

## Problem Solving Using C Lab

### General Course Information

Course Code: DCA-16-P Course Credits: 2 Mode: Lectures (L) Maximum Marks: 100 Minimum Pass marks: 40	<b>Course Assessment Methods (internal: 30; external: 70)</b> <b>Note</b> The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner appointed by the Controller of Examination in association with the internal examiner appointed by the Chairperson of the Department.
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**Pre-requisites:** Basic knowledge of computer related concepts.

### About the course:

The lab course provides the opportunity to students to solve problems using C language. This includes implementing the concepts of various types of operators, looping, arrays, classes and pointers. The lab assignments are evenly spread over the semester. Every student is required to prepare a file of laboratory experiments done.

### Course Outcomes: By the end of the course students will be able to:

- CO1. **Implement** various C problems using various concepts of C for problem solving.
- CO2. **Analyze** the syntax and logical errors in C programs.
- CO3. **Evaluate** problem-solving and programming skills using C concept.
- CO4. **Design** an object-oriented solution to solve a real-life problem.
- CO5. **Create** a lab record of assignments including problem definitions, design of solutions and conclusions.
- CO6. **Demonstrate** ethical practices and solve problems individually or in a group.

### List of Experiments/Assignments

1. Understand the logic for a given problem.
2. Write the algorithm of a given problem.
3. Draw a flow chart of a given problem.
4. Recognize and understand the syntax and construction of C programming code.
5. Gain experience of procedural language programming.
6. Know the steps involved in compiling, linking and debugging C code.
7. Understand using header files.
8. Learn the methods of iteration or looping and branching.
9. Make use of different data-structures like arrays, pointers, structures and files.
10. Understand how to access and use library functions.
11. Understand function declaration and definition.
12. Understand proper use of user defined functions.
13. Write programs to print output on the screen as well as in the files.
14. Apply all the concepts that have been covered in the theory course.
15. Know the alternative ways of providing solution to a given problem.

**Note:** The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

## PC Software Lab

### General Course Information

Course Code: DCA-17-P Course Credits: 2 Mode: Lab practice and assignments Maximum Marks: 100 Minimum Pass marks: 40	<b>Course Assessment Methods (internal: 30; external: 70)</b> The internal and external assessment is based on the level of participation in lab. Sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. File and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner appointed by the Controller of Examination in association with the internal examiner appointed by the Chairperson of the Department.
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**Pre-requisites:** Basic knowledge of computer.

### About the Course:

This lab course on PC software involving learning of overall basics functionalities and operating system services. It also includes office automation activities related to our daily life uses of computer. Here the students will learn about various applications of MS Office.

### Course Outcomes: By the end of the course students will be able to:

- CO1. **Use** keyboard shortcuts to perform tasks.
- CO2. **Create** a new document, open, save and print a document.
- CO3. **Edit** and format text, change the page layout, background and borders.
- CO4. **Modify** power point custom template presentation.
- CO5. **Insert** clip art and pictures to documents
- CO6. **Navigate** the start menu to locate programs, files and settings and create files and folders.
- CO7. **Create** a word document with customized template.

### List of experiments/assignments

1. Write down the step to create user account in Window.
2. Write down the step to add printer in window.
3. Write down the step to page setup, print preview and print any document file in MS-Word.
4. Write down the step to insert, select, delete, merge, split and sort table in MS-Word.
5. Write down the step to create Mail Merge in MS-Word.
6. Apply the creating, editing, saving, printing securing and protecting operations to an excel spreadsheets.
7. Prepare a bar chart and pie chart for analysis of five year results of your institute.
8. Work on the following exercise on a Workbook:
  - a) Copy an existing sheet
  - b) Rename the old sheet
  - c) Insert a new sheet into an existing Workbook.
  - d) Delete the renamed sheet

9. Create a excel worksheet and perform computations using available data and using mathematical functions chosen from menus.
10. Prepare an attendance sheet of 10 students for any 5 subjects of your syllabus. Calculate their total attendance, total percentage of attendance of each student and average of attendance in next worksheet.
11. Create a worksheet on students list of any 4 faculties and perform following database functions on it.
  - a) Sort data by Name
  - b) Filter data by Class
  - c) Subtotal of number of students by class.
12. Apply themes and layouts to power point slides and insert pictures, graphics, shapes, and tables into presentations.
13. In power point slide make use of adding transitions and animations and working with master slides.
14. How to create Master slide for presentation.
15. Do experiments with some basic internet related DOS commands.

**Note:** The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

## Web Designing Lab

### General Course Information

Course Code: DCA-18-P Course Credits: 2 Mode: Lab practice and assignments Maximum Marks: 100 Minimum Pass marks: 40	<b>Course Assessment Methods (internal: 30; external: 70)</b> The internal and external assessment is based on the level of participation in lab. Sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. File and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner appointed by the Controller of Examination in association with the internal examiner appointed by the Chairperson of the Department.
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**Pre-requisites:** Basic programming skills and knowledge of surfing internet.

### About the Course:

This lab course on web development involves learning web-based programming languages. It incorporates the development of web pages by structuring information provided for the website design. The objective of the lab course is to equip the students to design web pages using modern web development tools.

### Course Outcomes: By the end of the course students will be able to:

- CO1. **Implement** object models for website design using modern tools like HTML, XML and JAVA scripting etc.
- CO2. **Study** the design of websites.
- CO3. **Test** the design of websites.
- CO4. **Design** websites that consider socio-cultural values.
- CO5. **Create** a written report for website designed.
- CO6. **Use** ethical practices and socio-cultural values while designing websites.

### List of experiments/assignments

1. Create a simple webpage using HTML.
2. Designing of registration form with table and use of hyperlink.
3. Design a page with frames to include Images and Videos.
4. Add a cascading style sheet for designing the web page.
5. Use user defined function to get array of values and sort them in ascending order on web page
6. Design a dynamic web page with validation of form field using JavaScript.
7. Design a simple Login form.
8. Event Handling Validation of registration form.
9. Open a Window from the current window on Mouse Over event.
10. Create a simple application to demonstrate the use of get and post methods.
11. Demonstrate Array Objects and Date Object's predefined methods
12. Display calendar for the month and year selected from combo box
13. Create a welcome Cookie (Hit for a page) and display different image and text content each time when the user hit the page
14. Demonstrate Request and Response object using Java Script in HTML Form.

15. Design a page to display all the values in the HTML table from XML File.

**Note:** The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.