

2. Database Management System (DBMS)

8.2 Database Management System (DBMS)

Candidates should be able to:

Show understanding of the features provided by a Database Management System (DBMS) that address the issues of a file based approach

Show understanding of how software tools found within a DBMS are used in practice

Notes and guidance

Including:

- data management, including maintaining a data dictionary
- data modelling
- logical schema
- data integrity
- data security, including backup procedures and the use of access rights to individuals / groups of users

Including the use and purpose of:

- developer interface
- query processor

- Features of DBMS

- Data dictionary

- A set of data that contains metadata for a data base
 - Table/entity names
 - Field/attribute names
 - Datatypes
 - Validation
 - Primary keys
 - Used by managers of the database
 - Maps logical database to physical storage

- Data modeling

The analysis and definition of the data structure required in a database to produce a data model

- Logical schema

Schema refers to a data model for a specific database that is independent of the DBMS used

Logical:

- Describes how the relationships will be implemented in the logical structure

- Defines all the logical constraints that need to be applied on the data stored
 - Defines tables, views, and integrity constraints
 - Tools in DBMS
 - Developer interface
 - Set up forms for the input of student data
 - Add objects to a form to make data input easier
 - Design a report for the output of student marks
 - Add a menu to select options for different actions
 - To create user friendly features
 - To create interactive features
 - To create outputs
 - Create table
 - Create form
 - Set up query
 - Set up relationships between table
 - Query processor
 - To create SQL queries
 - To search for data that meets the set criteria
 - To perform calculation on extracted data
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