



**Syllabus for 4-Years UG Honours in B.Sc (Electronics) as Major in
consonance**

with curriculum frame work (W.E.F. AY-2026-27)

COURSE STRUCTURE (for Semester IV)

II	IV	8	Electronic Communication System	3	3
			Electronic Communication System Practical Course	2	1
		9	Microcontroller and Interfacing	3	3
			Microcontroller and Interfacing Practical Course	2	1
		10	Computer Network	3	3

SEMESTER - IV

COURSE 10: COMPUTER NETWORK

Theory

Credits: 3

3 hrs/week

Course Objectives

The students will learn :

1. provides a general introduction to computer networking that would be useful to all personnel who deal with distributed systems,
2. Encompassing both technical and managerial aspects.
3. To help students better understand the challenges and opportunities faced by modern business,
4. topics include LAN and WAN implementations, the Internet and internet applications.

UNIT-I (9 Hrs)

Network structure Point to Point, Broadcast, Multicast - Horizontal and vertical distribution - Star, Mesh, tree, bus structures - OSI 7 layer model - Architecture - Functions of layers - Packet switches, circuit switching and message switching.

UNIT-II (9 Hrs)

Physical layer - Transmission media - Channel allocation methods - ALOHA, S- ALOHA, FINITE ALOHA - LAN Protocols IEEE802.3, 802.4, 802.5, 802.6 and 802.11.

UNIT-III (9 Hrs)

Data link layer - Framing - Error detection - Error correction - CRC - Stop and wait - Go band N - Sliding window Protocol - Selective repeat.

UNIT-IV (9 Hrs)

Network layer - Routing algorithms and congestion control algorithms - Repeaters, Bridges, Routers and Gateways, Inter networking - Introduction to transport layer and session layer.

UNIT-V (9 Hrs)

Presentation layer - coding, compression and cryptography - Introduction to Application layer - High performance networks - ATM, Fast Ethernet, FDDI, DQDB, SONET and SDH.

Text Books

1. Computer Networks - Andrew S. Tanenbaum, 4/e, Pearson Education, 2005.
2. Data and Computer Communication - W. Stallings, 7/e, Pearson Education, 2006.

Reference Books

1. Introduction to Data Communications and Networking - Behrouz & Forouzan, 4/e, McGraw Hill Book Company, 2004.
2. Telecommunication Networks - Protocols Modeling and Analysis - Misha Stewart, 2/e, Pearson Ed


Dr. T. RAGHURAMAN
M.Sc, B.Ed, Ph.D.
Lecturer in Physics
Govt. Degree College
Puttur, Chittoor (Dt.), A.P. - 517 583

SEMESTER -IV

COURSE 10: COMPUTER NETWORK

Practical

Credits: 1

2 hrs/week

Students can do the Practicals as per the available resource

4- Year UG Honours, Major
Syllabus
(2026-27)
Semester-IV

Model Question Paper

Time : 3hrs

Marks:75

Part-A

Answer any Five Questions. Each Question carries 3 Marks.

5x3=15

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Answer the following questions. Each question carries 12 Marks

5x12=60

11. a) Unit-I
(Or)
b) Unit-I

12. a) Unit-II
(Or)
b) Unit-II

13. a) Unit-III
(Or)
b) Unit-III

14. a) Unit-IV
(Or)
b) Unit-IV

15. a) Unit-V
(Or)
b) Unit-V