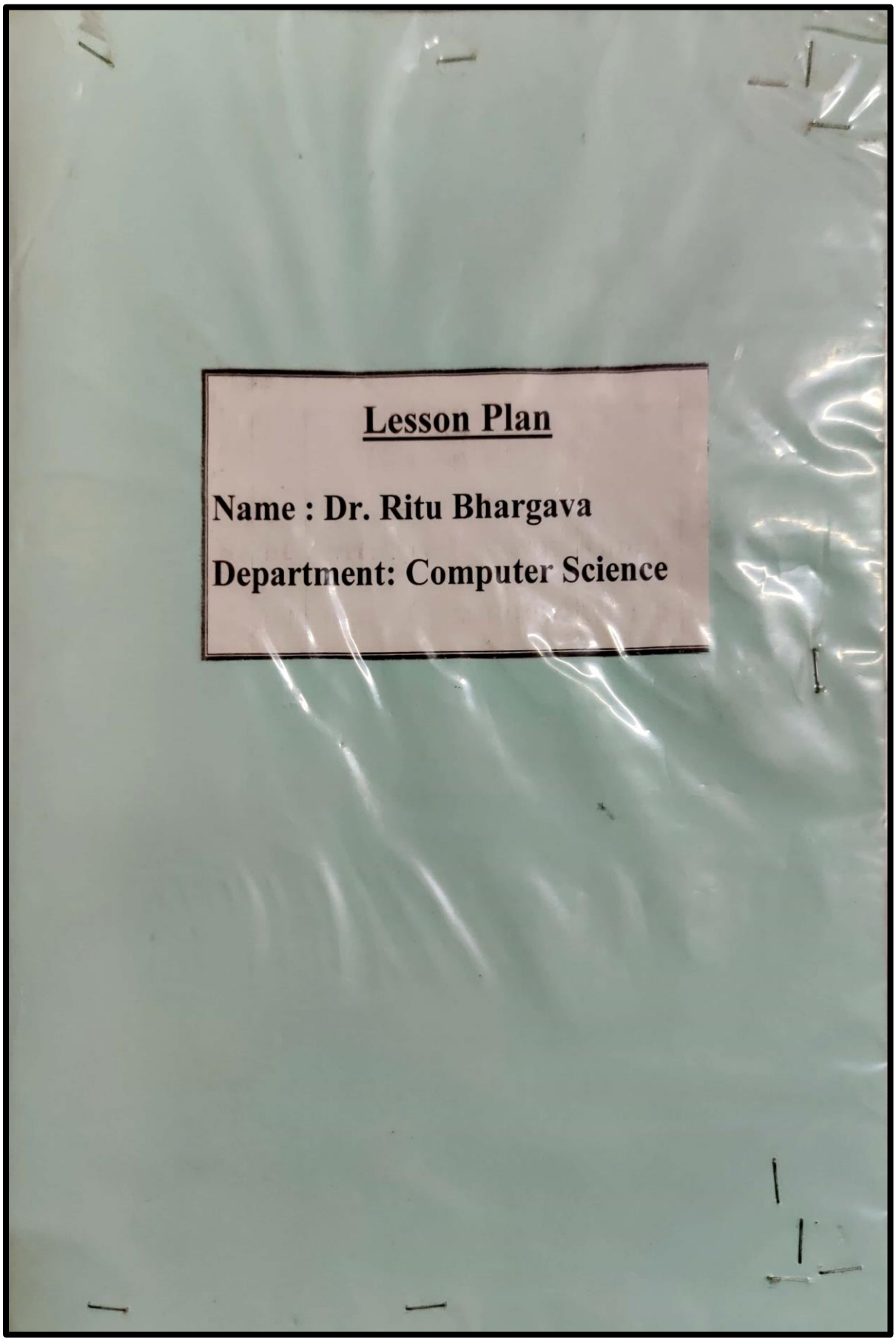
Lesson Plan
Name : Dr. Ritu Bhargava
Department: Computer Science

Faculty Name: - Dr.Ritu Bhargava
Subject: Computer Graphics
Class: - BCA SEM -III

Month	Areas covered	Activities
July	Graphics hardware: The functional characteristics of the systems are emphasized Input devices: Keyboard, touch panel, light pens, graphic tablets	Assignment
August	Joysticks, track ball, data glove, digitizer, image scanner, mouse, voice systems. Hard copy devices: Input and non-impact printers such as line printer	Quiz
September	Dot matrix, laser, inkjet, electrostatic, flat bed and drum plotters. Video Display Devices: Refresh cathode ray tube, raster scan displays, random scan displays, colour CRT monitors, direct view storage tube, flat panel displays	Open Book Test
October	Colour CRT monitors, direct view storage tube, flat panel displays 3-D view devices, virtual reality, raster scan systems, random scan systems, graphics monitors and work stations.	Class Test
November	Scan conversion algorithms for line, circle and ellipse, Bresenham's algorithms, area filling techniques, character generation.	

Reference books:-

1. Computer Graphics- Principles and Practice- J. Foley, A. Van Dam, S. Feiner, J.Hughes:Pearson
2. Principles of Interactive Computer Graphics-Newman and Sproull, Tata McGraw Hill
3. Computer Graphics, Hern & Becker, Pearson Publication (LPE)

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Head
Department of Computer Science
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Faculty Name: - Dr.Ritu Bhargava
Subject: C++ Programming
Class: - VCA
Year: - 2016-2017

Month	Areas covered	Activities
August	Evolution of OOP, OOP Paradigm, advantages of OOP, comparison between functional programming and OOP approach	Assignment
September	characteristics of object oriented language – objects, classes, inheritance, reusability, user defined data types, polymorphism, overloading	Quiz
October	Introduction to C++ identifier and keywords, constants, C++ operators, data type conversion, variable declaration, statements, expressions, input and output	Class Test
November	conditional expression loop statements, breaking control statements. Defining a function types of functions, storage class specifiers, recursion, arrays, structures, pointers and structures, unions	Open Book Test
December	Classes, member functions, objects arrays of class objects, pointers and classes, nested classes, constructors, destructors overloading and overriding inline member functions, static class member, friend functions, dynamic memory allocation.	Class Test
January	Inheritance, single inheritance, types of base classes, types of derivation, multiple inheritances, container classes, member access control. Function overloading, operator overloading, polymorphism, virtual functions, pure virtual functions, opening and closing of files, stream state member functions.	Revision and Problem solving Classes

Reference Books:

1. Object Oriented Programming with C++, E. Balagurusamy, Tata McGraw Hill.
2. Understanding Programming an introduction using C++, Scott R Canon, Vikas Publications.
3. OOPS with C++, N P Bhave,
4. OOPS with ANSI C++, A N Kamthane,

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Faculty Name: - Dr.Ritu Bhargava
Subject: Management Information Systems
Class: - BCA
Year: - 2016-2017

Month	Areas covered	Other activities
July	Introduction to Management Information Systems (MIS): concepts, meaning elements and characteristics of MIS	Test, oral test
August	MIS organization, MIS planning and building a business model. Database and communications, definition requirement and user view of database, database software	Assignment
September	File structure, elements of a communication system ,. MIS technology definition of computer technology system and application software	Oral test
October	Elements and support services elements. Building and installing MIS application, development cycle analysis synthesis implementation of MIS feasibility of installing MIS	Open book assignment
November	Implementation of MIS feasibility of installing MIS Management and MIS, MIS aided decision making	Test
December	Education and training for MIS management's role in system development.	Assignment, revision
January	Decision support systems, distributed data processing	Power point presentation

Reference Books:

1. Information System for Modern Management -Robert G. Murdick, Joel E. Ross, James R. Claggett, "
2. Computers Today- Surendra Basandra

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Faculty Name: - Dr.Ritu Bhargava
Subject: Data Warehousing
Class: - MSc(C.S) SEM -III
Year: - 2016-2017

Month	Areas covered	Other Activities
July	Data Warehousing: Introduction to Data Warehouse, Data warehouse uses, Data Warehouse Planning stages and Designing approaches, Delivery Process - Data Warehouse Delivery Methods	Test
August	System Processes: Data in Flow Process, Extract and load process, Clean and Transform Process, Backup and Archive process and Query Management Process. Process Architecture-Load Manager, Warehouse Manager, Query Manager	Assignment
September	Database Schema - Star flake schema, Identifying facts and dimensions, Designing fact tables and dimension tables, Designing Star flake schema Multi-dimension schemas Horizontal and vertical partitioning, Hardware partitioning	Open Book Assignment , revision
October	Aggregations and aggregation summary tables, Data Marts, Designing data Marts Metadata - Data transformation and load, Data management, Query generation, Metadata and tools Data Warehouse Process and Load Managers	sessional

Reference Books:

1. Data Warehousing in the Real world", Anahory S, Murray D, Addison Wesley
2. Building the Data Warehouse, Inmon W. H. Wiley Dreamtech

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Faculty Name: - Dr.Ritu Bhargava
Subject: - Data Structures and Algorithm-II
Class: - BCA SEM -II
Year: - 2016-2017

Month	Areas covered	Other Activities
December	Stacks and Queues: Introduction to stacks, Representation of stacks, Implementation of stacks using Array & Link List, Uses of stacks (evaluating expression).	Assignment
January	Introduction to queues, Implementation of queues (with algorithm), Circular Queues. Trees: Definition & Basic concepts, linked tree representation, Introduction to Binary Tree, Traversing Binary Trees (Pre order, Post order and Inorder),	Quiz and Lab Exercises
February	Concept of Binary search tree, algorithm of Searching, inserting and deleting in binary search trees Graph: Introduction to graphs	Assignment and Internal Exam
March	Types of Graphs: (complete,weighted,unweighted,simple), Representation of Graph: adjacency Matrix, incidence Matrix, Graph Traversal: Breadth first search, Depth first search.	Class Test
April	Recursion: Fibonacci, Tower of Hanoi.	Revision and Remedial Classes

Reference Books

1. Data Structures & Algorithms through 'C' - Hariom Pancholi – Genius Publications
2. Data Structures and algorithms in C++- Adam Drozdex, Vikas Publications
3. Expert Data Structures with 'C' – R.B.Patel - Khanna Book Publications
4. An introduction to data structures with applications -Jean-Paul Tremblay, P.G. Sorenson, TMH
5. Data Structures in C/C++-Tanenbaum, PHI

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Faculty Name: - Dr.Ritu Bhargava
Subject: - Operating System
Class: - MSc. (Previous) SEM -II
Batch: - 2016-2017

Month	Areas covered	Other Activities
December	Introduction to Operating Systems, Goals of OS, operation of OS Classes of OS • Batch processing, • Multi-processing • Time sharing • Distributed • Real time systems	Assignment
January	System calls, structure of OS, layer design of DOS, Unix. Process concept, scheduling criteria, Process scheduling: • Long Term • Short Term Scheduling • Mid-Term Scheduling CPU scheduling algorithms • FCFS • SJF • R-R • Priority Concepts of threads. Logical versus physical address, Swapping, contiguous allocation, Fragmentation Compactation Segmentation, paging, segmentation with paging, page replacement algorithm,	Assignment

	virtual memory, virtual memory with paging, demand paging.	
February	Dead lock, characterization, Methods for handling dead locks, prevention, avoidance Thrashing, allocation of frame. Critical section, critical region, inter-process communication, monitor and semaphores.	Assignment and Internal Exam
March	History of Linux, Linux architecture, Linux File System, file naming, types of files, Commands: • User access commands • Directory commands • File manipulation commands • Information maintenance commands • Process control commands • Printing Commands • Communication Commands • Program Development and Debugging Commands • Security commands • I\O redirection Commands and Piping Commands • Basic networking commands in Linux	Lab Exercises
April	VI editor, locating files in Linux, filter, pipe, shell variables, local and global variables, command substitution, if, while, for, shift, tar Shell Programming.	Lab Exercises and Revision

Reference:

1. Advance Unix – A Programmer's Guide, Prata, SAMS
2. Operating System Concepts, Galvin, Addison Wesley
3. Operating Systems, Ritchie, BPB Publications.
4. Unix System V Primer, Prata, BPB Publications

		tar Shell Programming.	

Reference:

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