**LESSON PLAN(2022-23-Odd)**

**Name of Asst Professor: Mr. Shakti Kumar**

**Subject code and Subject name: BCA 3rd Sem, BCA- 233 Computer Architecture**

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| **Month** | **Topic Covered** |
| 01-09-22 to 30-09-22 | Register Transfer and Microoperations: Register Transfer Language (RTL), register transfer, Bus and Memory Transfers, Arithmetic Microoperations, Logic Microoperations, Shift Microoperations, Arithmetic Logic Shift Unit, Microprogrammed Control: Control memory; address sequencing, microprogram sequencer, Design of Control Unit Test-1 |
| 01-10-22 to 21-10-22 | Basic Computer Organisation and Design: Instruction Codes, Computer registers, Computer Instructions, Timing and Control, Instruction Cycle, Memory reference instructions, Input-Output and Interrupt, Design of Basic computer, Design of accumulator logic Assignment-1 |
| 27-10-22 to 30-11-22 | Central Processing Unit: General registers Organization, Stack Organization, Instruction formats, Addressing Modes, Data Transfer and Manipulation, Program Control, Program Interrupt, RISC, CISC.Test-2 |
| 01-12-22 to 24-12-22 | Memory Organization: Memory hierarchy, Auxiliary Memory, Associative Memory, Interleaved memory, Cache memory, Virtual Memory, Memory Management Hardware, Input Output Organization : Peripheral devices , Input-Output Interface, Asynchronous data transfer, Modes of Transfer, Priority Interrupt, Direct Memory Access(DMA),Input-Output Processor(IOP). Assignment-2 |

**LESSON PLAN(2022-23-Odd)**

**Name of Asst Professor: Mr. Shakti Kumar**

**Subject code and Subject name: BCA 5th Sem, BCA- 353 Artificial Intelligence**

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| **Month** | **Topic Covered** |
| 01-09-22 to 30-09-22 | Artificial Intelligence : Intelligence, AI Concepts, Various definitions of AI, Knowledge, Knowledge Pyramid, People and Computers: What computers can do better that people, what people can do better than computers; Characteristics of AI Problems, Problem Representation in AI, Components of AI, AI Evolution, Application Areas of AI, History of AI, The Turing Test, The Revised Turing Test, Assignment-1 |
| 01-10-22 to 21-10-22 | Expert System: Components of Expert System: Knowledge Base, Inference Engine, User Interface, Features of Expert System, Expert System Life Cycle, Categories of Expert System, Rule Based vs. Model Based Expert Systems, Advantages/Limitations of Expert System, Developing an Expert System: Identification, Conceptualization, Formalization, Implementation, Testing, Using an Expert System, Application Areas of Expert System Test-1 |
| 27-10-22 to 30-11-22 | AI and Search Process: Brute Force Search – Depth First/Breadth First Search, Heuristic Search: Hill Climbing, Constraint Satisfaction, Mean End Analysis, Best First Search, A\* Algorithm, AO\* Algorithm, Beam Search. Assignment-2 |
| 01-12-22 to 24-12-22 | Natural Language Processing: Introduction, Need, Goal, Fundamental Problems in Natural Language Understanding, How People overcome Natural Language Problems, Speech Recognition: Introduction, Advantages and Approaches, Introduction to Robotics: Parts of a Robot, Controlling a Robot, Intelligent Robots, Mobile Robots Test-2 |

**LESSON PLAN(2022-23-Even)**

**Name of Professor: Mr. Shakti Class: BCA SEM 6**

**Subject: Programming using VB**

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| **Month** | **Topic Covered** |
| January 2023 to 31 Jan 2023 | Introduction to VB: Visual & Non-Visual programming, Procedural, Object-Oriented, Object-Based and Event-Driven Programming Languages, VB as Even-Driven and Object-Based Language, VBEnvironment: Menu bar, Toolbar, Project explorer, Toolbox, Properties Window, Form Designer, Form Layout, Immediate window, Default Controls in Tool Box Visual Development and Event Driven programming. Test-1 |
| 1 Feb 2023 to 28 Feb 2023 | Basics of Programming: Variables: Declaring Variables, Types of variables, Converting Variables Types, User Defined Data Types, Forcing Variable Declaration, Scope & Lifetime of Variables. Constants: Named & Intrinsic, Operators: Arithmetic, Relational & Logical operators, Input/output in VB: Various Controls for I/O, Message box, Input Box, Print statement. Test-2 |
| 1 March 2023 to 31 March 2023 | Decision Statements in VB - if statement, if-then-else, select-case; Looping Statements in VB: do-loop, for-next, while-wend; Exit statement, Nested Control Structure; Arrays: Declaring and using Arrays, One-dimensional, Two-dimensional and Multi-dimensional Arrays, Static and Dynamic arrays, Array of Arrays. Assignemnt-1 |
| 1 April 2023 to 30 April 2023 | Procedures: General & Event Procedures, Subroutines, Functions, Calling Procedures, Arguments - Passing Mechanisms, Optional Arguments, Named Arguments, Functions Returning Custom Data Types Simple Program Development in VB such as Sum of Numbers, Greatest among Numbers, Checking Even/Odd Number, HCF of Two Numbers, Generate Prime Numbers, Generate Fibonacci Series, Factorial of a Number, Searching, Sorting, etc. Assignment-2 |

**LESSON PLAN(2022-23-Even)**

**Name of Professor: Mr. Shakti Class: BCom CAV Sem-2**

**Subject: BC(Voc)-205 Programming in C**

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| **Month** | **Topic Covered** |
| January 2023 to 31 Jan 2023 | Programming in C: character set, identifiers and keywords, constants and variables, data types, expressions and statements. Test-1 |
| 1 Feb 2023 to 28 Feb 2023 | Arithmetic, logical, relational and bitwise operators and their hierarchy, Assignment and conditional operators.Assignment-1 |
| 1 March 2023 to 31 March 2023 | Input/output statements, control statements-if-else, switch break, continue and loops. Test-2 |
| 1 April 2023 to 30 April 2023 | Arrays, functions, pointer, structure and unions, data files, developing simple programmes. Practical: The candidates should be able to develop elementary programmes in C Language, Assignment-2 |

**LESSON PLAN(2023-24-Odd)**

**Name of Professor: Mr. Shakti Class: BCA SEM 1**

**Subject: Programming with C**

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| **Month** | **Topic Covered** |
| 8 Aug 2023 to 31 Aug 2023 | Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant.Input/output: Unformatted & Formatted I/O Function, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putch(), putchar(), puts(). Test-1 |
| 1 Sep 2023 to 30 Sep 2023 | Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy & Associativity. Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Assigmnet-1 |
| 1 October 2023 to 31 October 2023 | Decision making with if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement Looping: for, while, and do-while loop, jumps in loops. Test-2 |
| 1 November 2023 to 30 November 2023 | Functions: definition, prototype, function call, passing arguments to a function: call by value, call by reference, recursive functions. Arrays: Definition, types, Initialization, multidimensional arrays, Processing on Arrays. Assignmnet-2 |

**LESSON PLAN(2023-24-Even)**

**Name of Professor: Mr. Shakti Class: BCA SEM 2**

**Subject:**  **Object Oriented Programming using C++**

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| **Month** | **Topic Covered** |
| 3 Jan 2024 to 31 Jan 2024 | Input Output in C++: Unformatted and Formatted I/O Operations. I/O using insertion and extraction operators and streams in C++. Functions: Declaration and Definition, return values, arguments, passing parameters by value, call by reference, call by pointer, Recursion, Inline Functions, Function overloading. Pointers, structures, and union in C++. Test-1 |
| 1 Feb 2024 to 29 Feb 2024 | Object-oriented features of C++: Class and Objects, Data hiding & encapsulation, abstraction, Data Members and Member Functions, accessing class members, empty class, local class, global class, Scope Resolution Operator and its Uses, Static Data Members, Static Member Functions, Structure vs Class, Friend function and friend class. Constructors and Destructors: Constructors, Instantiation of objects, Default constructor, Parameterized constructor, Copy constructor and its use, Destructors, Dynamic initialization of objects Test-2 |
| 1 March 2024 to 31 March 2024 | Operator Overloading: Overloading unary and binary operators: arithmetic operators, manipulation of strings using operators. Inheritance: Derived class, base class, Accessing the base class member, Inheritance: multilevel, multiple, hierarchical, hybrid; Virtual base class, Abstract class Assignmnet-1 |
| 1 April 2024 to 15 April 2024 | Virtual Functions, pure virtual functions; Polymorphism & its types Exception Handling in C++: exception handling model, exception handling constructs - try, throw, catch, Order of catch blocks, Catching all exceptions, Nested try blocks, handling uncaught exceptions. Assignment-2 |