

Title of Skill Course: Basics in Database Analyst**1. Department:** Department of Computer Science Optional**2. Title:** Basics in Database Analyst**3. Sector:** Information Technology**4. Eligibility:** B.Sc. I**5. Year of implementation:** 2022**Course Structure**

Skill Level	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch
4	10	05	15	01	30

Syllabus**Course Objectives:**

1. To understand how to write and manage database.
2. To learn PL/SQL Structure and implementation.

UNIT NO.	SEMESTER-I SECCST 101	No. of hours per unit/credits
UNIT - I	Role and Responsibility	(04)
	What is Database Analyst, work of a Data Analyst in the industry, Data Analyst Job Requirements, Skills of a Database Analyst-Technical, Leadership skill, Project management skills, Core and Soft skills, Key Roles and Responsibilities, Database Analyst vs. Data Analyst, Database Analyst vs. Database Administrator.	
UNIT - II	Technical Knowledge	(06)
	Introduction to database and RDBMS - Database Objects, Database Tables, Table Records, Types of Database Management Systems, Install Database Engine - Download MS SQL Server or Oracle or MySQL Database Engine, and Install, Introduction to SQL, SQL Datatype, SQL Operator, SQL Comments, Constraints in SQL, SQL Data Definition Language Commands - CREATE, ALTER, DROP, TRUNCATE, and Rename, Data Manipulation Language Commands - SELECT, INSERT, UPDATE, and DELETE, DCL commands - GRANT and REVOKE.	

Course Outcomes:

1. Use built-in functions successfully.
2. Enhance Programming and Software Engineering skills and techniques using SQL and PL/SQL.

Reference Books:

- 2) 1. “Database Systems, Concepts, Design and Applications” by S.K.Singh, Pearson Education.
- 3) 2. “Database Management Systems” by Raghu Ramakrishnan, Johannes Gehrke, McGraw Hill Publication.
- 4) 3. “Fundamentals of Database Systems” by Elmsari, Navathe, 5th Edition, Pearson Education (2008).

Practical		No. of hours per (05)
1	Install Database Engine – Oracle.	
2	Perform Data Definition Language Commands.	
3	Demonstrate Data Manipulation Language Commands.	
4	Implement Data Control Language Commands	
5	Apply different Constraints on database tables	

BOS Sub Committee:

Sr. No.	Name of Member	Designation	Address
1.	Ms. D. B. Jangam	Chairman	YCIS, Satara
2.	Ms. V. N. Pawar	Member	YCIS Satara
3.	Dr. Poonam Ponde	Academic Expert	Nowrosji Wadia College, Pune
4.	Ms.Shraddha Sonawane	Industrial Expert	Cognizant Solution, Pune

Title of Skill Course: Basics in Database Analyst**1. Department:** Department of Computer Science Optional**2. Title:** Advances in Database Analyst**3. Sector:** Information Technology**4. Eligibility:** B.Sc. I**5. Year of implementation:** 2022**Course Structure**

Skill Level	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch
4	25	20	15	02	30

Syllabus Course**Objectives:**

1. To understand how to write and manage database.
2. To learn PL/SQL Structure and implementation.

UNIT NO.	SEMESTER-II SECCST 201	No. of hours per unit/credits
UNIT - I	Role and Responsibility	(05)
	Introduction of file, file types, organization of file- heap file organization, serial file organization, sequential, index sequential file, random access file (direct access file) Types of Database System: centralized database system, client-server system, distributed database system.	
UNIT - II	Technical Knowledge	(20)
	Introduction, definition, features of data models, Object based data models- Entity Relationship Model, cardinality, Record based models- Relational Model, Network Model, Hierarchical Model, Physical Data Models Keys: Primary key, foreign key, candidate key, super key, unique key Normalization: Concept of normalization, advantages, First NF, Second NF, Third NF, examples of Normalizations. Database Management through Ms-Access: Introduction of Ms-Access, features, database creation, table creation, insert records, queries, forms and report creation, introduction to latest versions of Ms-Access. Case Study: Design Database System for- Library management system, Bank management system, Inventory management system.	

Course Outcomes:

1. Use built-in functions successfully.
2. Enhance Programming and Software Engineering skills and techniques using SQL and PL/SQL.

Reference Books:

1. "Database Systems, Concepts, Design and Applications" by S.K.Singh, Pearson Education.
2. "Database Management Systems" by Raghu Ramakrishnan, Johannes Gehrke, McGraw Hill Publication.
3. Database Management System- R.Panneerselvam
4. Ms-Office Complete reference

Practical		No. of hours per (05)
1	Write procedure for creating database in Ms-Access.	
2	Generate form in Ms-Access and write steps in detail.	
3	Establish relationship between tables and write steps for it.	
4	Create reports using different queries based on multiple tables and write steps in detail for it	
5	Library system: 1. Create database for library system 2. Establish essential relationship between tables 3. Design form for above library system 4. Generate following reports for library system: a. List of book with accession numbers b. List of books according to author c. List of books issued to student d. Demand books report of students	
6	Design Database System for Payroll management system: 1. Draw ER diagram 2. Create database- contains 1. At least 5 tables 2. At least 3 fields with proper data type 3. Set primary key wherever required 4. Create relationship structure 5. Create form for each table 6. Insert at least 5 records in each table 7. Create different query using query wizard 8. Create at least 3 reports using report wizard (at least 5 records)	
7	Design Database System for Hospital management system	

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