyzing Data Processing Techniques: Batch vs. Stream Processing
  - 2.4 Applying Big Data Tools: Hands-On with Popular Software
- **3 Applications and Implications of Big Data Analytics** — 4 classes
  - 3.1 Exploring Real-World Applications of Big Data Analytics
  - 3.2 Understanding the Ethical Implications of Big Data
  - 3.3 Examining Privacy Concerns in Big Data Usage
  - 3.4 Evaluating the Impact of Big Data on Decision-Making

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Curriculum current at the date of issue.