

Curriculum Planner (Department of Computer Science)

Course: B.A(P) Computer Application

Semester: VI

Paper: Computer Networks

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Unit	Topic	Chapter Section / Pages	Reference	Schedule(Ap proximate)
I	Introduction: Types of computer networks, Internet, Intranet, network topologies (bus, star, ring, mesh, tree, hybrid topologies), network classifications. layered architecture approach, OSI Reference Model, TCP/IP Reference Model. Transmission Modes: simplex, half duplex and full duplex, network devices and their role.	Ch 1: 1.1 to 1.3 Ch 2: 2.1 to 2.3	[2]	January 2026
2	Physical Layer: Analog signal, digital signal, the maximum data rate of a channel, transmission media (guided transmission media, wireless transmission, satellite communication), multiplexing (frequency division multiplexing, time-division multiplexing, wavelength division multiplexing). Guided Media (Wired) (Twisted pair, Coaxial Cable, Fiber Optics. Unguided Media (Radio Waves, Infrared, Micro-wave). Assignment, Test	Ch 3: 3.1-3.5 Ch 6: 6.1 up to Interleaving, before example 6.8 Ch 7: 7.1, 7.2, 7.3	[2]	February 2026
3	Data Link and MAC Layer: Data link layer services, error detection and correction techniques, error recovery protocols (stop and wait, go back n, selective repeat), multiple access protocols with collision detection, MAC addressing, Ethernet. Quizzes,PPT	Ch 2: 2.6.5 Ch 3: 3.1, 3.2 - 3.2.1 till page 207 (till Hamming Code), 3.2.2 Ch 4: 4.2.2, 4.3.2 Ch 11: 11.2, 11.3, 11.4 (Up to 11.4.3)	[1] [2]	March 2026
4	Network layer: Networks and Internetworks, virtual circuits and datagrams, addressing, subnetting, Dijkstra Routing algorithm, Distance vector routing, Overview of Network Layer protocols- (ARP, IPV4, ICMP, RARP, IPV6, DHCP)	Ch 5: 5.1, 5.2 (5.2.1, 5.2.2, 5.2.4), 5.6 (5.6.1-5.6.4)	[1]	April 2026

5	Transport and Application Layer: Process to process Delivery- (client-server paradigm, connectionless versus connection-oriented service); User Datagram Protocols, TCP/IP protocol, Flow Control. Application layer Protocols Revision, Doubt solving, Mock Practical	Ch 6: 6.1.1, 6.4 (Up to 6.4.1), 6.5.3, 6.5.4 Ch 7: 7.1, 7.2.4, 7.3- 7.3.1 till pg. 652 (before MIME Type), 7.3.4 (before Message Headers)	[1]	
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Essential/recommended readings:

1. Tanenbaum, A.S. & Wethrall, D.J. Computer Networks, 5th edition, Pearson Education, 2012.
2. Forouzan, B. A.. Data Communication and Networking, 5th edition, McGraw-Hill Education, 2017.