PAPER I

B.Sc I Sem Computer Science

Computer and Programming Fundamentals

Teacher name: Neelam

October 2020

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| Computer Fundamentals: Definition, Functional components of computer, characteristics & classification of computers, Applications of computers in various fields. Memory: Concept of primary & secondary memory, RAM, ROM, types of ROM, Cache memory, CPU Registers, flash memory, Secondary storage devices: Sequential & direct access devices viz. magnetic tape, magnetic disk, CD, DVD. |

November 2020

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| Computer hardware & software: I/O devices, definition of software, relationship between hardware and software, types of software, motherboard, ports. Overview of operating system: Definition, functions of operating system, concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, single-user & multi-user operating system, examples of various operating systems |

December 2020

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| Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation. Techniques of Problem Solving: Flowcharting, algorithms, pseudo code, decision table, |

January2021

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| Structured programming concepts, Programming methodologies viz. top-down and bottom up programming.  Searching, Sorting, and Merging: Linear & Binary Searching, Bubble, Selection, and Insertion Sorting, Merging. |

February 2021

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| Computer Languages: Analogy with natural language, machine language, assembly language, high-level language, language translators, characteristics of a good programming language. |