

Lesson Plan July-Dec 2018

Name: Preeti Aggarwal

Class: M.Sc. 1st Sem

Subject: DISCRETE MATHEMATICS

Paper Code: 16MCS21C1

Month	Syllabus to be covered
1 Aug to 4 Aug	Unit-1: Sets: Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets,
6 Aug to 11 Aug	Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Simple Applications.
13 Aug to 18 Aug	Relations and functions: Properties of Relations
20 Aug to 25 Aug	Equivalence Relation, Partial Order Relation, Function: Domain and Range, Onto, Into and One to One Functions
27 Aug to 1 Sep	Composite and Inverse Functions Unit-2: Propositional Logic: Proposition logic, basic logic, Logical Connectives, truth tables Assignment-1
3 Sep to 8 Sep	tautologies, contradiction, Logical implication, Logical equivalence
10 Sep to 15 Sep	Normal forms, Theory of Inference and deduction.
17 Sep to 22 Sep	Predicate Calculus: Predicates and quantifiers. Mathematical Induction. Test: Unit 1 and 2
24 Sep to 29 Sep	Unit-3: Matrices: Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication
1 Oct to 6 Oct	Multiplication of Matrices, Adjoint of a matrix
8 Oct to 13 Oct	Inverse of a matrix. Determinants: Definition, Minors, Cofactors, Properties of Determinants,
15 Oct to 20 Oct	Applications of determinants in finding area of triangle, Solving a system of linear equations. Assignment-2 Unit-4: Introduction to defining language, Kleene Closure, Arithmetic expressions
22 Oct to 27 Oct	Chomsky Hierarchy, Regular expressions.
29 Oct to 3 Nov & 5 Nov	Conversion of regular expression to Finite Automata, NFA, DFA
6 Nov to 13 Nov	Vacations
14 Nov to 18 Nov	Conversion of NFA to DFA, FA with output: Moore machine
19 Nov to 21 Nov	Mealy machine. Revision Test: Unit 3 and 4

Lesson Plan July-Dec 2018

Name: Preeti Aggarwal

Class: MCA 1st Sem

Subject: DIGITAL DESIGN

Paper Code: 16MCA31C3

Month	Syllabus to be covered
1 Aug to 4 Aug	Unit-1: Number System: Binary, Octal, Hexadecimal and Decimal, 1's and 2's Complements, Inter- conversion of numbers.
6 Aug to 11 Aug	Codes: Weighted and Non-weighted codes, BCD Codes, Excess-3 Codes, Gray code
13 Aug to 18 Aug	Self-complementing codes, Error-Detecting/Correcting codes, Alphanumeric Codes, Parity Bits
20 Aug to 25 Aug	Hamming Code, Floating Point Numbers
27 Aug to 1 Sep	Binary Arithmetic: Basic Rules of Binary Addition and Subtraction, Addition and Subtraction Using 2's Complement Method, Booth Coding
3 Sep to 8 Sep	Binary Multiplicity – repeated Left Shift and Add Algorithm, Binary Division – Repeated Right Shift and Subtract Algorithm Assignment-1
10 Sep to 15 Sep	Unit-2: Positive and Negative Logic, Truth Tables, Logic Gates, Fan out of Logic Gates, Logic Families: TTL Logic Family, CMOS Logic Family, ECL Logic Family, NMOS and PMOS Logic Family
17 Sep to 22 Sep	Boolean Algebra vs. Ordinary Algebra, Boolean Expressions-Variables and Literals, Boolean Expressions–Equivalent and Complement, Theorems of Boolean Algebra
24 Sep to 29 Sep	Minimisation Techniques, SOPs & POSs Boolean Expressions, Quine- McCluskey Tabular Method, Karnaugh Map Method. Test: Unit 1 and 2
1 Oct to 6 Oct	Unit-3: Combinational Circuits: Implementing Combinational Logic, Arithmetic Circuits –Basic Building Blocks, Adder and Subtractor, BCD Adder, Code Converters, Magnitude Comparator, Parity Generators/Checkers
8 Oct to 13 Oct	Subtractor, BCD Adder, Code Converters, Magnitude Comparator, Parity Generators/Checkers, Multiplexers, Demultiplexers, Decoders, Encoders, Read Only Memory (ROM), Programmable Logic Arrays (PLA)
15 Oct to 20 Oct	Sequential Circuits: Latches, RS Flip Flop, Level Triggered and Edge Triggered Flip Flops, JK Flip-Flop, Master-Slave Flip Flops, T Flip-Flop, D Flip-Flops, Conversion of Flip-Flops, Applications of Flip-Flops. Assignment-2
22 Oct to 27 Oct	Unit-4: Registers: Buffer Registers, Controlled Buffer Registers, Shift Registers and its types, Applications of Shift-registers
29 Oct to 3 Nov & 5 Nov	Counters: Ripple Counter vs. Synchronous Counter, Modulus of a Counter, Propagation Delay in Ripple Counters, Binary Ripple Counters, Up/Down Counters, Decade
6 Nov to 13 Nov	Vacations
14 Nov to 18 Nov	BCD Counters, Pre-settable Counters, RAM Architecture:

	Static RAM (SRAM)
19 Nov to 21 Nov	Dynamic RAM (DRAM) Revision Test: Unit 3 and 4