COURSE CONTENTS
DIT FOURTH SEMESTER
SECOND YEAR

DATABASE SYSTEMS

(DIT Part-II)

Total Marks:	100	Theory Marks:	75	Practical Marks:	25
Total Weeks:	20				
Contact Hours per week:	06				
Total Contact Hours:	120				
Theory Hours:	40				
Practical Hours:	80				

GENERAL OBJECTIVES:

After completion of this course, students are expected to be able:

- To ascertain the importance of databases in knowledge-based societies.
- To understand the basic concepts of Database and Database Management Systems.
- To transform an Entity Relationship Model into a Relational Schema.
- To use an Open Source software.
- To apply SQL commands for data manipulation in a database.
- To use MySQL Community Server 8.0 for Creating and Maintaining adatabase.
- To Create Front-end in MS ACCESS for MySQL Databases

Module	Course Contents	Allotted Weeks	Contact Hours
01	**INTRODUCTION TO DATABASE CONCEPTS** 1.1 Definition of Database 1.2 Importance/Advantages of Databases 1.3 Database Models 1.3.1 Hierarchical 1.3.2 Network 1.3.3 Relational 1.4 Definition of Database Management System (DBMS) 1.4.1 Relational DBMS (SQL Based) (MS Access, MS SQL, MySQL, ORACLE) 1.4.2 Non-Relational DBMS (NoSQL) (MongoDB, HBase, Cassandra) 1.5 Functions of DBMS 1.5.1 Data Dictionary Management 1.5.2 Data Storage Management 1.5.3 Data Integrity Management 1.5.4 Backup & Recovery Management 1.5.5 Security Management 1.5.6 Multi-User Access Control	01 Week	06
02	**RELATIONAL DATABASE CONCEPTS** 2.1 Definition of Relational Database & RDBMS 2.2 Entity, Table, Record, Field 2.3 Primary Key, Composite Key, Foreign Key 2.4 Referential Integrity 2.5 Types of Relationships 2.5.1 One-to-One 2.5.2 One-to-Many 2.5.3 Many-to-Many	01 Week	06
03	**DATA MODELLING** 3.1 Introduction to Data Modelling & its importance 3.2 Definition of Entity Relationship Diagram (ERD) 3.3 Elements of ERD 3.4 Transforming ERD to Relational Schema 3.5 Normalization of Relational Database 3.5.1 First Normal Form (1NF) 3.5.2 Second Normal Form (2NF) 3.5.3 Third Normal Form (3NF)	03 Weeks	18
04	**DATABASE DEVELOPMENT USING MYSQL** 4.1 Introduction to MYSQL 4.1.1 Definition and advantages of MySQL 4.1.2 Installation of MySQL Community Server 8.0 4.1.3 Introduction to MySQL Workbench 8.0 4.1.4 Introduction to MySQL Shell 8.0 4.1.5 Introduction to MySQL 8.0 Command Line Client 4.2 Introduction to Structured Query Language (SQL) 4.2.1 Data Definition Language (DDL) 4.2.2 Data Manipulation Language (DML) 4.2.3 Data Control Language 4.3 MySQL Statements for Database Development 4.3.1 Database Manipulation i. CREATE DATABASE statement ii. DROP DATABASE statement iii. USE Statement 4.3.2 Basic Data Types i. VARCHAR ii. TEXT	15 Weeks	90

iii. LONGTEXT
iv. INT
v. BIGINT
vi. FLOAT
vii. DOUBLE
viii. BOOL
ix. DATE
x. TIME
xi. YEAR

4.3.3 Table Manipulation

i. SHOW TABLE Statement
ii. CREATE TABLE statement
iii. DROP TABLE statement
iv. TRUNCATE TABLE statement
v. ALTER TABLE statement
vi. ALTER TABLE – ADD
vii. ALTER TABLE – DROP COLUMN
viii. ALTER TABLE – MODIFY COLUMN
ix. CREATE INDEX statement
x. INSERT INTO statement
xi. UPDATE statement
xii. DELETE statement
xiii. LIMIT clause
xiv. INSERT INTO SELECT statement
xv. DESC and EXPLAIN statements

4.3.4 Data Retrieval

i. SELECT statement
ii. SELECT DISTINCT statement
iii. WHERE clause
iv. Operators used in WHERE clause
v. Wildcards (% , _) used in WHERE clause
vi. AND, OR, NOT Operators
vii. ORDER BY clause
viii. ORDER BY DESC
ix. GROUP BY statement
x. HAVING clause

4.3.5 Constraints

i. NOT NULL
ii. UNIQUE
iii. PRIMARY KEY
iv. FOREIGN KEY
v. DEFAULT
vi. CHECK

4.3.6 Functions

i. AVG()
ii. COUNT()
iii. CONCAT()
iv. LOWER()
v. LENGTH()
vi. LTRIM()
vii. MIN()
viii. MAX()
ix. RTRIM()
x. REPLACE()
xi. REPEAT()
xii. STRCMP()
xiii. SUBSTR()
xiv. SUM()
xv. UPPER()

4.3.7 MySQL Operators

i. Arithmetic Operators
ii. Comparison Operators

	iii. Logical Operators 4.3.8 Views i. CREATE VIEW statement ii. DROP VIEW statement 4.3.9 MySQL Joins i. INNER JOIN ii. LEFT JOIN iii. RIGHT JOIN iv. CROSS JOIN 4.3.10 Front-end-Development i. Connection MS Access to MySQL Database. ii. Creating Forms for MySQL Databases iii. Creating Reports for MySQL Databases		
	TOTAL	**20**	**120**

Lab Requirements (Software)	**Software Requirements:** • Minimum Windows 7 (64-bit, Professional level or higher) • Mac OS X 10.6.1+ • Ubuntu 9.10 (64bit) • Ubuntu 8.04 (32bit/64bit)
List of Practical	

Practical Number	Description
1	Downloading and Installation of MySQL Server 8.0: 1. Download MySQL Community Server from dev.mysql.com/downloads/mysql/ 2. Install MySQL Server 8.0, MySQL Workbench 8.0 and MySQL Shell 8.0 as follow: (a) Run the downloaded mysql-installer-community-8.0 file. (b) Choose the Custom setup type, click Next. (c) Select 'MySQL Server 8.0' from Servers, 'MySQL Workbench 8.0' and 'MySQL Shell 8.0' from Applications, 'Samples and Examples' from Documentation. Click arrow key to bring these products in the list of "Products to be Installed". Click Next then Click Execute then Next. (d) Leave default settings on Type and Networking, click next. Keep "Use strong password….." and click next. Create a MySQL Root Password and click next. Leave default settings on "Windows Service" and click next. Keep default settings and click next. Click Execute. Click Finish. (e) Enter password and click check. Then Next and then Execute. Finally click Finish, Next and Finish. (f) The MySQL Workbench 8.0 and MySQL Shell tool will be started. To verify the successful installation of MySQL Server, run the windows command prompt and execute this command "mysql --version". It will show the version and full name. Don't forget to add the path in environment variable.
2	Starting MySQL Server and Establishing the Session/Connection: 1. The MySQL Server will automatically start by starting windows because it was selected by default during the installation of MySQL Server. 2. If MySQL Server is not started automatically, then (a) Write 'Services' in the search box on Taskbar and press Enter key. (b) Services dialog box appears. Search for the 'MySQL80' service in the list of services. (c) In the 'MySQL80' properties, while 'General' tab is opened, select the Startup Type as Automatic. (d) If the Service status is Stopped, click on Start. 3. Connect to MySQL Server by following these steps: (a) Start windows command prompt. (b) Write 'mysqlsh' command and press Enter key. MySQL JS prompt will appear. (c) Write '\sql' command and press enter key to change command prompt to SQL

		mode. (d) Write '\connect root@localhost' command and press enter key. Then enter the password. Choose whether to save password or not. (e) If your MySQL Connection Id is shown, then Server is started and connection is established successfully. (f) Now here all SQL commands can be used to play with MySQL databases.
	3	MySQL Workbench User Interface: 1. Start MySQL Workbench 8.0. Title bar shows the application name "MySQL Workbench". Below the title bar is Tab bar which shows Home Tab. Below the Home Tab is Menu bar. 2. On the main window, Click on "Local instance MySQL80 root localhost:3306". 3. Enter the root Password. A new Tab will open containing "Query1 window", Navigator Pane, Information Pane, Output pane etc. This Tab is named as "Local instance MySQL80". You can click the home Tab icon (on the left) to go to the Home Screen. 4. The toolbar available under the menu bar contains controls for creating a new database (Schema), new table, new view, SQL tab etc. 5. In the Navigator Pane, two Tabs are available; Administration and Schemas. Administration Tab provides features for managing the server, clients etc. Schemas Tab allows to manage Databases. 6. Click on Schemas Tab to show available databases.
	4	Using MySQL Shell tool for exploring available databases: 1. Connect to MySQL Server as explained in step-3 of practical No-2 above. 2. Write command "show databases;" and press enter. Available databases are shown. 3. Write command "use world;" and press enter. Default database will be set to World. (Note the prompt which contains database name) 4. Write "show tables;" and press enter. All tables of 'world' database will be shown. 5. Write "select * from city" and press enter. All records of 'city' table will be shown. 6. CTRL + L is used to clear screen. CTRL + C is used to interrupt execution.
	5	Creating and Deleting a MySQL Database: 1. Connect to MySQL Server as explained in step-3 of practical No-2 above. 2. Write 'create database college;' command and press enter. 3. Write 'create database shop;' command and press enter. 4. Write 'show databases;' command and press enter. The list contains both DBs. 5. Now write 'drop database shop;' command and press enter to delete SHOP Db.
	6	Creating table in a MySQL database: 1. Connect to MySQL Server as explained in step-3 of practical No-2 above. 2. Write 'use college;' command and press enter to set default schema to College. 3. Execute 'show tables;' command to list all tables in College database. It is currently empty because it was only created in practical No-5 above. 4. Execute 'create table Student (id int, name text(15), age int);' command to create a new table called Student. 5. Insert 5 records in Student table using 'INSERT INTO' statement. 6. Extract all data from Student table using SELECT statement.
	7	Adding more attributes in existing table: 1. Start using the 'College' database (created above) in MySQL Shell. 2. Use the ALTER TABLE - ADD statement to add two more columns (City and Phone No) in Student table. 3. Use UPDATE statement to populate these two new columns with

		data. 4. Extract all records using SELECT statement.
	8	Deleting a Column of a Table and Changing data type of a Column: 1. Start using the 'College' database (created above) in MySQL Shell. 2. Show all data of Student table by using SELECT statement. 3. Use ALTER TABLE- DROP COLUMN statement to delete city column. 4. Use DESC statement to show the structure of Student table. 5. Use ALTER TABLE – MODIFY COLUMN statement to change the data type of phone column from VARCHAR to BIGINT. 6. Again use the DESC statement to show the structure of Student table.
	9	Creating a duplicate table and setting the Primary Key: 1. Start using the 'College' database (created above) in MySQL Shell. 2. Show all data of Student table by using SELECT statement. 3. Execute 'CREATE TABLE studentcopy SELECT id, name, age, phone, city FROM student; ' command to create a duplicate table called studentcopy. 4. Show all records of the new table. 5. Execute 'ALTER TABLE studentcopy ADD Primary Key (id);' command to set the ID field as Primary key of studentcopy table. 6. Execute 'DESC studentcopy' command to check table structure.
	10	Deleting only data from table and then using INSERT INTO SELECT: 1. Start using the 'College' database (created above) in MySQL Shell. 2. Show all data of studentcopy table by using SELECT statement. 3. Execute 'TRUNCATE TABLE studentcopy;' command to delete all records in the studentcopy table and then check, it will be empty. 4. Now execute this command to fill the studentcopy table again with the data of student table. ' INSERT INTO studentcopy SELECT * FROM student; ' 5. Check its structure by using the DESC or EXPLAIN statement.
	11	Creating an Index on a table and using the LIMIT clause: 1. Start using the 'College' database (created above) in MySQL Shell. 2. Show all data of studentcopy table by using SELECT statement. 3. Execute ' CREATE INDEX idx_age ON studentcopy (age); ' command to create an index on the age field of studentcopy table. 4. Execute ' SELECT * FROM studentcopy LIMIT 3;' to extract only 3 records.
	12	Applying NOT NULL and Setting Primary Key: 1. Create a new database and name it as 'Pharma'. 2. Set default database to pharma by using USE statement. 3. Create a new Table Customer with fields CID as INT, CNAME as TEXT, CCITY as TEXT, CPHONE as TEXT. 4. Set CID as Primary Key and NOT NULL. 5. Insert at least 20 records in this table.
	13	Creating a database table using MySQL Workbench 8.0: 1. Start MySQL Workbench 8.0 from windows start menu, click on "Local instance MySQL80 root localhost:3306" and enter the root password. 2. In the Navigator pane, click on 'Schemas' tab. All databases are shown. 3. Double click on 'Pharma' database to select it as current database in use. 4. In the Query window, write 'CREATE TABLE supplier (SID INT NOT NULL, SNAME VARCHAR(15), SCITY TEXT(15), SPHONE TEXT(12), Primary Key (SID));' statement for creating a new table Supplier. 5. Press CTRL + ENTER to execute the current statement. The new table is created which can be checked in the left pane by pressing the refresh button.

		6. In the next line of Query window write 'SELECT * FROM SUPPLIER;' and press CTRL+ENTER to show all records. The Result Grid below shows empty table.
	14	Creating More Tables 'Pharma' database in MySQL Workbench: 1. Continue using the 'Pharma' database created in practical No-13 above, in MySQL Workbench. 2. Enter at least 20 records in the 'supplier' table by using the result grid user interface. 3. Create following 4 more tables in similar way in the MySQL Workbench. a. MedicineType(TID(int), TYPE(text)) b. Medicine (MID(int), MNAME(text), MPRICE(int), MEXPIRY(date), SID(int), TID(int)) c. CustomerOrdersMedicine (ORDID(int), MID(int), Quantity(int)) d. CustomerOrders (ORDID(int), CID(int), ORDDATE(date))
	15	1. Continue using the 'Pharma' database created in practical No-13 & 14 above, in MySQL Workbench. 2. Define Foreign keys in newly created tables. 3. Enter at least 20 records in each table created in practical No-14 above using MySQL Workbench. 4. Then extract specific records from these tables using the WHERE clause, using wildcards, using AND OR NOT operators. 5. Create views for these tables. 6. Combine tables using different MySQL JOIN statements.
	16	Creating an ODBC Connection for MS ACCESS: 1. Open Control Panel and click on "System and Security" option. 2. Click on "Administrative tools". In new window, click on "ODBC Source". 3. ODBC Administrative window opens up. Click "System DSN" Tab. Click "ADD" button. 4. Create new data source window opens up. In the list search for "MySQL ODBC Driver". If the driver is not in the list, then you have to download it as explained in practical No-17 below. 5. Select "MySQL ODBC Driver" and click Finish. A configuration window MySQL Connector/ODBC" appears. 6. Give any name of your choice in "Data Source Name" field. Write "localhost" in TCP/IP Server field. Write "root" in User field and enter root password in password field. Select desired MySQL database in drop down menu and click "Test". "Connection Successful" test result message appears. Click "OK" to complete the process.
	17	Downloading MySQL ODBC Connector: 1. Go to www.mysql.com, click on Downloads. 2. Click on MySQL Community Downloads. Then click on "Connector/ODBC". Download relevant mysqlodbc 8.0 (32/64 bit) MSI installer. Install the downloaded file.
	18	Developing Front-end for MySQL database: 1. Open a blank database in MS ACCESS. 2. Click on External Data, New Data Source, From other sources, and click on ODBC Database. 3. In the new dialog box, click on "Link to the data source by creating a linked table" 4. In the "Select Data Source" dialog box, click on "Machine Data Source", then select the name of ODBC connection and click 'OK'. 5. The connection is established and all the Tables of the database appears. 6. Now create a form for any table of your connected MySQL database and enter new records. 7. Open the same MySQL database in MySQL Workbench and check the new record there.

		8. Create a report in MS ACCESS for any table of your MySQL database. Front-end (through MS ACCESS Forms and Reports) is created
Reference Material	• https://dev.mysql.com/downloads/mysql/ • https://www.w3schools.com/mysql/default.asp • https://www.mysqltutorial.org	

Video Editing

(DIT Part-II)

Total Marks:	100	Theory Marks:	75	Practical Marks:	25
Total Weeks:	20				
Contact Hours per week:	06				
Total Contact Hours:	120				
Theory Hours:	80				
Practical Hours:	40				

GENERAL OBJECTIVES:

After completion of this course, students are expected to be able:

- To Understand the Video Editing in different environment.
- To Design, Edit, Cropdifferent Videos and understand Graphics &colors.
- To Work in Fiver etc as a Free Lancer
- To work with organization and industries

Module	Course Contents	Allotted Weeks	Contact Hours
01	**INTRODUCTION** 1.1. Background and history of video editing 1.2. Goals of editing 1.3. Basics of video editing 1.4. Stages of editing 1.5. Evolution of software	01 Week	06
02	2.1. Introduction to Adobe Premiere Pro 2.2. Installation and activation of Adobe Premiere Pro 2.3. Footage and Aspect ratio 2.4. Video Formats	02 Weeks	12
03	3.1. Different ways to import footage (video) in Premier Pro 3.2. Organizing Assets in different ways 3.3. Preview and Select Assets 3.4. Sequence (timeline) 3.5. Source window in Premiere Pro 3.6. Tools Panel in Premiere Pro 3.7. Timeline in Premiere Pro 3.8. When to cut and why?	03 Week	18
04	4.1. Effects control window 4.2. Video transitions in Premiere Pro 4.3. Video Effects in Premiere Pro 4.4. Opacity and blending modes 4.5. Stabilizing shaky footage 4.6. Adding mask in Premiere Pro 4.7. Different types of cut in video editing 4.8. Continuity of action 4.9. Pacing and Rhythm 4.10. Speed and time re-mapping	04 Weeks	24
05	5.1. Action Edit 5.2. Copy paste attributes in Premiere Pro 5.3. Creating montage in Premiere pro 5.4. Short cut keys in Premiere Pro 5.5. Audio editing 5.6. Supporting software for sound design 5.7. Multi camera editing 5.8. Editing music videos 5.9. Nesting and blending	04 Weeks	24
06	6.1. Titler 6.2. Captions and sub-titles 6.3. Import & work on image sequence 6.4. Graphic tab 6.5. Markers and labels 6.6. Color grading 6.7. Adjustment layers 6.8. Duplicating a person	04 Week	24
07	7.1. Green screen keying 7.2. Export media 7.3. After effects	02 Week	12
	Total	20	120

Lab Requirements **(Hardware / Software)**	Adobe Primer Pro
List of Practical	1) Logo Intro Video Creating 2) Green Screen Background Remove 3) Sound Effects Audio production 4) Video Cutting 5) Social Media Lower Thirds 6) Title Sequences 7) Text Animations 8) Documentaries Video Creating 9) Vlogs Video Production 10) YouTube Videos Editing 11) Promotional Videos Creating 12) Tutorials Editing 13) Corporate and Business Videos 14) Real Estate Videos Creating
Reference Material	• GFX Mentor • https://help.adobe.com/archive/en/premiere-pro/cs6/premiere_pro_reference.pdf

Web Development Essentials

(DIT Part-II)

Total Marks:	100	Theory Marks:	75	Practical Marks:	25
Total Weeks:	20				
Contact Hours per week:	06				
Total Contact Hours:	120				
Theory Hours:	40				
Practical Hours:	80				

GENERAL OBJECTIVES:

After completion of this course, students are expected to be able:

- To Understand the Basic of Web Development
- To Understand the HTML, CSS and JavaScriptBasic Code.
- Create HTML5 documents.
- Create CSS stylesheets Layout Design.
- Implement program logic using JavaScript.

Module	Course Contents	Allotted Weeks	Contact Hours
01	**INTERNET AND WORLD WIDE WEB INTERNET** 1.1 Working of internet 1.1.1 Benefits of Internet 1.1.2 Ethics of Internet 1.2 Services of Internet 1.2.1 World Wide Web (www) 1.2.2 Email 1.2.3 Social Networking 1.2.4 Mailing List 1.2.5 News Group 1.3 Web Browser 1.3.1 Functions of Web Browser 1.3.2 Type of Browsers 1.4 Web Server 1.5 Web Directories 1.6 Websites 1.6.1 Static 1.6.2 Dynamic 1.7 Search Engine 1.8 Web Page Program Development 1.8.1 Roles in Web site development team 1.8.2 Web Development Scope 1.9 Scripting languages 1.9.1 JavaScript 1.9.2 PHP 1.10 Web hosting 1.10.1 Web Hosting Services 1.10.2 Types of web Hosting 1.11 Cookie 1.11.1 Types of Cookies 1.11.2 Uses of Cookies 1.11.3 Browser Setting for Cookies 1.11.4 Privacy Concerns about Cookies 1.12 Web 2.0 1.13 Web 3.0	04 Weeks	24
02	**HTML5 INTRODUCTION** 2.1 HTML Editors 2.2 HTML Basic 2.3 HTML Elements 2.4 HTML Attributes 2.5 HTML Headings 2.6 HTML Paragraphs 2.7 HTML Styles 2.8 HTML Formatting 2.9 HTML Quotations 2.10 HTML Comments 2.11 HTML Colors 2.12 HTML CSS 2.13 HTML Links 2.14 HTML Images 2.15 HTML Favicon 2.16 HTML Tables 2.17 HTML Lists 2.18 HTML Block & Inline 2.19 HTML Classes 2.20 HTML Id	04 Weeks	24

	2.21 HTML Iframes 2.22 HTML Head 2.23 HTML Layout 2.24 HTML Forms		
03	**CSS INTRODUCTION** 3.1 CSS Syntax 3.2 CSS Selectors 3.3 CSS How To Use 3.4 CSS Comments 3.5 CSS Colors 3.6 CSS Backgrounds 3.7 CSS Borders 3.8 CSS Margins 3.9 CSS Padding 3.10 CSS Height/Width 3.11 CSS Box Model 3.12 CSS Outline 3.13 CSS Text 3.14 CSS Fonts 3.15 CSS Icons 3.16 CSS Links 3.17 CSS Lists 3.18 CSS Tables 3.19 CSS Display 3.20 CSS Max-width 3.21 CSS Position 3.22 CSS Z-index 3.23 CSS Overflow 3.24 CSS Float 3.25 CSS Inline-block 3.26 CSS Align 3.27 CSS Opacity 3.28 CSS Navigation Bar 3.29 CSS Dropdowns 3.30 CSS Attribute Selectors	06 Weeks	36
04	**JAVASCRIPT** 4.1 JS Introduction 4.2 JS Output 4.3 JS Statements 4.4 JS Structure 4.5 JS Comments 4.6 JS Variables 4.7 JS Let 4.8 JS Const 4.9 JS Operators 4.10 Functions 4.10.1 User define function 4.10.2 Built-in Function (ABS(), Rand(), Max(), Min(), eval(), parseInt(), parseFloat()) 4.11 JS Arrays 4.12 JS If Else 4.13 JS Switch 4.14 JS For Loop 4.15 JS While Loop	06 Weeks	36
	Total	20	120

Lab Requirements **(Hardware / Software)**	**Computer Core i3 at least** **04 GB RAM** **320 GB HD** **Internet Connection** **Gmail account** **Notepad++** **Microsoft Visual Code (Latest Edition)**
List of Practical	• Installation of Notepad++ • Visual Studio Installation • HTML HEAD, TITLE, FAVICON TAGS • Usage of STYLE & SCRIPT TAGS • HTML Heading Tags Demonstration i.e. H1-H6 • HTML BODY TAG & ITS ATTRIBUTES • USAGE OF FONT & PARAGRAPH TAGS • DEFINE TABLES IN HTML • INSERT IMAGES IN HTML • USE LISTS IN HTML • USE DIV TAGS • DEFINE IFRAME, AUDIO & VIDEOS • Define HTML Internal / External Linking • Create HTML Form • Apply CSS styles on Text, Font, Lists • APPLYING CSS ON TABLE, IMAGES • Usage of BORDER & MARGIN ON different elements • Dropdown & Navigation bar • Use JavaScript for data entry • Variables. Constants & Data types • Different conditional Statements like if, if-else & Switch • Usage of Loops i.e. for & while • Use JavaScript Dialog boxes, Like Prompt, Input, Warnings • Use JavaScript Validation • Define functions in JavaScript
Reference Material	• W3School • HTML, DHTM, JAVASCRIP& PERAL by Ivan Bayross • HTML 5 COMPLETE REFERENCE • WEB DESIGN WITH HTML & CSS by Jeremy Osborn, Jennifer Smith, and the AGI Training Team

Graphics Design

(DIT Part-II)

Total Marks:	100	Theory Marks:	75	Practical Marks	25
Total Weeks:	20				
Contact Hours per week:	06				
Total Contact Hours:	120				
Theory Hours:	40				
Practical Hours:	80				

GENERAL OBJECTIVES:

After the completion of this course, students are expected to be able:

- To Understand the Adobe Photoshop and Coral Draw in different environment.
- To Design different logos, images and understand colors.
- To work with organization and industries
- To be able to write Urdu in digital environment.

Module	Course Contents	Allotted Weeks	Contact Hours
	Adobe Photoshop 2016		
01	**EXPLORING THE PHOTOSHOP ENVIRONMENT** 1.1. Explore the Photoshop interface 1.2. Customize the Workspace 1.3. Explore the Navigation Tools	01 Week	06
02	**WORKING WITH IMAGE AREAS** 2.1 Select Image Areas 2.2 Save a Selection 2.3 Modify a Selection 2.4 Setting Color Space 2.4.1 Calibrate and Profile your Monitor 2.4.2 Set a Working Color Space in Photoshop 2.4.3 Convert Image from one Color Space to Another 2.4.4 Manage Printing and Color 2.5 Enhancing Image 2.5.1 Print Strokes on an Image 2.5.2 Apply Filter Effects 2.5.3 Convert an Image to Black and White 2.5.4 Blend Layers 2.5.5 Merge Layers and Flatten Image 2.5.6 Convert Color Images to Grayscale	02 Weeks	12
03	**WORKING WITH LAYERS** 3.1 Create Layers 3.2 Create Type Layers 3.3 Transform Layers 3.4 Alter Type Properties 3.5 Apply Layer Styles 3.6 Undo Previous Steps 3.7 Arrange and Group Layers	01 Week	06
04	4.1 Saving Images for Web and Print 4.1.1 Save Images for Use in Print Application 4.1.2 Save Images for the Web 4.1.3 Save Images as PDF 4.2 Managing Assets with Adobe@ Bridge 4.2.1 Explore Adobe Bridge 4.2.2 Work with Adobe Bridge 4.2.3 Work with Stacks and Filters in Adobe Bridge 4.2.4 Apply Metadata and Keywords to Files 4.2.5 Preparing Web Images 4.2.6 Change Measurement Units 4.2.7 Reduce File Size 4.3 Creating Web Page Layouts 4.3.1 Simulate a Web Page 4.3.2 Create Web Page Background 4.3.3 Draw Editable Vector Shapes 4.3.4 Create Effects 4.3.5 Export a Web Page	02 Weeks	12
05	5.1 Enhancing Photographs 5.1.1 Retouch Photographs Using Photoshop Tools 5.1.2 Create Patterns 5.1.3 Create Swatches and Gradients 5.1.4 Create a Custom Brush 5.1.5 Create Custom Patterns 5.2 Creating Special Effects 5.2.1 Preview Text Effects Using Layer Comps 5.2.2 Warp an Image	03 Weeks	12

	5.3 Automating Tasks 5.3.1 Create an Action 5.3.2 Manage Action 5.4 Adjusting RGB Color 5.4.1 Meet Color Correction Objective 5.4.2 Locate Highlights Shadows and Neutral Areas 5.4.3 Make Automatic Color and Contrast Adjustment 5.4.4 Make Basic Curve Adjustment 5.5 Sharpening Images 5.5.1 Apply Un-sharp Images 5.5.2 Sharpen an Image		
Coral Draw 2016			
06	**BASICS:** 6.1 Exploring the Corel DRAW Interface 6.2 Setup Drawing Page 6.3 Corel DRAW Basic 6.4 Manage Workspaces 6.5 Customizing the Command Bar 6.6 Saving and Printing Drawing	02 Week	06
07	7.1 Shapes and Lines: 7.1.1 Basic Shapes 7.1.2 Working with Paths 7.1.3 Modify Paths 7.1.4 Adding Text to Objects 7.2 Colors 7.2.1 Fills and Outline 7.2.2 Custom File 7.2.3 Custom Strokes 7.2.4 Drop Shadows 7.2.5 Modify Outline 7.2.6 Transform Objects	01 Week	06
08	8.1 **Working with Text** 8.1.1 Format Artistic Text 8.1.2 Fit Text to a Path 8.1.3 Create Paragraph Text 8.1.4 Wrap Paragraph Text 8.1.5 Modify OCT Text 8.1.6 Importing Image Text 8.1.7 Insert Special Characters 8.1.8 Text Effects 8.2 Working with Objects 8.2.1 Modify Objects 8.2.2 Add Graphics 8.2.3 Add Clipart 8.2.4 Spray Objects 8.3 Styles, Templates Symbols 8.3.1 Working with text Styles 8.3.2 Working with Templates 8.3.3 Create Symbols	02 Weeks	12
09	9.1 Layers 9.1.1 New Layers 9.1.2 Manipulate Layer 9.2 Bitmaps 9.2.1 Import and Adjust Bitmaps 9.2.2 Trace Bitmaps 9.3 Advanced Printing Options 9.3.1 Edit a Print Style 9.3.2 Merge Text with Drawing	02 Weeks	12

10	**Urdu Inpage** 10.1 Toggle English / Urdu 10.2 Tools 10.3 Ribbon 10.4 Status Bar 10.5 Rulers 10.6 Document Area 10.7 Scroll Bars 10.8 Cursors 10.9 Text Box 10.10 Title Text Box 10.11 Picture Box 10.12 Graphic Box 10.13 Line 10.14 Guides 10.15 Text Chain	04 Weeks	24
	Total	20	120

Lab Requirements **(Hardware / Software)**	Adobe Photoshop 2016, Coral Draw 2016
List of Practical	1. Customize pictures 2. Design Visiting Card 3. Design Brochure 4. Design Book Front Page 5. Design Banners 6. Design Logos 7. Design ID Card 8. Design Social Media Post 9. Design letter paid 10. Design Stamp
Reference Material	• GFX Mentor • www.adobe.com

Capstone Project

(DIT Part-II)

Total Project Marks: 100

Total Weeks: 20

Contact Hours per week: 06

Total Contact Hours: 120 Hours
(Supervisor Guidance + Project Report)

GENERAL OBJECTIVES:

After the completion of this course, students are expected to be able to:

- Apply the learned concepts in real world situations.
- Identify a computational problem that can be solved through software.
- Design software solutions for organizational or individual computational problems.
- Format a problem and its solution in a documented form.
- Develop skills for testing the quality of an application software.
- Sell his/her skills in the freelancing market.

S. No	PROJECT ACTIVITIES	AllottedWeeks	Contact Hours
1	Exploring following fields for finding a problem. 1. Application Development using Python 2. Database Development 3. Web Application Development 4. Graphic Design	02 weeks	12
2	Understanding the selected problem in detail	02 weeks	12
3	Developing Solution for the selected problem	10 weeks	60
4	Testing the developed solution	02 weeks	12
5	Modification/Changes in the solution (if required)	02 weeks	12
6	Preparation of Project Report	02 weeks	12