1.	Title of the course	Complex Networks
2.	Course number	CS536L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To CS5031/21
6.	To be offered by	Department of Computer Science and Engineering
7.	To take effect from	July 2022
8.	Prerequisite	CoT
9.	**Course Objective(s):** To introduce the network science models and applications. To study the network dynamics of various complex networks and understand their characteristics.	
10.	**Course Content:** Introduction to complex networks with practical examples; Fundamentals of network theory: graph representation of networks, measures and metrics such as centrality, transitivity and reciprocity; Network models: random graphs, network formation models, large-scale network structures; Processes on networks: percolation, epidemics on networks, dynamics and spectra of networks.	
11.	**Textbook(s):** 1. Easley D and Kleinberg J, *Networks, Crowds, and Markets: Reasoning about a Highly Connect World*, 1st Edition, Cambridge University Press (2010). 2. Newman M, *Networks*, 2nd Edition, Oxford University Press (2018).	
12.	**Reference(s):** 1. Manoj B S, Chakraborty A and Singh R, *Complex Networks: A Networking and Signal Processing Perspective*, 1st Edition, Pearson (2018). 2. Meyn S, *Control Techniques for Complex Networks*, 1st Edition, Cambridge University Press (2008).	