

Department/Program : ND Computer Science	Course Code:	CPT 216	Contact Hours: 6 hours/week
Subject/Course: Databases Management Systems			Theoretical: 2 hours/week
Year: II	Semester: I	Pre-requisite:	Practical: 4 hours /week

General Objectives

1. Understand the File Processing systems and the related problems
2. Understand basic concept of database.
3. Create and modify a table.
4. Create and modify/update forms.
5. Create and modify a report.
6. Able to **use SQL**
7. Able to maintain a database.

	Theoretical Content			Practical Content		
	General Objective: understand the File Processing Concepts.					
Week	Learning Outcomes	Teacher's activities	Resources	Learning Outcomes	Teacher's activities	Resources
1	Outline the weakness of the file processing system	To explain file processing systems and associated problems: Data redundancy, Data Isolation, Data inconsistency, Data integrity and security problems, etc	PC connected to an OHP Internet access. Smart board/ white board Lectures Notes Related Websites for topics	The ability to: Explain Data redundancy, Data Isolation, Data Inconsistency, Data integrity and security problems, etc	.	

General Objective: To understand Database concept						
2	<p>Identify</p> <p>Basic concept of a database</p> <p>To recognize The Environment of a database</p>	<p>To Revise:</p> <p>What is a database When to use a database How a database is organised in terms of tables, records, fields,</p> <p>Field data types The purpose of relating tables in a database. What is a primary/secondary keys and an index,</p> <p>To explain:</p> <p>The types of database-Relatioal and other models</p>	<p>PC connected to an OHP Internet access. Smart board/ white board</p> <p>Lectures Notes</p> <p>Related Websites for topic</p> <p>.</p>	<p>The ability to:</p> <p>Explain the terms and Interact with an existing database</p>	<p>To supervise the laboratory and assist students in the practical work.</p>	<p>Networked PC lab Internet access Database package NetSupport package</p>
3	<p>To Identify</p> <p>The planning and designing process of a database with a chosen language</p>	<p>To Explain:</p> <p>The main steps of planning a database.</p> <p>The importance of setting rules to ensure relationships between tables are valid.</p> <p>The utilities of relating tables and different relationships between tables.</p> <p>Database security</p>	<p>PC connected to an OHP Internet access. Smart board/ white board</p> <p>Lectures Notes</p> <p>Related Websites for topic</p> <p>.</p>	<p>The ability to:</p> <p>Interact with and/or tour an existing database</p>	<p>To supervise the laboratory and assist students in the practical work</p>	<p>Networked PC lab Internet access Database package NetSupport package</p>
General Objective: Ability to create and modify tables and the key concepts.						

4	<p>4.1 To understand:</p> <p>The design process of a table</p> <p>Recognize the existence of difference data types</p> <p>The concept and creation of table keys</p>	<p>To Explain:</p> <p>How to plan the design of a table.</p> <p>Basic steps in the design process of deferent tables.</p> <p>How to specify fields with their data types. The definition of a primary key. How to Index a field with or without duplicates allowed.</p>	<p>PC connected to an OHP Internet access. Smart board/ white board</p> <p>Lectures Notes</p> <p>Related Websites for topic</p>	<p>The ability to:</p> <p>Open and close a Database application.</p> <p>Create a new Database Create a table</p>	<p>To demonstrate how to :</p> <p>Open DB and Create a table Add copy, rename, delete field to an existing table.</p> <p>Save and close a table Present the different practical activities</p>	<p>Networked PC lab</p> <p>Internet access</p> <p>Database package</p> <p>NetSupport package</p>
5	<p>4.2 To understand:</p> <p>The concept of table Design and Layout</p>	<p>To Explain:</p> <p>How to Change field format and attributes such as: field size, number format, date format.</p> <p>The consequences of changing field size attributes in a table.</p> <p>The validation rule for number, text, date/time, currency.</p>	<p>PC connected to an OHP Internet access. Smart board/ white board</p> <p>Lectures Notes</p> <p>Related Websites for topic</p>	<p>The ability to:</p> <p>Change field format and attributes.</p> <p>Create a simple validation rule for number, text, date/time, currency.</p>	<p>To demonstrate how to:</p> <p>Change field format and attributes such as: field size, number format, date format.</p> <p>Create a simple validation rule</p>	<p>Networked PC lab</p> <p>Internet access</p> <p>Database package</p> <p>NetSupport package</p>

6	<p>4.3 To understand:</p> <p>The concept to tables relationships</p>	<p>To Explain:</p> <p>Different types of relationship such as one-to-one and one-to-many between tables.</p> <p>Rule(s) of relationships, such that fields that join tables are not deleted as long as links to another table exist.</p>	<p>PC connected to an OHP Internet access. Smart board/ white board</p> <p>Lectures Notes</p> <p>Related Websites for topic</p>	<p>The ability to:</p> <p>Make relationships Between tables.</p> <p>Delete relationships between tables.</p> <p>Apply rule(s) to relationships.</p>	<p>To demonstrate:</p> <p>Different types of relationship.</p> <p>How to create one-to-one, one-to-many etc. relationships among.</p> <p>How to delete relationships between tables.</p>	<p>Networked PC lab</p> <p>Internet access</p> <p>Database package</p> <p>NetSupport package</p>
7	<p>4.6 To understand:</p> <p>The navigation process and columns operation in a data table</p>	<p>To Explain how to :</p> <p>View modes in a table, form, report. Display and hide built-in toolbars. Add and delete records in a table and modify data in a record.</p>	<p>PC connected to an OHP Internet access. Smart board/ white board</p> <p>Lectures Notes Related Websites for topic</p>	<p>The ability to:</p> <p>Change Add, delete records in a table.</p> <p>Sort data in a table</p>	<p>To Demonstrate how to</p> <p>Add and delete records in a table.</p> <p>Sort data in a table</p>	<p>Networked PC lab</p> <p>Internet access</p> <p>Database package</p> <p>NetSupport package</p>
8	<p>4.7 To understand:</p> <p>The concept of data search</p>	<p>To Explain:</p> <p>How to search command for a specific data</p> <p>How to filter the data</p>	<p>PC connected to an OHP Internet access. Smart board/ white board</p> <p>Lectures Notes</p> <p>Related Websites for topic</p>	<p>The ability to:</p> <p>search and filter specific data in tables</p>	<p>To Demonstrate how to</p> <p>Search and filter specific word, number, and date in a field.</p> <p>Apply a to a table, form.</p>	<p>Networked PC lab</p> <p>Internet access</p> <p>Database package</p> <p>NetSupport package</p>

4 General Objective: Ability to create and modify a form.						
9	5.1 To understand: The concept of working with forms	To Explain: How to plan a form design Use a form to enter, modify, and delete records. Form controls as textbox , combo Box , label , image	PC connected to an OHP Internet access. Smart/ white board Lectures Notes Related Websites for topics	The ability to: Create, save, open and delete a form. Go to next record, previous record, etc.	To Demonstrate how to Open,create, save and delete a form. Go to next record, previous record, first record, last record, specific record using form display.	Networked PC lab Internet access Database package NetSupport package
5 General Objective: Ability to Retrieve and update data						
10	6.1 To understand: The process of Retrieving data from a query	To Explain: The types of query. The major use of a query. How to specify query criteria. How to modify fields and sort orders.	PC connected to an OHP Internet access. Lectures Notes Related Websites for topics	The ability to: Create/ Edit and save a single table query, two-table query using specific search criteria. Sort/ Run data in a query	To Demonstrate how to Create/edit and save a single table query, two-table query using specific search criteria. Add criteria to a query using logical operator (< (Less than), <= (Less than or equals), > etc.	Networked PC lab Internet access Database package NetSupport package
11	6.2 To understand: The process of making calculation by a query	To Explain: What is a Crosstab query Why we add calculation field to a query	-DO-	The ability to: Add a calculation field Add group calculations	To Demonstrate how to Create Crosstab query Use Different types of calculation sum, avg, min, max, count	Networked PC lab Internet access Database package NetSupport package

12	6.3 To understand: The process of updating data using a query	To Explain: How to delete query How to update query How to make table query	-DO-	The ability to: Create and run the delete query Create and run the update query Create and run a table query.	To Demonstrate how to Create, delete, and update query. Create sub table	Networked PC lab Internet access Database package NetSupport package
6. General Objective: Ability to create and modify a report.						
13	To understand: The concept of working with Reports	To Explain how to : Plan a new report. The report layout The printing option to the report Add controls to the reports	-DO-	The ability to: Create, Delete,modify save, print report based on a table, query.	To Demonstrate how to Create and save a report based on a table, query. Preview a table, form, report. Formating reports	Networked PC lab Internet access Database package NetSupport package
7. General Objective: Ability to use SQL						
14	To understand: The Data definition language and data manipulation language. The structured query language How to write different SQL queries. (SQL)	To Explain: What is DDL and DML What is SQL and explain different types of SQL statements The different SQL and explain the keywords SELECT, FROM and WHERE use in SQL	-DO-	The ability to: Explain and use DDL, DML SELECT, FROM and WHERE, etc. in SQL	To Demonstrate how to Create reports using SQL	Networked PC lab Internet access Database package NetSupport package

8 General Objective: Ability to maintain a database						
15	To understand: The concept of database maintaining	To Explain: What is the data maintenance. Ensuring Controls Data access Rights Backup of data and data security	-DO-	The ability to: Compact the database Make switch menu Split the database Backup the database	To Demonstrate how to Maintain data. Ensuring Controls data access Rights Backup of data and data security	Networked PC lab Internet access Database package NetSupport package

Course work 0%; Course tests 20%; Practical lab activities 50%; Examination 30%

Recommended Textbooks & References: