Course Type	Course Code	Name of Course	L	T	P	Credit
DP	CSC307	Computer Networks Lab	0	0	2	2

Course Objective
This syllabus is designed in such a manner that it will provide the basic and fundamental practical knowledge on Computer Networks. The proposed syllabus is designed to cover Computer Networks to provide better research and industry oriented understanding for UG students.
Learning Outcomes
On successful completion of this unit, students will be able to: ● Identify the basic concept and understand the state-of-the-art in protocols, architectures and applications of computer networks. ● Compare, contrast and analyse networks. ● Understand how networking research is done. ● Understand how we can apply networking tools for various requirements.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Socket Programming	8	The student will get the complete idea of understanding sockets and using that for the client server programing.
2	NS-3 Programming	8	Know about the creating scenarios and configuring the same as per the planned network environment, analysing the trace files, viewing the operation on network animator and visualizing the performance on exporting the data to GNUPLOT. Know about building various kind of network topologies along with different wired network protocols.
3	Cisco Packet Tracer	6	The students will get a chance to do hands-on session on Cisco Packet Tracer, which is a powerful network simulation and visualization tool by Cisco to practice networking, IoT, and cybersecurity skills. Understand various CLI commands to get the work done.
4	Different Networking tools like Wireshark, Filezilla, TCPdump etc.	4	The students can understand the role of the "computer networking tools" which is a type of software that help in the design, creation, monitoring, maintenance, and troubleshooting of networks. Hands-on with some of the Network tools like tcpdump, Wireshark and Filezilla.
5	Examination	2	
Total		**28**	

Text Books:

1. W. R. Stevens et al, "UNIX Network Programming - The Sockets Networking API", Addison Wesley, 3rd Edition.

References:

1. B. Forouzan, "Data Communication and Network", McGraw-Hill Publications, 6th edition.
2. A. S. Tanenbaum, "Computer Networks", Pearson Education Asia, 5th edition.
3. B. Forouzan, "TCP/IP Protocol Suite", Tata McGraw-Hill Publications, 4th edition.
4. W. Stalling, "Data and Computer Communication", PHI (EEE). 9th edition.
5. Peterson et al., "Computer Networks – A Systems Approach", Morgan Kaufmann Publishers, 6th edition.