2. COMPUTING CORE COURSES

Course Title	**Discrete Structures**
Course Code	**CC-111**
Credit Hours	3
Category	Computing Core
Prerequisite	None
Co-Requisite	None
Follow-up	Artificial Intelligence
Course Description	Mathematical reasoning, propositional and predicate logic, rules of inference, proof by induction, proof by contraposition, proof by contradiction, proof by implication, set theory, relations, equivalence relations and partitions, partial orderings, recurrence relations, functions, mappings, function composition, inverse functions, recursive functions, Number Theory, sequences, series, counting, inclusion and exclusion principle, pigeonhole principle, permutations and combinations, elements of graph theory, planar graphs, graph coloring, euler graph, Hamiltonian path, rooted trees, traversals.
Text Book(s)	Kenneth H. Rosen, Discrete Mathematics and Its Applications, 7th Edition, McGraw Higher-Ed, 2011, ISBN: 0073383090.
Reference Material	Susanna S. Epp, Discrete Mathematics with Applications, 4th Edition. Richard Johnson Baugh, Discrete Mathematics, 7th Edition. Kolman, Busby & Ross, Discrete Mathematical Structures, 4th Edition. Ralph P. Grimaldi, Discrete and Combinatorial Mathematics: An Applied Introduction, 5th Edition. Winifred Grassman, Logic and Discrete Mathematics: A Computer Science Perspective, 1st Edition.