

**Program Name:** Master of Computer Application (MCA)

**Program Code:** CS201

**Effective from Academic Year:** 2020-21

### Subject List of Bridge Course

Sr. No	Subject Name	Hours per week (Max. two week)			
		L	T	P	Total
1.	Open Office / Microsoft Office	2	-	4	6
2.	Basic HTML	2		4	6
3.	Basic Mathematics	3	1	-	4
4.	Fundamentals of Computer Organization	3	1	-	4
		<b>10</b>	<b>2</b>	<b>8</b>	<b>20</b>

#### Learning Objectives

- Make the students familiar with various office automation tools for day to day office work which include documentation, data analysis and presentation.
- Students will learn about the opportunities, challenges and techniques for developing websites built with the new resources provided by HTML5.
- Learn and apply basic methods of discrete (noncontiguous) mathematics in Computer Science.
- Understand the elements of computer organization(Binary Arithmetic)

#### ❖ Topics to be covered under “Open Office / Microsoft Office”

**Word Processor (E.g. Writer):** Features, Working area, Menus, Commands, Toolbars, Buttons, Shortcuts, Creating/ Formatting/Printing and other operations on a document. Spell Check , Find & Replace, Headers & Footers , Inserting – Page Numbers, Pictures, Auto texts, Symbols , Working with Columns, Tabs & Indents, Creation & Working with Tables ; Margins & Space management in Document; Mail Merge.

**Spreadsheet Application (E.g. Calc):** Calculate, analyze and present data in numerical reports, charts or graphics. Pulling-in raw data from databases, natural language formulas, a quick sum button, wizards, styles and a scenario Manager for "what if" analysis

**Multimedia Presentation (E.g. Impress):** Working with draw, outline, slides and notes. Hands on drawing and diagramming tools, slideshow animation and effects.

## Practical

### Word-Processor

1. Preparing a Official Letter / Business Letter / Circular Letter, Covering formatting commands - font size and styles - bold, underline, upper case, lower case, superscript, subscript, indenting paragraphs, spacing between lines and characters, tab settings etc.
2. Preparing a news letter: To prepare a newsletter with borders, two columns text, header and footer and inserting a graphic image and page layout.
3. Creating and using styles and templates
4. To create a style and apply that style in a document, to create a template for the styles and assemble the styles for the template
5. Creating and editing the table
6. To create a table using table menu
7. To create a monthly calendar using cell editing operations like inserting, joining, deleting, splitting and merging cells
8. To create a simple statement for math calculations viz. totaling the column.
9. Creating numbered lists and bulleted lists
10. To create numbered list with different formats (with numbers, alphabets, roman letters)
11. To create a bulleted list with different bullet characters
12. Printing envelopes and mail merge.
13. To print envelopes with from addresses and to addresses
14. To use mail merge facility for sending a circular letter to many persons
15. Using the special features of word
16. To find and replace the text
17. To spell check and correct.

### Spreadsheet

1. Using formulas and functions: To prepare a Worksheet showing the monthly sales of a company in different branch offices (Showing Total Sales, Average Sales). Prepare a Statement for preparing Result of 10 students in 5 subjects (using formula to get Distinction, I Class, II Class and Fail under Result column against each student).
2. Operating on the sheets: Finding, deleting and adding records, formatting columns, row height, merging, splitting columns etc. Connecting the Worksheets and enter the data.
3. Creating a Chart: To create a chart for comparing the monthly sales of a company in different branch offices
4. Using the data consolidate command: To use the data consolidate command to calculate the total amount budgeted for all departments (wages, travel and entertainment, office supplies and so on) or to calculate the average amount budgeted for – say, department office expenses.
5. Sorting Data, Filtering Data

### Presentation Tool

1. Creating a new Presentation based on a template – using Auto content wizard, design template and Plain blank presentation.

2. Creating a new Presentation based on a template – using Auto content wizard, design template and Plain blank presentation.
3. Creating a Presentation with Slide Transition – Automatic and Manual with different effects.
4. Creating a Presentation applying Custom Animation effects – Applying multiple effects to the same object and changing to a different effect and removing effects.

### ❖ Topics to be covered under “Basic HTML”

HTML Basics: Introduction, Editing HTML5, First HTML5 Example, Headings, Linking, Images Special Characters and Horizontal Rules, Lists, Tables, Forms, Internal Linking

#### **Practical**

##### **Write an HTML webpage:**

1. Create an HTML file which makes use of various Heading tags.
2. Create an HTML file which makes use of paragraph and line break.
3. Create an HTML file which is having following Text Formatting: a. Bold b. Strong c. Big d. Italic e. Small f. Subscript g. Superscript h. Underline
4. Create an HTML file which makes use of different types of links.
5. Create an HTML page which apply at least 6 different string styles to single text and display them.
6. Create an HTML file which creates different types of Menu.
7. Lists: Create a web page which makes use of Numbered, Letters, Lowercase Letters, Roman Numbers, Lowercase Roman numbers List
8. Link: Create a web page showing an ordered list of names of the subjects, with nested list if any subject has been selected it should display the content of each subject
9. List and Tables : Write HTML code to display Restaurant Menu using different types of lists and tables
10. Create Student Registration form with all form elements.

### ❖ Topics to be covered under “Basic Mathematics”

#### **Basic Structures: Sets, Relations, and Functions:**

**Sets :** Introduction, Sets, Representation of a sets, Cartesian product of sets, Union of sets, Intersections of set, Complements, Symmetric difference, Fuzzy set, Operations on fuzzy set

**Relations:** Binary relation, Reflexive relation, Symmetric relation, Anti symmetric relation, Transitive relation, Equivalence relation, Associative relation, Partial ordering relation

**Functions:** Addition and Multiplication of functions, Types of functions.

### ❖ Topics to be covered under “Fundamentals of Computer Organization”

#### **Binary Arithmetic**

- Concept of the base of a number system.
- Representation of decimal numbers 0 to 16 in 4 bits
- Find a decimal value of a given binary number. That is, convert a given binary number into the corresponding decimal number
- Convert a given decimal number into the corresponding binary number.

- Representation of octal and hexadecimal numbers. Convert a given binary number to the corresponding octal and hexadecimal number.
- Addition of two binary numbers.
- Find the complement of a given binary number. Use it to subtract one binary number from another binary number by performing addition operation.
- Left shift (and right shift) of a binary number and relate with multiplication (and division) of the given number by 2.