PYTHON

1. What is PYTHON?
2. FEATURES
3. Identifires, Reserved words
4. Data types
5. Type casting
6. Operators
7. Input and Output Statements
8. Flow control
9. String Data types
10. List Data types
11. Tuple Data types
12. Set Data types
13. Dictionary Data types
14. Return function
15. Lambda function
16. Python module
17. Exceptional handling
18. File handling
19. Decorators and Generators
20. OOPS concepts

AZURE

AZURE DATABRICKS AND DATA FACTORY

1. Create Azure account

2. What is Azure Databricks, ADF introduction.

3. Revise all concepts of SPARK .(Same topics covered in Azure

Databricks portal) Create Databricks notebook. Notebook Introduction.

4. Notebook workspace

5. Create Cluster

6. Types of cluster

7. DBUTILS in databricks

8. Read , write Parquet , JSON, CSV files

9. Unity catalogue

10. Metastore

11. SCD and its types

12. Optimization techniques.

13. Create Mount Point

14. Azure key vault.

15. Azure storage

16. Azure logic app

17. Azure Data Factory.

18. Create Data factory, Its components.

19.Introduction to all Activities in ADF

SQL

1. Software Installation

2. Introduction SQL ,Database , RDBMS , Warehouse

2. DDL ,DML ,TCL, DQL , DCL commands

3. Basic select command, Create Tables, Insert values , Data types

4. Arithmetic expressions, Column Alias, Concatenation operators, Distinct keyword , Using literal character string

5. Practice Question's

6. Limiting rows (WHERE clause)

7. Comparison Operators (=,<,>,!=)

8. BETWEEN ,IN operators

9. Pattern Matching using LIKE operator and Wildcard Characters

10. Logical operators (AND ,OR, NOT)

11. Sorting rows using ORDER BY clause

12. Practice Question's

13. Single row Functions (NVL, NVL2, NULLIF, COALESCE , CASE , DECODE)

14. Character Functions (LOWER, UPPER, INITCAP, CONCAT,, SUBSTR, INSTR, LENGTH, LPAD, RPAD, TRIM, REPLACE)

15. Number Functions (ROUND, TRUNC, MOD, CEIL, FLOOR)

16. Working with DATES (MONTHS_BETWEEN, ADD_MONTHS, NEXT_DAY, LAST_DAY,SYSDATE)

17. Practice Question's

18. Data type conversion (TO_CHAR, TO_NUMBER,TO_DATE)

19. CASE expression IF- ELSE- ELIF

20. GROUP Functions (AVG, COUNT, MAX, MIN, SUM)

21. HAVING clause

22. WINDOW functions (RANK,

DENSE_RANK,ROW_NUMBER,LEAD,LAG)

23. JOINS (INNER,LEFT,RIGHT,OUTER,CARTESIAN)

24. CONSTRAINTS (NOT NULL,UNIQUE,PRIMARY KEY , FOREIGN

KEY, CHECK, DEFAULT)

25. SUBQUERY

26. Set Operators (UNION, UNION ALL, MINUS, INTERSECT)

27. Views and Its types

28. Theory Part

29. Practice and Doubt session

PYSPARK

1. What is SPARK?

2. SPARK architecture

3. How to READ file, WRITE file (CSV,JSON)

4. SCHEMA?

5. Create DATAFRAME

6. Data frame transformation's (SELECT, SHOW,COLLECT,

WITHCOLUMN, WITHCOLUMN_RENAMED,

WHERE,FILTER,DROP,DROP_DUPLICATES,ORDERBY,SORT,

GROUPBY,UNION,UNIONALL,FILL,FILLNA,PIVOT,PARTITION)

7. WINDOW functions

8. JOINS

9. DATE FUNCTIONS

11. THEORY PART Most Important Concepts

12. CLUSTERS,

SPARK COMPONENTS,

SPARK SESSION,

REPARTITION , COALESCE,

CACHE, PERSIST,

GROUPBYKEY, REDUCE BY KEY,

RDD,

TRANSFORMATIONS (NARROW, WIDE),

AQE,

SALTING,

DAG,

CATALYST OPTIMIZER,

BROADCAST JOIN,

PREDICATE PUSHDOWN,

JOBS , STAGES and TASKS,

MEMORY ALLOCATION