1.	Title of the course	Advanced Computer Networks
2.	Course number	CS502L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To CS5021/4
6.	To be offered by	Department of Computer Science and Engineering
7.	To take effect from	July 2022
8.	Prerequisite	CS3200, CoT
9.	**Course Objective(s):** To understand the advanced topics in the computer networks, with more emphasis on the Internet architecture. To analyse the performance of different network functionalities.	
10.	**Course Content:** Resource management: Congestion and flow control mechanisms, congestion avoidance mechanisms, scheduling algorithms, active queue management techniques, and queueing disciplines. Routing: Router internals and architecture, routing in IP networks, Inter- and Intradomain routing, Border Gateway Protocols, router scheduling and architecture, approaches to achieve reliable, scalable, and secure routing. Internet: IP lookup algorithms, IP multicasting including group management membership, and multicast routing protocols. Internet service models such as QoS, Multiprotocol label switching, VoIP. Link layer: Multiple access technologies with emphasis on wireless networks. Recent network architectures: Software defined networks, content delivery networks, network virtualisation.	
11.	**Textbook(s):** 1. Deep Medhi and Karthik Ramasamy, Network Routing Algorithms, Protocols, and Architectures, Morgan Kaufmann, (2017). 2. Srikant R, *The Mathematics of Internet Congestion Control*, Springer (2004). 3. Peterson and Davie, Computer Networks: A Systems Approach, Morgan Kaufmann, (2011).	
12.	**Reference(s):** 1. Anurag Kumar and Manjunath D, *Communication Networking: An Analytical Approach*, Elsevier (2004). 2. Sam Halabi, *Internet Routing Architectures*, CISCO Press (2000).	