GOVT. COLLEGE FOR WOMEN HISAR
Lesson Plan Session April 2022 to June 2022

Name of Teacher: Amit Bansal

Class: BSc-6th Sem

Paper: Python Programming

Month	Topics
April-2022	History and features of Python programming Python interpreter, Variable, Identifiers and literal, Token, Keywords Data types, arithmetic operators, relational operators, logical operators, Bitwise operators, Assignment operators, Membership operators, Identity operators, Operator precedence, Comment, Indentation, Need for indentation Built-in Functions- input, eval, composition, print, type, round, min and max, pow Type conversion, Random Number Generation, Mathematical functions Getting help on a function, Assert statement
May-2022	if conditional statement, for and while statements, break, continue and pass statements Function definition and Call, Function Arguments- Variable Function Arguments Default Arguments, Keywords Arguments, Arbitrary Argument Command Line Arguments, Global and Local Variables Accessing local variable outside the scope, Using global and local variables in same code Using global and local variables with same name. String as a compound data type, String operations- Concatenation, Repetition Membership operator, slicing operation, String methods- count, find, rfind, capitalize, title, lower, upper, swapcase, islower, isupper,istitle, replace, isalpha, isdigit, isalnum. String processing examples.
June-2022	List operations- Concatenation, Multiplication, length, indexing, slicing, min, max, sum Membership operator. List function-append, extend, remove, pop, count, index, insert, sort, reverse. Recursive solutions for problems on Numbers, String and list. Introduction to classes, method, Class object, Instance object, Method object Class as abstract data type, Date Class, Access attributes using functions-getattr, hasattr, setattr, delattr Built-in Class attributes of class object (__dict_, __doc__, __name__,__module__) Screen object – Point and Line, box, polygon, circle, arc, screen object Methods – move_to() Move_by(), rotate_by(), text(). Sound – sound(), play_sound(), stop_sound().

Lesson Plan Session April 2022 to June 2022

Name of Teacher: Garima Mann
Class: BSc-6th Sem
Paper: Computer Graphics

Month	Topics
April-2022	Historical Prospective of computer graphics Basic element of computer graphics Modelling, Rendering, Animation Application of computer graphics Input Devices: Mouse, Light Pen, Graphic tablets, Joysticks, Trackball, Flatbed Scanner Hard Copy Devices: Laser Printer, Flatbed Plotter
May-2022	Video Display Devices: Pixel, Resolution, Aspect Ratio Refresh Rate and Interlacing, Cathode Ray Tube Flat Panel Display- LCD and Plasma Panel, Raster and Random Scan Display Fundamental techniques in graphics: Line generation algorithms- DDA Algorithm, Bresenham's line Generation Algorithm, Circle Generation Algorithm - Bresenham's Algorithm, Midpoint circle algorithm, Polygon filling algorithm Scan line algorithm, Viewing and clipping- Point clipping and line clipping
June-2022	Cohen- Sutherland line clipping algorithm Polygon clipping, Sutherland Hodgman algorithm 2-Dimensional Graphics- Cartesian and homogeneous co-ordinate system Geometric transformations- Translation, Scaling, Rotation, Reflection 3- Dimensional Graphics: Geometric transformations Translation, Scaling, Rotation, Reflection Mathematics of Projections (Parallel & Perspective)

Lesson Plan Session April 2022 to June 2022

Name of Teacher: Garima Mann

Class: BSc-4thnd Sem

 Paper: Computer Networks

Month	Topics
April-2022	Introduction of computer communication and network technologies Use of computer Networks Network Devices, Nodes and Hosts Types of computer networks and their topologies OSI reference Model TCP/IP Reference model Analog and digital communication concepts
May-2022	Data rate and bandwidth Capacity, baud rate Digital carrier system, guided and wireless transmission media Communication satellites Switching and multiplexing Data link layer Framing, flow control, Error detection and correction Sliding window protocol Media access protocol Random access protocol Token Passing protocol
June-2022	Token ring Ethernet, gigabit Ethernet Token ring, FDDI, bluethooth and wifi Network layer and routing concepts ; Virtual circuit and datagrams, routing algorithms, Flooding, shortest path routing, Distance vector routing,link state routing, hierarchical routing Congestion control algorithm Internetworking, IPV4 and IPV6

Lesson Plan (01/04/22 to 30/6/22)

Name of the Assistant/Associate Professor : Vipin Babbar
Class:- BSc 4th Sem (Computer Science)
Subject:- Software Engineering

Date	Topics
1/4/22 to 9/4/22	Program vs. Software, Software Engineering, Programming paradigms, Software Crisis – problem and causes,
11/4/22 to 16/4/22	Phases in Software development: Requirement Analysis, Software Design, Coding, Testing, Maintenance,
18/4/22 to 23/4/22	Software Development Process Models: Waterfall, Prototype,
25/4/22 to 30/4/22	Evolutionary and Spiral models
2/5/22 to 7/5/22	Feasibility Study, Software Requirement Analysis and Specifications: SRS, Need for SRS, Characteristics of an SRS, Components of an SRS,
9/5/22 to 14/5/22	Problem Analysis, Information gathering tools, Organising and structuring information, Requirement specification, validation and metrics.
16/5/22 to 21/5/22	Software Project Planning: Cost estimation: COCOMO model,
23/5/22 to 28/5/22	Project scheduling, Staffing and personnel planning, team structure
30/5/22 to 4/6/22	Software configuration management, Quality assurance plans, Project monitoring plans, Risk Management.
6/6/22 to 11/6/22	Software Implementation and Maintenance: Type of maintenance, Management of Maintenance, Maintenance Process, maintenance characteristics.
13/6/22 to 18/6/22	Software testing strategies: unit testing, integration testing,
20/6/22 to 25/6/22	Verification and Validation , System testing, Alpha and Beta testing, acceptance testing,
27/6/22 to 30/6/22	Black box, white box testing. Cyclomatic Complexity.
1/7/22 to 5/5/7/22	Revision of syllabus

Lesson Plan Session April 2022 to June 2022

Name of Teacher: Amit Bansal

Class: BSc-2nd Sem

Paper: Computer Organization

Month	Topics
April-2022	Decimal, Binary, Octal, Hexadecimal Number System
	Conversion from one number system to other
	Binary arithmetic operations
	Representation of Negative Numbers: 1's complement and 2's complement
	Fixed and floating point representation
	Character representation (BCD, EBCDIC and ASCII Code), BCD number system
	Weighted Codes, Self Complementing Code, Excess-3 code, Gray and Cyclic code
	Boolean Algebra definition, Postulates of Boolean Algebra,
	Fundamental Theorems of Boolean Algebra; Duality Principle
	Demorgan's Theorems, Boolean
May-2022	Expressions and Truth Tables
	Standard SOP and POS forms
	Canonical representation of Boolean expressions
	Simplification of Boolean Expressions using theorems of Boolean algebra
	Minimization Techniques for Boolean Expressions using Karnaugh Map
	AND, OR, NOT, NOR, NAND & XOR Gates and their Truth tables
	Half Adder & Full Adder, Half Subtractor & Full Subtractor, decoders, multiplexors
	Realization of Boolean expressions using decoders and multiplexor
	Flip-Flops, Types- RS, T, D, JK
June-2022	Master-Salve JK flip flop, Triggering of Flip Flops; Flip Flop conversions
	Shift Registers, Synchronous and Asynchronous Counters.
	Register Organization, Bus system
	Instruction set, timing and control, instruction cycle, memory Reference,
	Input-output and interrupt.
	Instruction formats, addressing modes, instruction codes.
	Peripheral devices, I/O interface
	Modes of data transfer, Direct Memory Access

Lesson Plan (01/04/22 to 30/6/22)

Name of the Assistant/Associate Professor : Vipin Babbar
Class:- BSc 2nd Sem (Computer Science)
Subject:- Data Structure using C

Date	Topics
1/4/22 to 9/4/22	Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures, Data structure operations, Applications of data structures, Algorithms complexity and time-space tradeoff, Big-O notation.
11/4/22 to 16/4/22	Strings: Introduction, strings, String operations, Pattern matching algorithms
18/4/22 to 23/4/22	Arrays: Introduction, Linear arrays, Representation of linear array in memory, Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse matrix.
25/4/22 to 30/4/22	Linked List: Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion,
2/5/22 to 7/5/22	Searching in a linked list, Header linked list, Circular linked list, Two-way linked list, Garbage collection, Applications of linked lists. Algorithm of insertion/ deletion in SLL.
9/5/22 to 14/5/22	Stack: primitive operation on stack, algorithms for push and pop. Representation of Stack as Linked List and array,
16/5/22 to 21/5/22	Stacks applications : polish notation, recursion. Introduction to queues, Test
23/5/22 to 28/5/22	Primitive Operations on the Queues, Circular queue, Priority queue, Representation of Queues as Linked List and array
30/5/22 to 4/6/22	Applications of queue. Algorithm on insertion and deletion in simple queue and circular queue.
6/6/22 to 11/6/22	Trees - Basic Terminology, representation, Binary Trees, Tree Representations using Array & Linked List,
13/6/22 to 18/6/22	Basic operation on Binary tree, Traversal of binary trees:- In order, Preorder & post order,
20/6/22 to 25/6/22	Applications of Binary tree. Algorithm of tree traversal with and without recursion.
27/6/22 to 30/6/22	Introduction to graphs, Definition, Terminology, Directed, Undirected & Weighted graph, Representation of Graphs. and revision
1/7/22 to 5/5/7/22	Revision of syllabus