# Barkatullah University, Bhopal
## BCA  Faculty  2008 onwards
### Semester I

| Code No | Name of the Paper |
|---------|-------------------|
| FC 102 | FC: Hindi I |
| FC 103 | FC: Entrepreneurship Development I |
| BCA 101 | Computer Fundamentals |
| BCA 102 | PC Software |
| BCA 103 | Digital Computer Electronics |
| BCA 104 | Communication  and Management |
| **PRACTICALS** | |
| BCA 105 | DOS & MS Office |

## Scheme of Marks:

| | |
|---|---|
| Foundation Course | 100 marks |
| Theory Papers (35 marks each) | 140 marks |
| Sessional Marks (15 marks each) | 60 marks |
| Practical & Viva (25 marks each) | 50 marks |
| **Total** | **350 marks** |

**Paper Code: BCA 101**
**COMPUTER FUNDAMENTALS**

Max Marks: 35

## UNIT 1

INTRODUCTION OF COMPUTERS: Computer System, System Characteristics and capabilities, Types of Computers: Analog, Digital (Micro, Mini, Mainframe & Super Computers), Generation of Computers.

## UNIT 2

COMPUTER ORGANISATION: Block Diagram of Computer and its functional units.

INPUT DEVICES - KeyBoard, Scanner, Mouse, Light Pen, Bar Code Reader, OMR, OCR, MICR., Track ball, Joystick, Touch Screen etc.,

OUTPUT DEVICES: Monitors – Classification of Monitors based on Technology (CRT Monitor & Flat panel LCD Monitor), Printers – Dot Matrix Printer, Ink Jet Printer, Laser Printer and Plotters, Types of Plotters – Drum Plotter and Flat Bed Plotters, LCD Projectors.

STORAGE DEVICES: Magnetic tapes, Floppy Disks, Hard Disks, Compact Disc – CD-ROM, CD-RW, VCD, DVD, DVD-RW.

## UNIT 3

PROGRAMMING LANGUAGES: History, Classifications – Low Level, Assembly & High Level languages, Advantages & Disadvantages Programming Languages.

## UNIT 4

TYPES OF SOFTWARE: System Software – Translators(Compilers, Interpreters, Assemblers), Operating System, Linkers, Libraries & Utilities, Application Software – Packaged & Tailored Softwares.

OPERATING SYSTEMS: Introduction, Types of O.S. – Single User, Multi User – Multi Programming, Multi Tasking, Real Time, Time Sharing, Batch Processing, Parallel Processing, Distributed Processing.

## UNIT 5

PROGRAM PLANNING: Purpose of Program Planning, Steps in Program Development, Characteristics of a Good Program, Algorithms, Flow Charts through examples.

### TEXT BOOK:
1. COMPUTER FUNDAMENTALS BY *P.K. SINHA*
2. OPERATING SYSTEM BY *Peterson*

## Reference Books:
1. EASY APPROACH TO COMPUTER COURSE BY *G.K. IYER*
2. COMPUTER TODAY BY *S.K. BASANDRA*
3. OPERATING SYSTEM BY *Godbole*
4. 'O' LEVEL PROGRAMMING CONCEPTS & SYSTEMS BY *V.K. JAIN*

# Paper  Code: BCA 102
# PC SOFTWARE

Max Marks: 35

## UNIT  I

Microsoft Disk Operating System :  Introduction, History and Versions of DOS, Fundamentals of DOS, Booting Process, Internal DOS Commands, Files and Directories, Elementary External DOS Commands : Scandisk, Format, DiskCopy, Tree, Deltree, Fdisk, More, Edit, Mem, Creating Batch Files.

Introduction to Windows: Control Panel & Accessories.

## UNIT  II

Introduction to Word Processing (MS Word):  Advantages of Word Processing, Introduction and Installation, Editing a File, Using Paragraph Styles, Coping a block to another File, Newspaper Style Columns, Using Macro.

## UNIT  3

Advanced Word Processing: Headers And Footers, Finding Text, Setting Up Printers, Printing & its formatting, Mail Merge And Other Applications, Mathematical Calculations.

## UNIT  4

Introduction To Spreadsheet (Excel): Definition And Advantages of Electronic Worksheet, Working on Spreadsheets, Range & Related Operations, Setting, Saving And Retrieving Worksheet File, Inserting, Deleting, Copying And Moving Of Data Cells, Inserting And Deleting Rows & Columns, Erasing The Worksheet.

Print preview of Worksheet, Page Margins, setting & adding headers & footers before printing, removing grid lines from printout, printing the title rows.

## UNIT  5

Functions and Other Features:  Classification And Usage Of Various Built-In-Functions In Worksheet, Passwords, Protecting A Worksheet Or Range, Transferring Data To And From Non Worksheet Files, Database Handling, Creating, Naming & Executing Macros In Worksheet Using @ If To Make A Formula, Default Settings.

### TEXT BOOK:
P C Software by *R K Taxali*, TMH

### Reference Books:
1. Windows Based Computer Courses BY *Gurvinder Singh & Rachhpal Singh*
2. MS-OFFICE INTERACTIVE COURSE BY *GREG PERRY*, TECHMEDIA
3. UNDERSTANDING COMPUTER FUNDAMENTALS & DOS BY *G.K. IYER*
4. WINDOWS MANUAL

# Paper Code: BCA 103
# DIGITAL COMPUTER ELECTRONICS

Max Marks: 35

## UNIT I

Representation of information, Number System: Binary, Octal, Hexadecimal, Conversions from one base to another base, Binary Arithmetic, Unsigned binary number, signed magnitude number, 2's complement representation, 2's complement arithmetic, ASCII Code, BCD Code, EBCDIC Code, Excess-3 Code and Gray Code.

## UNIT II

Basic logic designs: Logic gates – AND, OR, NOT, NOR, NAND, XOR gates and their Truth Tables, Boolean algebra, Minimization techniques, Karnaugh map, SOP and POS forms, Combinational circuit design with gate: multiplexers & demultiplexers, Encoder-Decoder, Adders and Subtractors, Flip flops : RS, JK, Master slave flip flops, Introduction to counters and registers.

## UNIT III

Memory: Memory cell, Primary memory—RAM, ROM, PROM, EPROM, EEPROM, Cache memory, Secondary Memory and its types, Introduction to physical memory and Virtual memory, memory accessing methods : serial and random access.

## UNIT IV

Buses, Word Length of a Computer, Processing speed of a computer, Microprocessor, User Interface, Hardware, Software and Firmware concepts, General architecture of CPU, Instruction Format, Data transfer instructions, Data Manipulation instructions, Program control instructions.

Types of CPU organization: Accumulator based machine, Stack based machine and general-purpose register based machine, addressing modes: Direct, indirect, immediate, register and relative addressing modes.

## UNIT V

Data transfer schemes: (1) Programmed data transfer-- synchronous, asynchronous and interrupt driven data transfer scheme, (2) Direct memory access data transfer.

## TEXT BOOKS:-
1. Digital Principles and applications by *Malvino & Leach*
2. Computer Fundamentals and Architecture by *B.Ram*

## Reference Books:
1. Computer System Architecture by *M.Morris Mano*
2. Digital Computer Electronics by *Malvino & Brown*
3. Digital Computer Fundamentals by *Bartee*.

## Paper Code: BCA 104
## COMMUNICATION  and MANAGEMENT

Max Marks: 35

### UNIT I
Introduction: Communication – Definition, Nature, Objectives, Importance to Managers, Communication Theories and Processes. Symbiotic Interactionism. Information Theory, Transaction theory, Elements of Communication. Importance of Feedback.

### UNIT II
Dimensions of Communication & Directions of Communication, Media/ Means of Communication – Verbal (oral & written), Non-verbal Oral Communication, Effective Listening, Principles of Effective Communication.

### UNIT III
Non –Verbal Communication – Gesticulation, sign language / Visual and audio elements, Channels of Communication—Formal, Informal/ Grapevine, Barriers to communication, Oral Business Communication – Speeches, Interviews, Group Discussions, Conference.

### UNIT IV
Written Business Communication –Concept, Advantages, Disadvantages and Importance, Need of business letters, Kinds of business letters, Writing Skills, Essentials of an effective business letter, structure of a business letter, Enquiries, Replies, Orders, Credit and Reference letters, Supply letters, Dunning letters, Sales letters, Circular letters.

### UNIT V
Drafting –Official letters, D.O. letters, application for jobs. Report Writing –Importance of reports, Types of Business reports, Chairman's Speech, Reports of Committees.
Modern Forms of Communication—fax, E-Mail, Video Conferencing, (International Communication Adapting to Global business).

### TEXT BOOKS:-

1.  Business Communication- Sahitya Bhawan Publication.

### References: -
1.  Business Communication by Virendra Kumar.
2.  Business Communication & Organisation Management By Rohini Agalwal.

# Paper Code: BCA 105
## Practicals List

## DOS:

1. Use DOS commands for the following purpose from the root directory:
   a. Create a directory 'College'
   b. Go to the college directory
   c. Copy all document files from root directory to college directory
   d. Delete the 'College' directory
2. Create a text file and type your name and address in 3 lines and save it using DOS prompt.
3. Create a batch file to execute MS Word application.
4. Use specific DOS commands for the purpose as mentioned below:
   a. View the files stored in the root directory
   b. List the complete details of all the files in ascending order
   c. View the files according the file type
   d. Rename all '.txt' files with extension '.axt'
5. Create a Path command from the root directory to run a batch file stored in your working directory.

## MS Word

1. Design your College Banner.
2. Write your syllabus of PC Software using formatting & Editing properties as mentioned in your syllabus – Cut, Copy, Paste, Bold, Underline, Indentation, Font Size, Paragraph line spacing.
3. Write an appointment letter for Marketing Executive of 'ABC Company' using the company's letterhead.
4. Using ClipArt & WordArt, insert images in your document and design it with text special effects and background effects.
5. Write your bio-data using formatting tools – colors, numbers/bullets, alignment, border.
6. Write a birthday invitation to your friends using mail merge.
7. Create a macro to print the College name 'Sri Sathya Sai College for Women, Bhopal'.
8. Design your Timetable using Table and its formatting features.

## MS Excel

1. Design your class Time Table.
2. Prepare a Mark Sheet of your class subjects.
3. Prepare a Salary Slip of an employee.
4. Prepare a bar chart & pie chart for analysis of Election Results.
5. Prepare a generic Bill of a Super Market.
6. Work on the following exercise on a Workbook:
    1. Copy an existing Sheet
    2. Rename the old Sheet
    3. Insert a new Sheet into an existing Workbook
    4. Delete the renamed Sheet.
7. Prepare an Attendance sheet of 10 students for any 6 subjects of your syllabus. Calculate their total attendance, total percentage of attendance of each student & average of attendance.
8. Create a worksheet on Students list of any 4 faculties and perform following database functions on it.
    1. Sort data by Name
    2. Filter data by Class
    3. Subtotal of no. of students by Class.

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