

B.Sc.- Semester – I (Computer Application)

CA – 100 : Fundamentals of Computer and Programming techniques

Max.Marks –85

UNIT - I

What is computer, evolution of computer, their classification and Generations , uses of computer in modern society.

Number System: Binary Number System, Decimal Number System, Octal Number System, Hexadecimal Number System, Conversion - Binary to Decimal, Octal and Hexadecimal number and vice versa

Binary Arithmetic: Addition, subtraction & multiplication, ASCII and BCD Code, fixed point and floating point representation of numbers.

Input Devices: Keyboard, Mouse, Light Pen, Touch Screen, Joystick, Scanner, OCR, OMR , MICR, Bar Code Reader

Output Devices: Monitor, Printers, Plotters.

Processing Unit: Control Unit, Arithmetic Logic Unit, Registers, Instruction cycle.

Primary Memory: RAM & types of RAM, ROM and types of ROM, Cache Memory.

Secondary Memory: Magnetic Tape, Floppy Disk ,Hard Disk , CD, DVD, Pen Drive.

UNIT -II

Introduction to Software -System Software Operating System, Evolution of operating system, machine Language , Translators, compiler Interpreter , Utilities programme, types of operating system.

Application Software: What is Application software, types of application software.

Introduction to MSDOS, Booting Process: ROM BIOS, self test io.sys, msdos.sys, autoexe.bat, command.com ,Types of files(data, program),directories(root, single, multi, current) wildcard characters ,

Dos Commands – Internal – Dir, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME CLS, PATH, TYPE.

External- CHKDSK, XCOPY, PRINT, DISKCOPY, DISCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB.

UNIT - III

Introduction to Windows XP, Desktop, Icons, Window: What is window? Types of Window, Parts of Window, Menu Bar, Tool Bar, Status Bar, scroll Bars and Buttons, Work Area.

Working with Windows: Open Application, Creating Folder, Creating and Saving File, Opening File and Folder, Renaming File and Folder, Deleting File and Folder, Copying File and Folder, Moving File and Folder.

UNIT – IV

MS Word Basics: Introduction to MS Office; Introduction to MS-Word; Features & area of use. Menus & Commands; Toolbars & Buttons; Creating a New Document; Different Page Views and layouts; Applying various Text Enhancements; Inserting – Page Numbers, Pictures, Files, Autotext, Symbols etc.; Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Mail Merge, Envelops & Mailing Labels.

MS Excel: Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Use of Formulas, Calculations & Functions; Cell Formatting including Borders & Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with various options.

MS PowerPoint: Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects; Designing & Presentation of a Slide Show; Printing Presentations, Notes, Handouts with print options.

UNIT – V

Algorithm, Flowchart, Introduction to Development of Program in QBASIC, Constants and Variables, Expressions, Jumping, Branching and Looping, Functions & Subroutines.

Subscripted Variable, Single and Double Subscripted variable, Searching, Sorting and Merging of Arrays, String Manipulation.

File Management: Types of File in Basic, Handling of Sequential and Random Access File.

TEXT BOOK:

- Office XP: BPB publication
- Programming in Basic : E. Balaguruswamy, TMHPublication

Reference Books:

- Computers Fundamentals by P.K. Sinha, BPB Pub.
- Computers Today by Vasandhara , Galgotia Publication
- Dos Quick Reference by Rajeev Mathur, Galgotia Pub.
- Fundamentals of IT. By Chetan Sharma
- Windows XP BPB pub.
- Basic Programming- GotFried – Schyam Series
- Office XP: BPB publicaton

B.Sc. Semester – I (Computer Science)

List of Practical's

Marks Distribution:

Practical	Sessional	Viva	Total
30	05	15	50

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1. Prepare a program in BASIC for finding the root of a Quadratic Equation in all condition.
 2. Prepare a program in Basic for Marksheet.
 3. Prepare a programme in Basic for finding the sum of given matrices of order $m \times n$
 4. Prepare a programme in Basic for finding the multiplication of given matrices of order $m \times n$
 5. Write a program for bubble sorting.
 6. Write a program for linear search.
 7. Write a program to generate even/odd series from 1 to 100.
 8. Write a program to find area of a circle,rectangle,square using case.
 9. Write a program to chech whether a given number is even or odd.
 10. Write a program whether a given number is prime or not.
 11. Write a program in BASIC to calculate factorial of a given number.
 12. Write a program to enter basic salary of a employee,if the salary is grater then 25000 then TA is 9% of Basic,DA is 8% of Basic,HRA is 10% of Basic & PF is 12% of Basic. Otherwise TA is 7% of Basic,DA is 4% of Basic,HRA is 5% of Basic & PF is 6% of Basic.Calculate it's net salary.
 13. The marks obtained by a student in 5 different subjects are input through the keyboard.the student gest a division as per the following rules:
Percent above or equal to 60 = First Division.
Percent between 50 and 59 = Second Division
Percent between 40 and 49 = Third Division
Percent less than 40 = Fail
 14. Write a program to calculate the division obtained by the student.
 15. Write a program using structure to enter details of a student.
 16. Write a program using structure to enter details of 5 employees.

17. Write a program to generate a series

$$1 + 1/1! + 2/2! + 3/3! + \dots + n/n!$$

18. Write a program to create a pyramid structure

```
*  
**  
***  
****
```

19. Write a program to create a pyramid structure

```
1  
12  
123  
1234
```

20. Write a program to create a pyramid structure

```
1  
22  
333  
4444
```

21. Write a program to reverse a string.

22. Write a program to find whether a given string is PALINDROME or not.

23. Write a program to input 10 numbers add it and find its average.

24. Write a program to generate series

$$1 + 1/2! + 1/3! + \dots + 1/n!$$

25 . DOS internal and External Commands

26. MS-WORD Applications

27. Excel- Worksheet creation and Chart preparation.