1.	Title of the course	Discrete Mathematics for Computer Science
2.	Course number	CS201L
3.	Structure of credits	3-0-0-3
4.	Offered to	UG
5.	New course/modification to	Modification To CS2103/8
6.	To be offered by	Department of Computer Science and Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	**Course Objective(s):** To learn formal representation and reasoning methodologies for fundamental discrete structures in computer science.	
10.	**Course Content:** Finite sets, power set, cartesian product, properties of sets, sequences; Infinite sets, well-ordering, countable and uncountable sets, Cantor's diagonalization; Introduction to logic, propositional logic, truth tables, deduction, resolution, predicates and quantifiers, mathematical proofs, mathematical induction; Basic counting techniques, principle of inclusion-exclusion, pigeon hole principle, recurrence relations, generating functions; Relations, equivalence relations, functions, bijections, binary relations, partial orders, lattices, Hasse diagrams; Graphs, trees, connectivity, paths, cycles, Eulerian walks, Hamiltonian cycles, colourings, planarity, matching; Number theory and cryptography, divisibility and modular arithmetic, prime factorization, primality testing, gcd, Rivest–Shamir–Adleman(RSA) cryptosystem.	
11.	**Textbook(s):** 1. Rosen K H, *Discrete Mathematics and its Applications*, 7th Edition, Tata McGraw Hill (2015).	
12.	**Reference(s):** 1. Liu C L and Mohapatra D P, *Elements Of Discrete Mathematics: A Computer Oriented Approach*, 4th Edition, McGraw Hill (2014).	