

KURUKSHETRA UNIVERSITY KURUKSHETRA

Course: B.Sc. (Hons) IT

Semester-1V

Paper Code: BSIT-403

Nomenclature: -Telecommunication & Networking-II

Max. Marks: 40+10*

Time: 3hrs.

UNIT-I

Network Devices: NIC, repeaters, hub, bridge, switch, gateways, router, connectors and transceivers. Network Design Issues and Protocols, connection-oriented and connectionless services.

Transmission Media: Introduction, Guided Media: Twisted pair, Coaxial cable, Optical fiber. Unguided media: Microwave, Radio frequency propagation, Satellite.

UNIT-II

Evolution and Challenges of Wireless Networks: Cellular Networks: Concept, Call Set up, Frequency Reuse, Channel Assignment, Handoff, Mobility Management.

GSM and IS-95 architecture, channels, and Call Establishment, Wireless Data Service, 3G and 4G Cellular Systems.

UNIT-III

Fiber Optic Communication-I: Light Wave Communication Systems, Fiber Optic System, Applications & Benefits of Fiber Optics, Working of Fiber Optic Cables, Construction of Fiber Optic Cables.

UNIT-IV

Fiber Optic Communication-II: Types of Cables: Cable Variations, Cable Attenuation, Optical Transmitter & Receivers, Fiber Optic Data Communication Systems.

Reference Books

1. Computer Networks, Prentice Hall, by Andrew S. Tanenbaum.
2. Data Communication and Networking, Tata McGraw Hill, by Behrouz A. Forouzan.
3. Communication Electronics, Tata McGraw Hill, by Frenzel.
4. Mobile Computing, Oxford Higher Education, by Raj Kamal.

Note:

1. Syllabus in each Theory Paper is divided in 4 units.
 - I. A Student is required to attempt 5 questions in all.
 - II. Question No 1 is compulsory, consisting of short answer type questions based on all the 4 units.
 - III. Two questions will be set from each unit. A student is required to attempt one question from each unit.
 - IV. All questions carry equal marks.
2. Use of simple calculator is permissible.
3. Instructions should be imparted using SI system of units. Familiarity with CGS system of units should also be ensured.
4. Distribution of Marks: 40+10.

* Each theory question paper will be of 40 marks of 3 hours duration and 10 marks in each theory paper are to be awarded through internal assessment in each semester.
5. Work load – 3 periods per week per theory paper