
# DBMS Training

## (Basics – 30 Hours & Advanced -30 Hours)

**A training pack for students & beginners**

Dear Sir/Madam

**Sub: To organize DMBS Training in your college.**

This is to bring to your kind notice that **POSITIVE QUADRANT TECHNOLOGIES LLP** is an Indian entity exploring itself in various sectors like Software Development , Augmented Reality , Virtual Reality , IoT , Simulation ,Games Development ,Mobile Applications,3D Modelling Development , Practical Educational Training, Professional Training, Corporate Training, Web & IT Services.

**DBMS Training conceptualized** by **some top industry professionals** in association with **POSITIVE QUADRANT TECHNOLOGIES LLP**. It is going to be India's first & biggest training series based on this market flag bearer of all next generation technologies.

This workshop will also provide a platform where young engineers can mould their imagination into reality and feel the excitement first-hand. With this end in view, we extend our support and technical expertise to the young engineers of your College in the form of this workshop. We seek your cooperation and look forward towards a successful execution of this workshop in your college.

We are hoping that you will find this training really interesting for the students. If you have any queries, please get back to us anytime.

# SYLLABUS

**Basics 30 Hours**

**1. Introduction to Database (Basics)**

- Meaning and Definition of Database
- Functions of Database
- Types of Databases
  - Bibliographic Database
  - Knowledge Database
  - Graphic-Oriented Database
  - Decision-making Database
- Concept of Data Structure
  - List Structure
  - Tree / Hierarchical Structure
  - Network Structure

**2. Introduction to DBMS (Basics)**

- 2.1 Objectives of DBMS
- 2.2 Functions of DBMS
- 2.3 Components to DBMS
- 2.4 Advantages and Disadvantages of DBMS



**3. Database Design (Basics)**

- 3.1 Goals of Database Design
- 3.2 Logical and Physical View of Database
- 3.3 View of Data / Architecture of Database System
- 3.2.1 Data Abstraction
- 3.2.2 Instances and Schemas
- 3.2.3 Data independence
- 3.2.4 Database Languages
- 3.4 Storage Structures
- 3.5 Phases in Database Design

**5 Relational query languages (Basics)**

- Relational Algebra and Calculus

- Datalog
- SQL
- QBE

**6 Triggers (Basics)**

**7 Embedded SQL (Basics)**

**8 Recursion (Basics)**

**Advanced 30 Hours**

**9 Web database programming (Advanced)**

**10 Conceptual data modelling(Advanced)**

**11 E/R data model (Advanced)**

**12 OO data model (Advanced)**

**13 Relational database design (Advanced)**

- Normal Forms (NF)
- 1-4NF
- Lossless join decomposition



**17 RDF, RDF Schema, and OWL (Advanced)**

**18 Storage and indexing(Advanced)**

**19 Query processing and optimization (Advanced)**

**20 Parallel and distributed databases (Advanced)**

**21 NoSQL databases(Advanced)**

**22 Transaction processing and database recovery (Advanced)**

**23 Database security (Advanced)**

**24 Current developments in knowledgebase (Advanced)**

**25 Big data and Hadoop. (Advanced)**