

Lesson Plan

Class – BCA 1st Sem

Subject –PC Software

Faculty – Mr. Amit Rathee

Paper Code- BCA102

Lesson Plan Duration - From July 2023 to November 2023

Time Period	Topics
July Week 4	Operating system-Definition & functions, basics of Windows.
August- Week 1	Basic components of windows, icons, types of icons, taskbar, activating windows, using desktop, title bar,
August- Week 2	Control panel – display properties, adding and removing software and hardware
August- Week 3	Control panel – setting date and time, screensaver and appearance. Using windows accessories. Assignment of Unit-1
August- Week 4	running applications, exploring computer, managing files and folders, copying and moving files and folders Test of Unit-1
September- Week 1	Introduction to word processing interface, Toolbars, Menus, Creating & Editing Document, Formatting Document
September- Week 2	Finding and replacing text, Format painter, Header and footer, Drop cap, Auto-text, Autocorrect
September- Week 3	Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Previewing and printing document
September- Week 4	Advance Features of MS-Word-Mail Merge, Macros, Tables, File Management, Printing, Styles, linking and embedding object, Template Assignment of Unit 2
October- Week 1	Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations
October- Week 2	Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Database Management using Excel-Sorting, Filtering, Validation, What if analysis with Goal Seek, Conditional formatting.
October- Week 3	Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation. Assignment and Test of Unit-3
October- Week 4	Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures
November- Week 1	Inserting Recorded Sound Effect or In-Built Sound Effect. Presentation
November- Week 3	Test and Query discussion

(Teacher's Signature)

Lesson Plan

Class – BCA 1st Sem

Subject – COMPUTER ARCHITECTURE

Faculty – Mr. Amit Rathee

Paper Code- Paper- 1.2

Lesson Plan Duration - From July 2023 to November 2023

	SYLLABUS TOPIC
July Week 4	Logic Gates OR, AND , NOT, XOR Gates, Boolean algebra and Digital Circuits
August- Week 1	Boolean algebra Law and Theorems like DeMorgan Law; Introduction to logic circuits and types.
August- Week 2	Simplifying logic circuits—sum of product and product of sum form, algebraic simplification, Karnaugh simplification
August- Week 3	Arithmetic Circuits: Adder, Subtractor, parallel Binary adder and Subtractor Assignment-1
August- Week 4	Arithmetic Circuits: Binary Multiplier and Divider
September- Week 1	Combinational Circuits: Decoders and Encoder and Test
September- Week 2	Combinational Circuits: Multiplexer and De-multiplexer circuits and Design of code Converters.
September- Week 3	Sequential Circuits: Flip-flop-S-R, D, J-K, T, Clocked Flip-flop, Race Around condition, Test
September- Week 4	Master-Slave Flip-Flop, Realization of One Flip-Flop using other Flip-Flop
October- Week 1	Shift-Registers, Counters-Ripple, Modular Synchronous, Ring & Twisted-Ring Counter.
October- Week 2	Register transfer and Micro-operations: Register transfer Language, Bus and Memory Transfer, Arithmetic, Logic Micro-operations, Shift Micro-operations.
October- Week 3	Basic computer organization and Design: Instruction and instructions codes, computer instructions, timing and control, instruction cycle Assignment-2
October- Week 4	Memory references instructions, input- output reference instructions and interrupts;
November- Week 1	Revision of 1-2 Units and Test
November- Week 3	Revision of 3-4 Units and Test

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Lesson Plan

Class – B.Sc. 2nd Sem

Subject – Data Communication and Networking

Faculty – Mr. Amit Rathee

Paper Code- Paper- 3.1

Lesson Plan Duration - From July 2023 to November 2023

DATE	SYLLABUS TOPIC
July Week 4	Introduction to Computer Communications and Networking Technologies; Uses of Computer Networks
August- Week 1	Network Devices, Nodes, and Hosts; Types of Computer Networks and their Topologies;
August- Week 2	Network Architecture and the OSI Reference Model, TCP/IP reference model
August- Week 3	Analog and Digital Communications: Concept of data, signal, channel, bid-rate , maximum data-rate of channel Test of Unit-1
August- Week 4	Representing Data as Analog Signals, Representing Data as Digital Signals, Data Rate and Bandwidth, Capacity, Baud Rate;
September- Week 1	Asynchronous and synchronous transmission, , data encoding techniques, Modulation techniques
September- Week 2	Digital Carrier Systems; Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing;
September- Week 3	Dialup Networking; Analog Modem Concepts. Data Link Layer: Framing, Flow Control, Error Control; Error Detection and Correction; Media Access Control Assignment-1/ Test of Unit-2
September- Week 4	Random Access Protocols, Token Passing Protocols; Token Ring; Introduction to Ethernet, FDDI, Wireless LANs. Network Layer and Routing Concepts Virtual Circuits and Datagram's,
October- Week 1	Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Internetworking
October- Week 2	Transport layer: Elements of Transport protocol: Addressing, Connection Establishment, Test Unit-3
October- Week 3	Flow Control Buffering, Crash recovery. Internet Transport protocol: UDP: Introduction
October- Week 4	Real time Transport protocol, Remote Procedure Call. Application Layer Assignment-2
November- Week 1	Domain Name System, Electronic Mail, World Wide Web.
November- Week 3	Test and Query discussion

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Lesson Plan

Class – B.Sc. 2nd Sem

Subject – Object-Oriented Design and C++

Faculty – Mr. Amit Rathee

Paper Code- Paper- 3.2

Lesson Plan Duration - From July 2023 to November 2023

Time Period	Topics
July Week 4	Introduction to Programming C++: Object-Oriented Features of C++, data types in C++
August- Week 1	variables, operators, flow control, recursion, array, Pointers and their manipulation, strings, structures
August- Week 2	Class and Objects, Data Hiding & Encapsulation, Data members and Member functions
August- Week 3	Inline Functions, Static Data Members and Member Functions, Friend Functions, Test of Unit-1
August- Week 4	Pre-processor Directives, Namespace, Comparing C with C++.
September- Week 1	Constructors & Destructors: Roles and types of Constructors, Constructor Overloading, Roles of Destructors,
September- Week 2	Dynamic Memory Allocation: Pointers and their Manipulation, new and delete Operators 'this' Pointer
September- Week 3	Console I/O: Formatted and Unformatted I/O, Manipulators. Assignment-1
September- Week 4	Compile-Time Polymorphism: Unary and Binary Operators overloading through Member Functions and Friend Functions
October- Week 1	Function Overloading, virtual functions, abstract class, virtual class Surprise Test
October- Week 2	Inheritance: Types of Derivations, Forms of Inheritance, Roles of Constructors and Destructors in Inheritance.
October- Week 3	Object oriented concepts: Class, Object, Methods, Message Passing, Abstraction, Inheritance
October- Week 4	Polymorphism, Generosity, Overriding, Abstract Class & methods Surprise Test/ Assignment-2
November- Week 1	Generalization, Aggregation, Associations.
November- Week 3	Test and Query discussion

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