Advanced Diploma in Information Technology (104) – Advanced Microsoft Access

Prerequisites: Good knowledge of file management.	**Corequisites:** A pass or higher in Diploma in Information Technology or equivalence.
Aim: This course introduce candidates to the advanced features of Microsoft Access. Candidates are introduced to advanced report techniques; advanced form techniques; advanced application development techniques, and integrating an Excel worksheet to an Access database. Upon completion of this course candidates will be able to use the (i) Form Design View (toolbox, field list, format, calculating fields, sub-forms and form and field properties, add graphics, command buttons, tabbed pages). (ii) Report Design View (investigate types of report sections, toolbox, field list, format, sorting and grouping, calculating fields, adjusting report width, using sub-reports and report properties). (iii) Advanced importing and exporting (creating junction tables, cross-tab queries, using macros to automate a task, linking the macro to a button on a form, cancel printing of a blank report, automate data entry and data validation using macros).	
Required Materials: Recommended Learning Resources.	**Supplementary Materials:** Recommended textbooks and lecture notes.
Special Requirements: This is a hands-on course, hence practical use of computers is essential. Requires intensive lab work outside of class time.	

Intended Learning Outcomes:	**Assessment Criteria:**
1. Describe how to integrate Access with other office applications. Discuss Object Linking and Embedding (OLE), importing and exporting files.	1.1 Describe how to use Microsoft Graph to chart data in tables or queries 1.2 Describe how to import data to Access 1.3 Describe how to export data from Access 1.4 Demonstrate creating a Data Access Page using the Page Wizard 1.5 Illustrate how to use Design view to modify a Data Access Page
2. Describe how to design advanced queries. Define how to improve data integrity with queries.	2.1 Review table and object naming standards 2.2 Describe how to use the **Like**, **In**, **Not**, and **&** operators in queries 2.3 Describe how to filter data using an AutoFilter 2.4 Demonstrate using the **IIf** function to assign a conditional value to a calculated field in a query 2.5 Describe how to create a parameter query 2.6 Describe how to uUse query wizards to create a crosstab query, a find duplicates query, and a find unmatched query 2.7 Describe how to create a top values query 2.8 Demonstrate modifying table designs using lookup fields, input masks, and data validation rules 2.9 Identify object dependencies 2.10 Review a Memo field's properties 2.11 Define how to designate a trusted folder
3. Use Form Tools to create custom forms. Demonstrate how to design advanced forms.	3.1 Describe how to change a lookup field to a Text field

	3.2	Describe how to view and print database documentation
	3.3	Illustrate how to create datasheet, multiple items, and split forms
	3.4	Describe how to modify a form and anchor form controls in Layout view
	3.5	Illustrate how to plan, design, and create a custom form in Design view and in Layout view
	3.6	Describe how to select, move, align, resize, delete, and rename controls in a form
	3.7	Describe how to add a combo box to a form
	3.8	Describe how to add form headers and footers to a form
	3.9	Describe how to add a combo box to a form to find records
	3.10	Describe how to add a subform to a form
	3.11	Describe how to add calculated controls to a form and a subform
	3.12	Identify how to change the tab order in a form
	3.13	Identify how to improve the appearance of a form
4. Explore the process of customising reports.	4.1	Define how to view, filter, and copy report information in Report view
	4.2	Describe how to modify a report in Layout view
	4.3	Describe how to modify a report in Design view
	4.4	Describe how to design and create a custom report
	4.5	Illustrate sorting and grouping data in a report
	4.6	Define how to add, move, resize, and align controls in a report
	4.7	Illustrate how add lines to a report
	4.8	Describe how to hide duplicate values in a report
	4.9	Describe how to add the date, page numbers, and title to a report
	4.10	Describe how to create and modify mailing labels
5. Discuss advanced topics including multipaged forms, PivotTables and PivotCharts, XML and Microsoft SQL Server	5.1	Describe how to export an Access table to an HTML document and view the document
	5.2	Describe how to import a CSV file as an Access table
	5.3	Describe how to use the Table Analyzer
	5.4	Describe how to import and export XML files
	5.5	Demonstrate how to save and run import and export specifications
	5.6	Demonstrate how to create a multi-page form using a tab control
	5.7	Illustrate how to embed a chart in a form
	5.8	Illustrate how to create and modify PivotTables and PivotCharts
	5.9	Illustrate how to link data from an Excel worksheet

6. Discuss relationships. Describe the purpose of junction tables, multi-table forms and reports and inner and outer joins.	6.1	Describe how to create an action query to create a table
	6.2	Demonstrate creating action queries to append, delete, and update data
	6.3	Define many-to-many and one-to-one relationships between tables
	6.4	Discuss about joining tables
	6.5	Demonstrate joining tables using a self-join
	6.6	Be able to view and create indexes for tables
7. Discuss how to automate database tasks using macros. Define user interfaces.	7.1	Describe how to design a switchboard and dialog box for a graphical user interface
	7.2	Describe how to run and add actions to macros
	7.3	Define a single step a macro
	7.4	Describe how to create a macro
	7.5	Describe how to add a macro to a macro group
	7.6	Describe how to add a command button to a form
	7.7	Describe how to attach a macro to a command button
	7.8	Describe how to create a dialog box form
	7.9	Describe how to add a list box to a form
	7.10	Demonstrate using SQL statements to fill a list box with object names
	7.11	Describe how to create a macro group
	7.12	Describe how to use the Switchboard Manager to create a switchboard
	7.13	Describe how to modify a switchboard
8. Outline how to program in Access. Define the process of creating Visual Basic Applications (VBA)	8.1	Learn about Function procedures (functions), Sub procedures (subroutines), and modules
	8.2	Review and modify an existing subroutine in an event procedure
	8.3	Create a function in a standard module
	8.4	Create event procedures
	8.5	Compile and test functions, subroutines, and event procedures
	8.6	Hide text and change display colors
	8.7	Create event procedures for a dialog box
9. Describe data administration and maintaining database integrity. Discuss how to allow authorised users to access the database.	9.1	Use data validation criteria to insure data accuracy
	9.2	Create and modify custom input masks
	9.3	Add user permissions to a database
	9.4	Set database passwords
	9.5	Use database replication to synchronise multiple copies of a database
	9.6	Apply database encryption to secure data
	9.7	Use the Database Splitter to protect databases from modification and to create a front and back end

Recommended Learning Resources: Advanced Access

	• Database Projects in Access for Advanced Level by Julian Mott and Ian

Text Books	Rendell. ISBN-10: 034081201X • Illustrated Course Guide: Microsoft Office Access Advanced by Lisa Friedrichsen. ISBN-10: 1423905334
Study Manuals	BCE produced study packs
CD ROM	Power-point slides
Software	Microsoft Access