5 years Integrated M.Sc. (IT) – Semester 3
060010315–DSE4Computer Networks
Lesson Planning

Unit	Unit Name	Sub Unit	Topics	No. of Lectures	Reference Chapter/Additional Reading	Teaching Methodology
1	Introduction	1.1	Data Communication	1	BAF#1, Page No 3-7	Presentation/ Video / Chalk and talk
		1.2	Networks	1	BAF#1, Page No 7-13	
		1.3	The Internet	1	BAF#1, Page No 16-17	
		1.4	Protocols and Standards	1	BAF#1, Page No 19-21	
		1.5	The OSI Model – Layers in OSI Model, Functions of layers	2	BAF#2, Page No 29-33	
		1.6	TCP/IP Protocol suite	1	BAF#2, Page No 42-45	
2	Physical and Data Link Layer	2.1	Transmission media: Guided and Unguided media	2	BAF#7, Page No 191-207	Presentation/ Video/ Chalk and talk/ Demonstration
		2.2	Error Detection: VRC, LRC, CRC, Checksum	3	BAF#10, Page No 267-272	
		2.3	Framing Techniques: Character count, Bit stuffing, Byte stuffing	2	BAF#11, Page No 307-311	
		2.4	Protocols: Simplex, Stop & Wait, Selective Repeat, Go back N	3	BAF#11, Page No 311-335	
		2.5	MAC sub layer: CSMA, CSMA/CD, CSMA/CA	2	BAF#12, Page No 370-378	
3	Ethernet	3.1	IEEE Standards	1	BAF#13, Page No 395-397	Presentation / Chalk and talk
		3.2	Standard Ethernet	2	BAF#12, Page No 397-405	
		3.3	Fast Ethernet	2	BAF#13, Page No 409-410	
		3.4	Gigabit Ethernet	2	BAF#13, Page No 412-	

					416	
4	Network Layer	4.1	Internetworking- Need of Network Layer, Internet as datagram n/w, Internet as connectionless n/w	1	BAF#20, Page No 579-582	Presentation/ Chalk and Talk
		4.2	Delivery- Direct, Indirect	1	BAF#22, Page No 647-648	
		4.3	Forwarding- techniques, process, routing table	3	BAF#22, Page No 648-655	
		4.4	Routing protocols: Distance Vector Routing, Link State Routing, Path Vector Routing	2	BAF#22, Page No 658-674	
5	Transport Layer	5.1	Process to process Delivery	2	BAF#23, Page No 703-708	Presentation/ Chalk and Talk
		5.2	User datagram protocol	3	BAF#23, Page No 709-715	
		5.3	TCP- Transmission Control Protocol	2	BAF#23, Page No 716-735	
6	Presentation and Application Layer	6.1	Encryption and Decryption	1	BAF#2, Page No 40-41	Presentation/ Chalk and Talk
		6.2	Importance of Application Layer	1	BAF#2, Page No 41-42	
		6.3	DNS, HTTP Protocols	4	BAF#25, Page No 797-809 BAF#27, Page No 861-868	
		6.4	TELNET, FTP, Email	3	BAF#26, Page No 818-843	

Text Book:

1. Behrouz A Forouzan, Data Communications & Networking,4th edition, McGraw-Hill

Reference Book:

1. Andrew S Tanenbaum, Computer Networks, 4th edition, Prentice Hall