Lesson Plan (Session 2023-24)

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-II
Subject: CSC- 102A Programming in 'C'

1 Jan 2024-31 Jan 2024	Basic concepts of programming, t echniques of problem solving, algorithm designing and flowcharting, concept of structured programming-Top-Down design, Development of efficient program; Program correctness; Debugging and testing of programs
1 Feb 2024-29 Jan 2024	Overview of C: History of C, Importance of C, Structure of a C Program Elements of C: C character set, identifiers and keywords, Data types: declaration and definition. Operators: Arithmetic, relational, logical, bitwise, unary, assignment and conditional operators and their hierarchy & associatively, input/output statements, Arithmetic Expression, Evaluation of Arithmetic Expression, Type-casting and Conversion.
1March 2024-31 March 2024	Decision making & branching: Decision making with if statement, if-else statement, nested if, elseif ladder, switch statement, goto statement. Decision making & looping: for, while, and do-while loop; Jumps in loop, break, continue Functions: Definition, prototype, passing parameters, Recursion.
1 April 2024-30 April 2024	Pointers: Declaration, operations on pointers, array of pointers, pointers to arrays. Data Structures: Arrays: One Dimensional, Multidimensional, Pointers and arrays. Strings: String Constants, Input &Output, String Functions. Structure & Unions. File Handling: Standard I/O text File, Writing to File, Reading a File.

Lesson Plan (Session 2023-24)

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-II

Subject: CSC- 102B Computer Networks

1 Jan 2024-31 Jan 2024	Basic Concepts: Components of data communication. Line configuration, transmission mode, OSI TCP/IP Models: Layers and their functions, comparison of models. Digital Transmission: Interfaces and modems: DTC-DEC Interfaces, modems cable modem. Transmission media: Guided and unguided attenuation, distortion, noise, throughput, propagation speed and time, wavelength, Channel Capacity, Shannon capacity.
1 Feb 2024-29 Jan 2024	Introduction to signals. Analogue and digital signals, Periodic and aperiodic signals, time and frequency domains, composite signals Encoding and modulation: Digital to digital conversion analogue to digital conversion. Analogue to Analogue conversion Multiplexing, error detection and correction: Many to one, many to many, WDM, TDM, FDM, Telephone system, DSL, CDMA, FTTC
1March 2024-31 March 2024	Data link control protocols: Line discipline, flow control, error control, synchronous and asynchronous protocols, character and bit oriented protocols, Ethernet. Token Bus, token ring, FDDI, SMDS. Switching: Circuit switching packet switching, message switching.
1 April 2024-30 April 2024	Internetworking: Repeaters, bridges, gateways, Switch/Hub, Router, Tunnelling, Fragmentation, Firewalls Network Security: Cryptography-Public Key, secret Key, DNS- E-mail and WWW, E-mail Architecture.

Lesson Plan (Session 2023-24)

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-IV

Subject: : CSC – 202A Advanced Data and File Structure

1 Jan 2024-31 Jan 2024	Graphs: Representation of Graphs in Memory, Traversing of Graphs, Binary Tree, Storage representation, Tree Traversal, Binary Search Tree, Searching & Inserting in BST.
1 Feb 2024-29 Feb 2024	Introduction to Files: Types of Files (According to function, Access mode), files Operations, file System, Storage devices, Magnates tape (Blocking & De –Blocking), tape utilization, Size of Block, Application Areas of Magnetic tape, Advantage & Disadvantage of tape, Timing Determination.
1March 2024-31 March 2024	Magnetic Disk (Access time, Advantage & Disadvantages), floppy disk, Comparison between different Storage Devices. File Organization: Types of File Organization: Serial Sequential, Direct, Indexed Sequential Access Method (ISAM), Hashing algorithm, Collision & Synonym., Choice of file organization Methods.
1 April 2024-30 April 2024	Concepts of index, Levels of index, Multi Key Access, Inverted File Organization, Multi list Organization

Lesson Plan (Session 2023-24)

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-IV
Subject: : CSC – 202B Object Oriented Programming with C++

1 Jan 2024-31 Jan 2024	Object Oriented Programming: Software evolution. Object oriented Languages and Applications. Object Oriented Concepts: Class, Object, Abstraction, Inheritance, Polymorphism, Overriding, Abstract Class & methods. Generalization, Aggregation, Associations.
1 Feb 2024-29 Feb 2024	Introduction to Programming C++: Object-Oriented Features of C++, data types in C++, variables, operators, flow control, recursion, array, Pointers and their manipulation, strings, structures, Class and Objects, Data Hiding & Encapsulation, Data members and Member functions, Inline Functions ,Friend Functions, Comparing C with C++.
1March 2024-31 March 2024	Inheritances: Single Inheritance, Multiple Inheritance, Hierarchical, Hybrid Inheritance, polymorphism, pointers, virtual functions, console I/O operations.
1 April 2024-30 April 2024	Files: Classes for file stream Operations-opening, closing and processing file, End of file detection, file pointers, updating a file, Error Handling during file Operations.

Lesson Plan (Session 2023-24)

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: BA and BA Geo Hons Sem-I
Subject: : BASIC COMPUTER EDUCATION L1-(I)

1 Jan 2024-31 Jan 2024	Operating System - Definition & Functions of Operating System, Basics of Popular Operating Systems: The User Interface. Exploring Computer. Icons, taskbar, desktop. Using Menu and Menu-selection. managing files and folders. Control panel display properties. add/remove software and hardware. Running an Application. Using help: Creating Short cuts, Basics of O.S Setup; Common utilities.
1 Feb 2024-29 Feb 2024	Word Processing: Introduction to Word Processing. Menus. Creating, Editing & Formatting Document, Spell Checking, Printing. Views. Tables, Word Art. Mail Merge. Macros. Spread Sheet: Elements of Electronics Spread Sheet. Applications. Creating and Opening of Spread Sheet, Menus, Manipulation of cells: Enter texts numbers and dates, Cell Height and Widths, Copying of cells, Mathematical, Statistical and Financial function, Drawing different types of charts.
1March 2024-31 March 2024	Presentation Software: Creating, modifying and enhancing a presentation. Delivering a presentation, Using sound, animation and design templates in presentation. Computer Communication: Internet and its applications, Connecting to internet,
1 April 2024-30 April 2024	Surfing the Internet using web browsers. Web Browsing softwares. Search Engines. Understanding URL. Domain name. IP Address. Creating Email Id. Viewing an E-Mail. Sending an E- Mail to a single and multiple users, Sending a file as an attachment.

Lesson Plan

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-I
Subject: Computer fundamentals CSC 101A

22 July 2023 -31 Aug 2023	Evolution of Computers Classification of ComputersModel of digital computer
	Functioning of Digital ComputerUsefulness of Computers Human being vs Computers
	Application of computers Application of computers in DTP,Sports, Deisgn and manufacturing research.
	Application of computers Appliction of computers in military robotics,planning a management,marketing, Medicine and Healthcare, arts ,communication.
1 Sep 2023- 30 Sep 2023	Input Devices: Punch Cards, Card-Readers, Keypunching Machines, Keyboard, Mouse,Joystick
	TrackBall, Digitiser ,Voice-Recognition Devices, Scanner and Terminal.Hard Copies Devices: Type of Printers: Impact Printer(DMP)
	Impact Printer(Daisy Wheel,line,Drum Printer,Chain Printer. Non-Impact printer(Laser,Inkjet)
	Plotters, SoftCopy Devices-MonitorVideo Standards.
	Memory & Storage devices: Characteristics of Memory Systems, types of Memory:RAM,ROM

Lesson Plan

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-I
Subject: Logical Organization of Computer CSC 101B

22 July 2023 -31 Aug 2023	Information Representation: Number Systems, Binary Arithmetic, Fixed-point and Floating-point representation of numbers, BCD Codes, Error detecting and correcting codes, Character Representation – ASCII, EBCDIC, Unicode.
1 Sep 2023- 30 Sep 2023	Binary Logic: Boolean algebra, Boolean Theorems, Boolean Functions and Truth Tables, De -Morgan's theorem, Simplifying logic circuits, sum of product and product of sum form, algebraic simplification, Karnaugh simplification.
1 Oct 2023-31 Oct 2023	Digital Logic: Basic Gates - AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates –XOR, XNOR etc. NAND, NOR, AND-OR-INVERT and OR-AND-INVERT . Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type, Race Around condition and Master-Slave flip flops.
1 Nov 2023-30 Nov 2023	Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters, BCD to Seven-Segment, Decoder.

Lesson Plan

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-III
Subject: CSC – 201A Data & File Structure using 'C'

22 July 2023 -31 Aug 2023	Introduction to data structures, memory management techniques, data structure Operations, Algorithm notations, complexity of algorithm & time space trade off, arrays, different operations on arrays.
1 Sep 2023- 30 Sep 2023	Stack, memory representation of stacks, operation of stack, application of stack (Polish notations recursion), Queues, Operations on Queues, types of Queues, liked lists, representation of liked list, types of linked list.
1 Oct 2023-31 Oct 2023	Searching (Internal & External), Searching techniques (Linear & Binary Search) Sorting techniques: Bubble Sort, Selection Sort, Insertion sort, Quick sort, merge sort.
1 Nov 2023-30 Nov 2023	Introduction to files: Components of file. Reasons for structuring files, logical data organization concepts of keys, types of files (According to function, Access mode), file operations, and file system.

Lesson Plan

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Sc.(CS) Sem-III

Subject: CSC – 201B Computer System Architecture

22 July 2023 -31 Aug 2023	Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO) , State table, state diagram and state equations, Flip-flop excitation tables
1 Sep 2023- 30 Sep 2023	Shift registers. Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N, Counters and Up-Down Counters.
1 Oct 2023-31 Oct 2023	Memory & I/O Devices: Memory Parameters, Semiconductor RAM, ROM, Magnetic and Optical Storage devices, Flash memory, I/O Devices and their controllers.
1 Nov 2023-30 Nov 2023	Instruction Design & I/O Organization: Machine instruction, Instruction set selection, Instruction cycle, Instruction Format and Addressing Modes. I/O Interface, Interrupt structure, Program controlled, Interruptcontrolled & DMA transfer, I/O Channels, IOP.

Lesson Plan

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Com(Pass) Sem-I
Subject: Basics of Computer BCP-111

22 July 2023 -31 Aug 2023	Introduction to Computers: Components of computer; characteristics of computers. Applications of computers: computers in commerce. Operating system, storage devices, computer languages.
1 Sep 2023- 30 Sep 2023	Introduction to Windows: Components of an application window; types of windows, windows as an operating system. Internet: meaning, brief overview of ISP, search engines. URL. browser, http. e-mail, advertising and marketing on the internet.
1 Oct 2023-31 Oct 2023	Introduction to Windows: Components of an application window; types of windows, windows as an operating system. Internet: meaning, brief overview of ISP, search engines. URL. browser, http. e-mail, advertising and marketing on the internet.
1 Nov 2023-30 Nov 2023	MS Power Point: Concept of slides, power point presentation, creating and saving slides in different formats, design themes; background; insert picture; clipart; shapes; smart art; header footer; slide number; print hand outs; slide show; animation; transitions, essentials of effective power point presentation. Short cut keys for important options: Copy, paste, undo. Redo print. changing alignment. formatting options, saving, paragraph options. use of function keys.

Lesson Plan

Name of the Assistant Professor: Amit Kumar Kaushik
Class and Section: B.Com(Hons) Sem-I
Subject: Introduction to Computer BCH-111

22 July 2023 -31 Aug 2023	Computer Organization: Introduction, components, classification, capabilities characteristics & limitation. Operating System; Storage devices: Application of Computer in Business, Computer Languages.
1 Sep 2023- 30 Sep 2023	Use of MS-Office: Basics of MS-Word, Report Writing and MS Word Introduction to MS-Excel: Excel Interface, Worksheet Area, Frequently used commands in Excel, Basic Functions in Excel: Sum & Sumif, Average & averageif, Count & countif, Relative & Absolute, Running Total, If & nestedif, Custom List, Filter, Conditional Formatting, V-Lookup & H-lookup. Preparation of tables and graphs.
1 Oct 2023-31 Oct 2023	MS-Power Point; Applications in documentation preparation and making reports; preparation of questionnaires, presentation.
1 Nov 2023-30 Nov 2023	Internet: Internetworking, concepts, Internet Protocol Addresses, WWW Pages & Browsing, Security, Internet Applications, Analog & Digital Signals, Bandwidth, Network Topology, Packet Transmission, Long Distance communication, Network Application. E-mail. Preparation of Google Forms