

# SHRI GURU RAM RAI UNIVERSITY

[Estd. by Govt. of Uttarakhand, vide Shri Guru Ram Rai University Act no. 03 of 2017 & recognized by UGC  
u/s (2f) of UGC Act 1956]

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## SYLLABUS FOR Bridge Course

for Non-IT background (BSc/BCom/BA) students  
admitting in the program

### Master of Computer Application (MCA)

School of Computer Application &  
Information Technology

(w.e.f. 2021-2022)

## Master of Computer Application (MCA) OUTCOME BASED EDUCATION

### Programme outcome (POs)

Students will be able to

PO1	Computational knowledge	Acquire knowledge of Computing Fundamentals, Basic Mathematics, Computing Specialization and Domain Knowledge of proper computing models from defined problems.
PO2	Problem analysis	Identify, formulate and analyze complex engineering problems reading substantiated conclusions using first principles mathematics, computer science and relevant domains.
PO3	Design/development of solutions	Ability to design efficient solution for complex, real-life problem, system software or process as per needs and specifications.
PO4	Conduct investigations of complex computing problems	Use research-based knowledge and research methods including design of experiments, analysis & interpretation of data & synthesis of information to provide valid conclusions.
PO5	Modern Tool Usage	Ability to demonstrate skills to use modern technologies and tools to analyse problems.
PO6	Professional Ethics	Ability to perform professional practices in an ethical way, keeping in the mind cyber regulations & laws, responsibilities and norms of professional computing practices.
PO7	Life-Long Learning	Ability to develop confidence for self-education and life-long learning in the broadest context of technological change
PO8	Project management and finance	Ability to demonstrate knowledge & understanding of the engineering and management principles and apply them as a member & as a leader in a team to manage multidisciplinary projects.
PO9	Communication Efficacy	Ability to effectively communicate with the technical community and with the society about complex computing activities in both verbal and written form, design documentation, make effective presentations.
PO10	Societal and Environmental Concern	Ability to understand the impact of IT solutions in a global and societal context.
PO11	Individual and Team Work	Ability to work multi-disciplinary team both as a member and leader, as per need.

PO12	Innovations and entrepreneurship	Ability to apply innovation to a suitable opportunity to create value and wealth for the betterment of the individual and society at large.
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**Program Specific Outcome (PSOs)**

<b>PSO1</b>	To prepare students who will create systems through software development to solve problems in Industry domain areas.
<b>PSO2</b>	To Prepare students who will contribute to societal growth through research in their chosen field.
<b>PSO3</b>	To prepare students who will perform both as an individual and in a team through good analytical, design and implementation skills.
<b>PSO4</b>	To prepare students who will be lifelong learners through continuous professional development.

**Eligibility for the course:**

**Only Non-IT background (BSc/BCom/BA) students.** For students having no Mathematics background, they have to qualify bridge course in the 1<sup>st</sup> semester of their MCA program. as per UGC/AICTE.

Marks will not be added to the 1<sup>st</sup> semester. Students need to qualify only.

**Examination Scheme:**

<b>Components</b>	<b>Internal</b>	<b>Assignment</b>	<b>Attendance</b>	<b>External (ESE)</b>
<b>Weightage (%)</b>	<b>20</b>	<b>15</b>	<b>5</b>	<b>60</b>

**STUDY & EVALUATION SCHEME**  
**Master of Computer Application (MCA)**  
**Bridge Course**  
**[Only for Non-IT background (BSc/BCom/BA) students]**

S. No.	Course Category	Course Code	Course Name	Periods				Evaluation scheme		Subject Total
				L	T	P	C	Sessional (Internal)	External (ESE)	
<b>Theory</b>										
1	Core	BRD-101	Fundamental of Computers & Programming	3	1	0	4	40	60	100
2	Core	BRD-102	Office Automation	3	1	0	4	40	60	100
<b>Total</b>				<b>6</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>80</b>	<b>120</b>	<b>200</b>

L – Lecture, T – Tutorial, P – Practical, C – Credit

<b>Course code</b>	<b>: BRD-101</b>			
<b>Course Name</b>	<b>: FUNDAMENTAL OF COMPUTERS &amp; PROGRAMMING</b>			
<b>Semester /Year</b>	<b>: Ist Semester</b>			
	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>

L - Lecture T – Tutorial P – Practical C – Credit

**Course Objectives: The objectives of this course are**

- To understand the basic concepts of computer basics software and hardware.
- To understand the concept of operating systems like MS-DOS, Windows, Linux practically.
- To have the basic general understanding of programming language i.e., Algorithm, Flow chart etc.

**COURSE CONTENTS**

**UNIT I - Introduction to Computer & Hardware** **[No. of Hours: 15]**

Introduction, Function of a Computer, Applications of Computers, Generation of Computers, Classification of Computers, Components of Computer, CPU and its components.

Input Output Devices: Keyboard, Mouse, Scanner, Digital Camera, Joystick, Monitor, Printer, Plotter

Memory Unit: Primary Memory, RAM, ROM, PROM, EPROM, EEPROM, CD, DVD, Magnetic Disk, Magnetic Tape ; Software : Software and Types of Soft wares, Number System, Number Conversion.

**UNIT II - MS-DOS, Windows & Linux** **[No. of Hours: 15]**

MS-DOS: Internal and External Commands, Wildcards Characters, File Naming in MS-DOS.

MS Windows : Windows concepts, Feature, Desktop, Start Menu, My Computer, Recycle Bin, Desktop, Drives, Create Directory / Folders, Renaming Directory /Folder, change to a directory/folder , Copy a file from one directory / folder to other drive or folder, Make the file read only, Make the file hidden , Renaming a file in a directory/folder , Deleting all files from a directory/folder, Deleting a directory/folder, Deleting files.

Linux : The course contents of the Linux to be the same like Windows

**UNIT III - Programming fundamentals** **[No. of Hours: 10]**

High Level Language, Low Level Language, Assembly Language, Object Oriented Programming Languages, Algorithm & Flowchart, Top down and bottom up approach, Testing and Debugging

**Text Books:**

- TB1. Sanders. D.H. " Computers Today " McGraw Hill
- TB2. S. K. Basandra "Computers Today" Galgotia Publication.

**Reference Books:**

- RB1. Leon & Leon "Computers Today "Leon Vikas Pub.

- RB2. S Jaiswal, " Information Technology Today " Galgotia Pub.  
 RB3. P. K. Sinha ."Introduction to Computers "  
 RB4. V. Rajaraman "Fundamental of computer " PHI

**Course Outcomes (COs):**

**Upon successful completion of the course a student will be able to**

<b>CO#</b>	<b>Detailed Statement of the CO</b>
<b>CO1</b>	Compare and contrast various types of computers and hardware's
<b>CO2</b>	Explain the purpose of CPU and how it works
<b>CO3</b>	Describe how information is stored in memory
<b>CO4</b>	Understanding different types of operating system and commands used in it.
<b>CO5</b>	Know about various types of software's and its applications
<b>CO6</b>	Create and design various algorithms and flowchart

**CO-PO Mapping:**

	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>
<b>CO1</b>	2						1									1
<b>CO2</b>	2	1		1	2											1
<b>CO3</b>	2					2										2
<b>CO4</b>	2			2	2	1							2	1	1	2
<b>CO5</b>	2	2	2				1						1		1	1
<b>CO6</b>	2	1		1												1
<b>AVG</b>	<b>2</b>	<b>0.5</b>	<b>0.4</b>	<b>0.6</b>	<b>0.6</b>	<b>0.5</b>	<b>0.3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.5</b>	<b>0.1</b>	<b>0.3</b>	<b>1.3</b>

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

<b>Course code</b>	<b>: BRD-102</b>			
<b>Course Name</b>	<b>: OFFICE AUTOMATION</b>			
<b>Semester /Year</b>	<b>: Ist Semester</b>			
	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>

L - Lecture T – Tutorial P – Practical C – Credit

### Course Objective:

- Office tools course would enable the students in crafting professional word documents, excel spread sheets, power point presentations, Database using the Microsoft suite of office tools.
- To familiarize the students in preparation of documents and presentations with office automation tools.

## COURSE CONTENTS

### UNIT- I MS-WORD

[No. of Hours: 10]

MS Word -Working with Documents-Opening & Saving files, Editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace, Formatting page & setting Margins, Converting files to different formats, Importing & Exporting documents, Sending files to others, Using Tool bars, Ruler, Using Icons, using help, Formatting Documents-Setting Font styles, Font selection-style, size, colour etc., Type face-Bold, Italic, Underline, Case settings, Highlighting, Special symbols, Setting Paragraph style, Alignments, Indents, Line Space, Margins, Bullets & Numbering. Setting Page style-Formatting Page, Page tab, Margins, Layout settings, Paper tray, Border & Shading, Columns, Header & footer, Setting Footnotes & end notes–Shortcut Keys; Inserting manual page break, Column break and line break, Creating sections & frames, Anchoring & Wrapping, Setting Document styles, Table of Contents, Index, Page Numbering, date & Time, Author etc., Creating Master Documents, Web page. Creating Tables-Table settings, Borders, Alignments, Insertion, deletion, Merging, Splitting, Sorting, and Formula.

### UNIT –II MS-Excel

[No. of Hours: 10]

Spread Sheet & its Applications, Opening Spreadsheet, Menus-main menu, Formula Editing, Formatting, Toolbars, Using Icons, Using help, Shortcuts, Spreadsheet types. Working with Spreadsheets-opening, Saving files, setting Margins, Converting files to different formats(importing, exporting, sending files to others), Spread sheet addressing-Rows, Columns & Cells, Referring Cells & Selecting Cells–Shortcut Keys. Entering & Deleting Data-Entering data, Cut, Copy, Paste, Undo, Redo, Filling Continuous rows, columns, Highlighting values, Find, Search & replace, Inserting Data, Insert Cells, Column, rows & sheets, Symbols, Data from external files, Frames, Clipart, Pictures, Files etc, Inserting Functions, Manual breaks, Setting Formula-finding total in a column or row, Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation), Using other Formulae. Creating Charts -Drawing. Printing.

**UNIT -III MS-POWER POINT**

[No. of Hours: 10]

Introduction to presentation –Opening new presentation, Different presentation templates, setting backgrounds, selecting presentation layouts. Creating a presentation -Setting Presentation style, Adding text to the Presentation. Formatting a Presentation-Adding style, Colour, gradient fills, Arranging objects, Adding Header & Footer, Slide Background, Slide layout. Adding Graphics to the Presentation-Inserting pictures, movies, tables etc into presentation, Drawing Pictures using Draw. Adding Effects to the Presentation-Setting Animation & transition effect. Printing Handouts, Generating Standalone Presentation viewer.

**UNIT –IV MS-ACCESS**

[No. of Hours: 10]

Introduction, Planning a Database, Starting Access, Access Screen, Creating a New Database, Creating Tables, Working with Forms, Creating queries, Finding Information in Databases, Creating Reports, Types of Reports, Printing & Print Preview–Importing data from other databases viz. MS Excel etc.

**Text Books:**

- TB1. Microsoft Office Word, Torben Frandsen, 2010, Torben Lage Frandsen & Ventus Publishing Aps
- TB2. Step-By-Step Optimization With Excel Solver The Excel Statistical, Mark Harmon

**Course Outcomes (COs):**

Upon successful completion of the course a student will be able to

CO#	Detailed Statement of the CO
CO1	Define word document and using it to create reports.
CO2	Demonstrate how excel is used for creating tables, writing formulas and generating charts.
CO3	Make use of Power Point for presentation
CO4	Analyze MS-Access and how to use it to create database.
CO5	Compare MS-Word, MS-Excel.
CO6	Discuss how MS-PowerPoint and MS-Access work together.

**CO-PO Mapping:**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	3	1	2		2	1	1		1				1	1		2
CO2	3	1	2		2	1	1		1				1	1		2
CO3	3	1	2		2	1	1		1				1	1		2
CO4	3	1	2		2	1	1		1				1	1		2
CO5	3	1	2		2	1	1		1				1	1		2
CO6	3	1	2		2	1	1		1				1	1		2
AVG	3	1	2		2	1	1		1				1	1		2

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated