Directorate of Distance Education
University of Kashmir
Srinagar-190006

Curriculum

For
Post Graduate Diploma in Computer Applications
(PGDCA) Programme
[2019 & onwards]
Structure of Curriculum

SEMESTER-I

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Max. Internal Marks</th>
<th>Max. External Marks</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1</td>
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<td>Computer Fundamentals and Applications</td>
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SEMESTER-II

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</table>
Unit-I


Unit-II


Unit-III


Unit-IV


Reference Books:

2. Peter Norton, Inside the PC, 2001, SAMS Tech Media
Unit-I

Unit-II

Unit-III

Unit-IV

Text Book: Brian Kernighan and Dennis Ritchie, “C Programming Language,” PHI

Reference Books:
1. Brian Kernighan and Dennis Ritchie, “ C Programming Language,” PHI
Unit-I


Unit-II

Relational Data Model Concepts- Domains, Attributes, Tuples, Relations & their characteristics. Relational Data Model Constraints-Entity Integrity, Referential Integrity, Foreign Keys and other Relational Database design using ER to Relational Mapping.

Unit-III


Unit-IV


Reference Books:

3. Ivan Bayross, “SQL & PL/SQL using Oracle 8i & 9i SQLJ”, BPB.
Paper Title: Web Programming

Paper Code: DCA19201  Credits: 04  Internals: 25  External: 75

Unit-I

Introduction to the Internet, Introduction to HTML Terminology, HTML4 Versus HTML5, Options for Writing HTML, Design Considerations and Planning, Basic Tags and Document Structure, Headings, Lists, Links, Images, Audio, Video, Tables, Forms-methods, elements

Unit-II

Concept of CSS, Creating Style Sheet, CSS Properties, CSS Styling (Background, Text Format, Controlling Fonts), Working with block elements and objects, Working with Lists and Tables, CSS Id and Class, Box Model (Introduction, Border properties, Padding Properties, Margin properties), CSS Advanced (Grouping, Dimension, Display, Positioning, Floating, Align, Pseudo class, Navigation Bar, Image Sprites, Attribute sector), CSS Color, Creating page Layout and Site Designs. Transformations, Animations

Unit-III

PHP, Server-side web scripting, Installing PHP, How PHP scripts work, Basic PHP syntax, PHP data types, PHP Variables, Operators in PHP, Conditional Statements, Loops (If, If else and Switch), Strings, Arrays and Array Functions, Numbers, PHP Function: User-Defined Functions, Inbuilt functions, Basic PHP errors/problems, Working with Forms, Designing a Form, $_GET and $_POST, HTML and PHP code, User Input, Form Validation, Cookies, File uploading, Sessions

Unit IV

How to PHP MySQL Integration Works? , Creating a database connection, Selecting the DB, Inserting data in database, Inserting data with a File, Retrieving data from Database, Retrieving data with specific criteria, Updating records, Searching the records, Alter table structure, Deleting the records Dropping tables. Emailing with PHP

Reference Books:

1. Learning PHP, MYSQL & JavaScript, Robin Nixon, Shroff Publications
2. PHP Cookbook: Solutions & Examples for PHP Programmers, David Sklar, Adam Trachtenberg, O’Reilly
4. Introducing HTML5, Bruce Lawson, New Riders
5. Hard Boiled Web Design, Andy Clarke, Five Simple Steps Ltd
Paper Title: Data Communication & Computer Networks

Paper Code: DCA19202  Credits: 04  Internals: 25  External: 75

Unit-I


Unit-II


Unit-III


FCS Computation. Error Control and recovery techniques. Concept of ARQ standard and its versions.

Unit-IV


Reference Books:

3. Ulyesses Black, “Principles of Data Communications”, PHI.
Paper Title: Lab-I for DCA19101

Paper Code: DCA19104          Credits: 03          Internals: 25          External: 50

Unit-I
DOS
a) Demonstration of basic internal and external commands
b) Creating a batch file
c) Passing an argument to a batch file

MS Word
a) Formatting a word document, changing margins, size, orientation and inserting breaks, new sections, watermarks, page borders
b) Creating an automated table of contents, table of figures, inserting an index, citing references and inserting bibliography
c) Using Mail merge & Macro

Unit-II
MS Excel
a) Referencing Cells range of cells- absolute and relative referencing
b) Using basic date time, statistical, logical and text functions
c) Conditional statements
d) Development of Students Grading system
e) Calculation of Gross Salary of Employees

Unit –III
MS Power Point
a) Using templates for designing presentations
b) Inserting transitional effects, timings
c) Adding animations
d) Using different monitors for different viewings
e) Using presentation views and master views

MS Access
a) Creating/designing a table using wizard
b) Query Designing using wizard
c) Designing crosstab, update and delete queries using wizard and SQL
d) Developing reports
e) Importing/ Exporting data from/to other data sources
Unit-I
1. Program to demonstrate the overflow and underflow of different numerical data types and their resolution.
2. Program to draw star triangles of different shapes
3. Program to demonstrate the precedence & associativity of various operators
4. Program to find GCD & LCM of two numbers
5. Program to convert a given number in figures to words

Unit-II
1. Program to reverse the contents of a string using
   a. Iteration
   b. Recursion
2. Program to demonstrate the uses of passing structures to a function.
3. Program to create user-defined version of following functions
   a. strlen
   b. strrev
   c. strcmp
   d. strcat
4. Program to demonstrate the concept of pass by value and pas by address
5. Program to demonstrate the concept of passing 1D and 2D arrays to a function

Unit-III
1. Program to generate Fibonacci series using
   a. Iteration method
   b. Recursion
2. Program to copy a file from given source to destination
3. Program to develop a database of students with operations supported as
   a. Showing a record of particular student
   b. Deleting a student
   c. Updating a student
   d. Inserting a student
4. Program to demonstrate the concept of command line arguments
Paper Title: Lab-III for DCA19103

Unit-I
Q1. Create table Student using SQL with following attributes and perform the following operations?
   Attribute Names: ST_ROLLNO, ST_NAME, ST_ADDRESS, ST_TELNO
   i. Add new attributes City, Street, Country with Datatype Varchar and length 30?
   ii. Modify field ST_ROLLNO and change the size to 5?
   iii. Remove column ST_ADDRESS?
   iv. Describe the Table Student?
   v. Drop Table Student?
   vi. Copy Structure of one table to another

Q2. Create table Student with following attributes and perform the following operations?
   Attribute Names: ST_ROLLNO, ST_NAME, ST_STREET, ST_CITY, ST_State, ST_Country, DTE_REG, MARKS
   i. Insert 10 records
   ii. Perform various Project Operations using Select Query.
   iii. Perform various restrict operations using Select Query.
   iv. Update & Delete records
   v. Copy records from one Table STUDENT to other Table TEST? Assume both have same table structure
   vi. Perform various restrict operations using Select Query using various arithmetic and Logical Operators like
      a. Less Than
      b. Greater Than
      c. Less Than or Equal to
      d. Greater Than or Equal To
      e. Equal to
      f. Not Equal To
   vii. Perform Update /Delete/Insert /Select operations using various Arithmetic and Logical Operators
        on Table STUDENT

Unit-II
Q1. Perform various DML operations to verify
   1. Domain Constraints
   2. Validity Integrity
   3. Entity Integrity using Primary and Unique Keys
   4. Entity Integrity
   5. Referential Integrity
   6. Perform ON DELETE CASCADE and ON UPDATE CASCADE
   7. Create and Drop Constraints using alter command

Q2. Perform the following join operations:
   i) Equi-Join
   ii) Non Equi-Join
   iii) Self-Join
   iv) Outer Join

Q3. Also Perform below Mentioned Operations on tables using above Data Integrity Constraints.
i) Create System named Constraints and User Defined Constraints
ii) Create Column and Table Level Constraints.
iii) View User Constraints Table for checking Constraint Parameters.

Unit-III

Q1. Create Users user1, user2, user3 and perform the following operations
   i. Grant Session Privilege to the newly created users?
   ii. Grant privileges for creating and manipulation tables?
   iii. Grant data manipulation privileges to various users on tables?
   iv. Grant/Revoke privileges with grant option.

Q2. Perform the following operations
   i. Create Five Save Points from S1 to S5.
   ii. Rollback to Various Save Points and observe the changes in the table.
   iii. Perform various DDL operations the table and observe its effect on Save Point and Rollback on the table
   iv. Try to abnormally terminate the application to observe whether data is saved or not.
   v. Use Commit and Commit Work commands to save the data permanently.
Paper Title: Lab-IV for DCA19201

Paper Code: DCA19203
Credits: 03  Internals: 25  External: 50

Unit-I
Q1. HTML5/CSS
(i) Developing basic web page using different HTML5 formatting and layout tags
(ii) Use forms and Tables
(iii) Embedding Styles in a tag, with in a page (intra page), linking external CSS to a page
(iv) Working with positions, floating, grouping and dimensions in CSS
(v) Working with basic transformations and animations in CSS

Unit-II
Q1. JAVA SCRIPT
(i) Accessing different properties of a web page
(ii) Validating form elements of a page
(iii) Defining new functions
(iv) Creating classes in JavaScript
(v) Handling different events
(vi) Handling events in JavaScript

Q2. JQUERY
(i) Using Selectors
(ii) Accessing form attributes/elements
(iii) Traversing DOM

Unit-III
Q1. PHP
(i) Installing and configuring PHP
(ii) Accessing form elements
(iii) Defining new functions
(iv) Creating/destroying a session
(v) Authenticating a user through session
(vi) Including existing files
(vii) Creating, deleting, reading and writing files
(viii) Connecting to MySQL
(ix) Accessing MySQL using PHP