

# Government Degree College, Baramulla

Semester: 1<sup>st</sup>

Major/Minor1

Subject: Information Technology

Title: Basics of Information Technology

Code: BIT22C101

Credit: 06 (Theory 04 + Practical 02)

Contact Hours: 64 (Th) + 64 (Pr)

## COURSE OBJECTIVES:

- *To review the fundamental concepts of computers*
- *To impart basic knowledge related to operating systems*
- *To provide understanding related to Number Systems*
- *To provide hands on training on Office Automation Tools*

## **Part A: Theory**

### ***Unit 1: Fundamentals of Information Technology***

***16 Contact Hours***

Introduction to computers: Evolution and generations of computers. Functional units of computer system: CPU, memory, input /output devices. Computer Memory and Storage: Primary memory and Secondary memory. Classification of computers.

Software: System software and Application software, Utility packages, open source and proprietary software. Operating system: functions and features, types of operating system. Evolution of Programming languages. Translators: Assembler, Interpreter, Compiler.

### ***Unit 2: Data Representation***

***16 Contact Hours***

Decimal, Binary, Octal, and Hexadecimal Systems, Conversion from one number system to other. Binary Arithmetic: Addition, Subtraction, Multiplication and division. Integer Representation: 1's and 2's compliment. Signed and unsigned numbers. BCD and ASCII codes.

### ***Unit 3: Basics of Data Communication***

***16 Contact Hours***

Components of communication system, Modes of communication (simplex, half-duplex, full-duplex), Transmission media: Guided (Twisted pair: UTP and STP, Co-axial cable, Optical fibre) and Unguided (Radio Waves, Microwaves, Satellite links), Wireless connectivity: infra-red, Bluetooth, Wi-Fi, hotspot Measuring capacity of communication media, transmission types, Modulation /Demodulation. Networks: types and topologies.

### **Unit 4: Office Automation Tools**

***16 Contact Hours***

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Understanding word processing: Word Processing Basics, opening and closing of document, text creation and manipulation, formatting of text, table handling, spell check, language setting, thesaurus, printing of word document

Making small presentations: Basics of presentation, creating presentations, preparation and presentation of slides, slide show, taking printouts of presentations /handouts.

Using spreadsheet: Basics of spreadsheet, manipulation of cells, formulas and functions, editing of spreadsheet, printing of spreadsheet.

## **Part B: Practical**

*Note: The practical components shall be based on Unit 1 to Unit 4.*

### References:

1. Sanders, D.H., "Computer Today", Mc-Graw Hill, 1988.
2. Suresh K. Basandra, "Computers Today", Galgotia Publications Pvt. Ltd.
3. Raja Raman V., "Fundamental of Computers" (4th edition.), Prentice Hall of India, New Delhi.
4. Trainer T., et al, "Computers", McGraw Hill. 7. Norton, Peter, "Introduction to Computers Mc-Graw-Hill Publications.
5. Dr. Waseem Akram, "Basics of Information Technology", Notion Publications,2022
6. Computer Fundamentals, PK Sinha, Simon H Haykin, 4th Edition; Communication Systems; John Wiley and sons
7. Simon Haykin, Micheal Moher; An introduction to Analog and Digital Communication.