Course: BTech   **Semester:** 4

Prerequisite: knowledge of Computer and Information system

Rationale: This course is designed to provide basic knowledge about the data & signals. It also provides basic concepts of computer networks and a firm foundation for understanding how data communication occurs in the Transmission Medium. It will help to develop logical abilities and practically set up the network.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
0	0	2	0	1	-	-	20	-	30	50

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc**.**)

Course Outcome

After Learning the Course the students shall be able to:

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1. Configure and set up different types of networks, including local area networks (LANs) and wide area networks (WANs).
2. Configure routers and switches, and implement routing protocols to understand how data is directed through a network.
3. Use network monitoring tools to analyze network.
4. Apply security measures, such as firewalls, encryption, and intrusion detection systems, to secure network communication.
5. Implement and analyze various network protocols, such as TCP/IP, UDP, and ICMP, through practical exercises.

List of Practical

1.	Experiments on Simulation Tools: (CISCO PACKET TRACER).
2.	Experiments of Packet capture tool: Wireshark.
3.	To study behavior of generic devices used for networking: (CISCO PACKET TRACER).
4.	Data Link Layer (Error Correction).
5.	Virtual LAN
6.	Wireless LAN
7.	Inter networking with routers: 1: Experiment on same subnet 2: Perform Experiment across the subnet and observe functioning of Router via selecting suitable pair of Source and destination.
8.	Implementation of SUBNETTING.
9.	Routing at Network Layer.
10.	Experiment on Transport Layer.

Miscellaneous

Exam Requirement

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.