MANAGE DATABASE SYSTEMS (MS Access)

UNIT CODE: ICT/OS/IT/CR/04/5/B

UNIT DESCRIPTION

This unit covers the competencies required to carry out management of Basic databases systems. It involves identification of database concepts, designing of database, Creation and manipulation of database, database testing e.g. using dummy data, implementation of the designed database, establishing transaction and concurrency mechanism and managing database security.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. *Bold and italicized terms are elaborated in the Range.*
1. Identify database concepts	1.1 Database concepts are defined 1.2 ***Database models*** are identified 1.3 Identification of merits and demerits of database is done
2. Design Basic database	2.1 Database design concepts are identified 2.2 ***Appropriate database structures*** are determined 2.3 Database design is implemented 2.4 ***Database operations*** are performed
3. Create and manipulate database objects	3.1 ***Database objects*** are created. 3.2 Appropriate ***data attributes*** are applied 3.3 Data relationships are established as per the tables created 3.4 Data is extracted from database using Access.
4. Perform database testing	4.1 Test data is prepared 4.2 Run the test data 4.3 Check the test results 4.4 Validate the results 4.5 Report the findings
5. Print Database Objects	5.1 Database tables are printed 5.2 Database queries are printed 5.3 Database forms and reports are printed

RANGE

Variable	Range *May include but is not limited to:*
1. Database Models	• Relational • Referential • Entity Integrity • Network • Star schema
2. Database structures	Refers to a collection of record type and field type definitions that comprise your database: • Record Types. These define the type of entities or research objects you wish to capture (e.g. Person). • Fields. These are the properties or attributes that describe your record types (e.g. Gender, Age, Height etc.)
3. Database objects	• Tables • Forms • Reports • Queries
4. Database operations	• INSERT • SELECT • UPDATE • DELETE
5. data Attributes	• Atomic Attribute • Composite Attribute • Single Valued Attribute • Multi Valued Attribute • Stored Attribute • Derived Attribute • Null Valued Attribute

REQUIRED KNOWLEDGE AND UNDERSTANDING

The individual needs to demonstrate knowledge and understanding of:

- Database concepts
- Database design concepts
- Database objects
- Procedures of printing database objects

FOUNDATION SKILLS

The individual needs to demonstrate the following foundation skills:

- Communications (verbal and written);
- Proficient in ICT;
- Time management;
- Analytical
- Faults troubleshooting;
- Problem solving;
- Planning;
- Decision making;
- Report writing;

EVIDENCE GUIDE

This provides advice on assessment and must be in conjunction with the performance criteria, required knowledge and understanding and range.

1. Critical Aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Created database components 1.2 Performed Database operations 1.3 Applied Appropriate Data Attributes 1.4 Extracted data from database using Access 1.5 Performed test data and validated the results 1.6 Performed printing of database objects
2. Resource Implications	***The following resources must be provided:*** 2.1 Computer 2.2 Database software 2.3 Printer 2.4 Stationery
3. Methods of Assessment	**Competency may be assessed through:** 3.1 Oral questioning 3.2 Practical demonstration 3.3 Observation
4. Context of Assessment	4.1 Competency may be assessed individually in the actual workplace or through a simulated work place environment
5. Guidance information for assessment	5.1 Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.