Lesson plan

Lect. No.	Portion to be covered
1	Uses of Computer Networks: Access to information, Person to person communication, E-commerce, Entertainment, IOT **(All of the above in brief)**
2	Types of Computer Networks: Broadband Access Networks, Mobile and Wireless Access Networks, Content Provider Networks, Transit Networks, Enterprise Networks **(All of the above in brief)**
3	Network technology, from local to global: PAN, LAN, MAN, WAN, Home network, Internetworks **(All of the above in brief)**
Lab 1	**Basic Network Concepts : The Layers of a Network, IP, TCP, and UDP, The Internet, The Client/Server Model**
4	Examples of networks: The Internet, Mobile Networks, Wireless Networks (WiFi) **(All of the above in brief)**
5	Network protocols: Design Goals, Protocol Layering, Connections and Reliability, Service Primitives, The Relationship of Services to Protocols **(All of the above in brief)**
6	Reference Models: OSI reference model, TCP/IP reference model, The Model Used in This Book
Lab 2	**Streams: Output Streams, Input Streams, Filter Streams**
7	Guided Transmission media: Persistent Storage (**idea only**), Twisted pair, Coaxial Cable, Power lines **(idea only)**, Fiber Optics
8	Wireless Transmission: The Electromagnetic Spectrum, FHSS, DSSS (**Conceptual idea only**) Using the spectrum for transmission: Radio Transmission, Microwave Transmission, Infrared Transmission, Light Transmission (**Conceptual idea only**)
9	From waveforms to bits: The Theoretical Basis for Data Communication, The Maximum Data Rate of a Channel (**also few numericals**)
Lab 3	**Threads: Running Threads, Returning information from a Thread**
10	From waveforms to bits: Digital Modulation
11	From waveforms to bits: Multiplexing
12	The public switched telephone network: Structure of the Telephone System, The Local Loop: Telephone Modems, ADSL, and Fiber
Lab 4	**Internet addresses: The InetAddress Class, Inet4Address and Inet6Address, The NetworkInterface Class**
13	The public switched telephone network : Trunks and Multiplexing
14	The public switched telephone network : Switching
15	CELLULAR NETWORKS : Data communication in 3G , 4G, 5G (**Conceptual idea only**)
Lab 5	**URLs and URIs: URLs, The URL Class(Retriving Data from a URL, Splitting a URL into Pieces, Equality and Comparison)**
16	DATA LINK LAYER DESIGN ISSUES: Services Provided to the Network Layer
17	DATA LINK LAYER DESIGN ISSUES: Framing (Byte count, Flag bytes with byte stuffing method)
18	DATA LINK LAYER DESIGN ISSUES: Framing (Flag bits with bit stuffing), Error and Flow control
Lab 6	**HTTP: The Protocol, Cookies**