

TCET/FRM/IP-02/09

Semester: VII

Subject: EXC704 : Computer Communication Networks (CCN)

Semester Plan
(Theory)

Revision: A

Course: ETRX

Class: BE ETRX

S.No.	Prerequisite/ Bridge course:	Duration (Week /Hrs)	Modes of Learning	Recommended Sources
1	EXC405: Fundamentals of Communication Engineering EXC504: Digital Communication	4 hours	Self Learning/ Revision	Textbooks: 1. B.A. Forouzan, "Data Communications & Networking", Fourth Edition, Tata McGraw-Hill. 2. S. Tanenbaum, "Computer Networks", Fourth Edition, Pearson Education. 3. J.F. Kurose & K.A. Ross, "Computer Networks: A Top-down Approach", Fifth Edition, Addison Wesley 4. William Stallings, "Computer Networking", TMH.

Class Room Teaching

Sr. No	Module No.	Lesson No	Topics Planned (Technology to be used)	Teaching Aids Required	Planned /Completion Date	Resource Book Reference	Remarks
1	Module 1	L1.1	SOP-Orientation Theory: Introduction to Computer networking	Power point presentation, Chalk & Board	10-07-2017	M1	
2	All	L1.2	SOP-OBE: Learning levels & syllabus linkage	Black Board & Chalk, Power point presentation	11-07-2017	All	
3	Module 1	L1.3	SOP-Theory: Basic communication Model, Public Switched Telephone Network (PSTN), Leased Line	Black Board & Chalk, Power point presentation	13-07-2017	1.9	
4	Module 1	L2.1	Local Area Networks (LAN), Public Switched Data Network (PSDN)	Power point presentation, Chalk & Board	17-07-2017	1.9	
5	Module 1	L2.2	Integrated Services Digital Network (ISDN)	Power point presentation, Chalk & Board	18-07-2017	5.8	
6	Module 1	L2.3	Integrated Services Digital Network (ISDN)	Black Board & Chalk, Power point presentation	19-07-2017	5.9	
7	Module 1	L2.4	Communication Architectures, Protocol Layer Concepts & LAN characteristics, Topology, Bus, Ring, Star	Black Board & Chalk, Power point presentation	20-07-2017	5.8 & 5.9	
8	Module 1	L3.1	OSI Layer, Standard Organizations	Black Board & Chalk, Power point presentation, Animation	24-07-2017	1.14	
9	Module 1	L3.2	OSI Layer, Standard Organizations	Black Board & Chalk, Power point presentation, Animation	26-07-2017	1.14	
10	Module 2	L3.3	Twisted pair, STP, UTP, Coaxial cable, Fiber Optics	Black Board & Chalk, Power point presentation	26-07-2017	1.15	
11	Module 2	L3.4	Wireless, Microwave, Satellite, Radio, and Media Properties	Black Board & Chalk, Power point presentation	27-07-2017	1.12.1 & 1.15.2	

12	Module 2	L4.1	Simplex, Half-Duplex, Full-Duplex, Serial and Parallel TransmissionWheatstone bridges	Black Board & Chalk, Power point presentation	31-07-2017	2.7.1	
13	Module 2	L4.2	Synchronous and Asynchronous Transmission, Bit & Byte Oriented Synchronous Transmission	Power point presentation, Chalk & Board	02-08-2017	2.7.2	
14	Module 2	L4.3	Network Devices	Power point presentation, Chalk & Board	02-08-2017	---	
15	Module 2	L4.4	Error Detection, Parity Check	Power point presentation, Chalk & Board	03-08-2017	3.10	
16	Module 2	L5.1	Aloha Protocols	Black Board & Chalk, Power point presentation	07-08-2017	---	
17	Module 2	L5.2	Synchronous Optical Network, DSL	Black Board & Chalk, Power point presentation	09-08-2017	2.9	
18	Module 2	L5.3	Concept of SONET/SDH, and Digital Multiplexing Hierarchy	Black Board & Chalk, Power point presentation	09-08-2017	2.10 & 2.8	
19	Module 2	L5.4	Flow Control, Framing, Sliding-Window	Black Board & Chalk, Power point presentation	10-08-2017	3.8.2	
20	Module 3	L6.1	Flow Control, Framing, Sliding-Window	Black Board & Chalk, Power point presentation	14-08-2017	3.9	
21	Module 3	L6.2	Error Control Techniques:Stop-and-Wait ARQ	Black Board & Chalk, Power point presentation	16-08-2017	3.9	
22	Module 3	L6.3	Go-back-N ARQ, Selective-repeat ARQ	Black Board & Chalk, Power point presentation	16-08-2017	3.9	
23	Module 3	L7.1E	HDLC Frame Format	Black Board & Chalk	23-08-2017	3.12	
24	Module 3	L7.2E	IEEE 802.3- CSMA/CD, CSMA/CA Ethernet architecture	Black Board & Chalk	23-08-2017	5.10 & 5.11	
25	Module 3	L7.3	IEEE 802.3- CSMA/CD, CSMA/CA Ethernet architecture	Black Board & Chalk, Power point presentation	24-08-2017	5.10 & 5.11	
26	Module 3	L8.1	IEEE 802.4, IEEE 802.5, Gigabit Ethernet and FDDI	Black Board & Chalk, Power point presentation	30-08-2017	5.10, 5.11 & 5.12.1	
27	Module 3	L8.2	Concept of bridge LAN., Ethernet Frame, Binary Back off, Inter-frame Gap, Ethernet Performance, Ethernet Switching	Black Board & Chalk, Power point presentation	30-08-2017	5.9	
28	Module 3	L8.3	LAN Standard, IEEE 802.2, IEEE 802.3 specifications, Hub, 10Base5, 10Base5, 10BaseT, 10BaseF	Black Board & Chalk, Power point presentation	31-08-2017	5.9 & 5.10	
29	Module 4	L9.1	Switching technology:Circuit switching	Black Board & Chalk, Power point presentation	04-09-2017	4.7	
30	Module 4	L9.2	Packet switching	Black Board & Chalk, Power point presentation	06-09-2017	4.7	
31	Module 4	L9.3	Virtual Circuits and Datagram	Black Board & Chalk, Power point presentation	06-09-2017	4.7.2 & 4.7.3	

32	Module 4	L9.4	Comparison between Switching techniques	Black Board & Chalk, Power point presentation	07-09-2017	4.7	
33	Module 4	L10.1	Routing & Forwarding of packets	Black Board & Chalk, Power point presentation	11-09-2017	4.8	
34	Module 4	L10.2	IPv4 & IPV6	Black Board & Chalk, Power point presentation	13-09-2017	6.12	
35	Module 4	L10.3	IP addressing-details	Black Board & Chalk, Power point presentation	13-09-2017	6.12	
36	Module 4	L10.4	Network Algorithms: RIP, OSPF & BGP	Black Board & Chalk, Power point presentation	14-09-2017	4.9	
37	Module 4	L11.1	Shortest Path Routing	Black Board & Chalk, Power point presentation	18-09-2017	4.9	
38	Module 4	L11.2	Congestion control in switched data network	Black Board & Chalk, Power point presentation	20-09-2017	4.10	
39	Module 5	L11.3	TCP-detail	Black Board & Chalk, Power point presentation	20-09-2017	6.8.1	
40	Module 5	L11.4	UDP-detail	Power point presentation, Chalk & Board	21-09-2017	1.13	
41	Module 5	L12.1	Port & Mac addresses	Black Board & Chalk, Power point presentation	25-09-2017	6.12	
42	Module 5	L13.1	Flow Control, & Congestion control	Black Board & Chalk, Power point presentation	04-10-2017	4.1	
43	Module 6	L13.2	Examples of Application layer Protocols, Services HTTP	Chalk & Board, Animation	04-10-2017	6.11	
44	Module 6	L13.3	Examples of Application layer Protocols, Services SMTP	Black Board & Chalk, Power point presentation	05-10-2017	6.10	
45	Module 6	L14.1	The Berkeley API	Black Board & Chalk, Power point presentation	09-10-2017	---	
46	Module 6	L14.2E	DNS, TCP/IP Architecture, Peer to peer & Client server networks	Black Board & Chalk, Power point presentation	13-10-2017	6.9	
47	All	L14.3E	Class Tests-MCQ Type on M1-M6	Black Board & Chalk, Power point presentation	13-10-2017	All	
48	All	L15.1E	University paper solution & Discussion	Black Board & Chalk, Power point presentation	16-10-2017	All	
49	Module 2	L4.5E	Cyclic Redundant Check (CRC)	Black Board & Chalk, Power point presentation	05-08-2017	3.10	
50	Module 3	L6.4E	PPP	Black Board & Chalk, Power point presentation	19-08-2017	1.11.2	
51	Module 3	L6.5E	HDLC Frame Format	Black Board & Chalk, Power point presentation	19-08-2017	3.12	

Remark:			Content Beyond Syllabus: Network Simulator Tools like CISCO Packet Tracer, NS2, Wireshark, etc.
Course:	Syllabus Coverage:	Practice Session: 2	
No. of (lectures planned)/(lecture taken): 51/			

Advanced course:		Online NPTEL videos	Web Sources: 1. NPTEL- https://onlinecourses.nptel.ac.in 2. www.cisco.com
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Recommended Books:

1. B.A. Forouzan, "Data Communications & Networking", Fourth Edition, Tata McGraw-Hill.
2. S. Tanenbaum, "Computer Networks", Fourth Edition, Pearson Education.
3. J.F. Kurose & K.A. Ross, "Computer Networks: A Top-down Approach", Fifth Edition, Addison Wesley
4. William Stallings, "Computer Networking", TMH.

Digital Reference:

www.cisco.com

Name & Signature of
Faculty

Signature of HOD

Signature of Principal /Dean
(Academics)

Date:

Date:

Date:

Note:

1. Plan date and completion date should be in compliance
2. Courses are required to be taught with emphasis on resource book, course file, text books, reference books, digital references etc.
3. Planning is to be done for 15 weeks where 1st week will be AOP, 2nd -13th for effective teaching and 14th -15th week for effective university examination oriented teaching, mock practice session and semester consolidation.
4. According to university syllabus where lecture of 4 hrs/per week is mentioned minimum 55 hrs and in case of 3 lectures per week minimum 45 lectures are to be engaged are required to be engaged during the semester and therefore accordingly semester planning for delivery of theory lectures shall be planned.
5. In order to improve score in NBA, faculty members are also required to focus course teaching beyond university prescribed syllabus and measuring the outcomes w.r.t learning course and programme objectives.
6. Text books and reference books are available in syllabus. Here only additional references w.r.t. non-digital/ digital sources can be written (if applicable)
7. Technology to be used in class room during lecture shall be written below the topic planned within the bracket.