



Course Outlines

Course Details:

Course Code : MAT 135 Credit hours: 3.0
Course Title : Discrete Mathematics
Program : CSE/CSIT
Semester : Summer - 2016
Course Teacher : Bristee Saha
Lecturer, Dept. of CSE/CSIT

Course Assessment:

The assessment components for evaluation of students are as follows:

Item/Activity	Marks (%)
Work Sheet (including class attendance and class tests)	25%
Assignment/ Presentation	10%
Mid-Term Test	25%
Final Examination	40%
Total	100%

Course Contents:

Lectures	Contents (Each lecture will be 1.5 hours duration)
Lecture-1	Sets: Sets, Operations on sets
Lecture-2	Sets: Power sets, Cardinality of a set
Lecture -3	Sets: Countable and uncountable sets
Lecture -4	Functions: one- to- one, onto, bijection
Lecture -5	Functions: composition of function and relations
	Assignment/Presentation
Lecture -6	Propositional Logic
Lecture -7	Propositional Logic
	Class Test
Lecture -8	Relations: reflexive, transitive, symmetric, equivalence
Lecture -9	Relations: partial order , POSET
Lecture -10	Boolean Algebra: Partially ordered set, Boolean Algebra
Lecture -11	Boolean Algebra: Boolean Sum, product, Chain lattice, Boolean and pseudo Boolean lattices
Lecture -12	Boolean Algebra: Principle of Duality
	Class Test

	Mid-Term
Lecture -13	Combinatorics: Counting principle, Inclusion-Exclusion principle
Lecture -14	Recurrence relations
Lecture -15	Recurrence relations
Lecture -16	Recurrence relations
	Assignment/Presentation
Lecture -17	Generating Functions
Lecture -18	Generating Functions
	Class Test
Lecture -19	Group
Lecture -20	Group
Lecture -21	Sub-Group
Lecture -22	Graphs
Lecture -23	Trees
Lecture -24	Overview
	Class Test
	Final Examination

Textbooks:	<ol style="list-style-type: none"> 1. Discrete Mathematics and its Applications Kenneth H. Rosen 2. Set Theory and Related Topics Seymour Lipschutz
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