

SATYUG DARSHAN INSTITUTE OF ENGINEERING & TECHNOLOGY, FARIDABAD

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Lesson Plan / Teaching Plan / Lecture Plan with Progress : BCA (DS) Semester : 6 Session:2025-26

<u>Name (Code) :</u>	High Speed Networks(BCG-308-V)		<u>Faculty :</u> Ms. Sangeeta
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Topics / lectures are arranged in sequence - same - as to be taught in the class. Maintain data related to "Date" in its hard copy.

S. No.	Lecture No	Topic Description	Teaching Pedagogy	Reference Material
1	Lecture	Topic Description	Teaching Pedagogy	Reference Material
2	1	Introduction to High Speed Networks	White Board	R1
3	2	Need for High Speed Networks	PPT, Discussion	R1
4	3	Evolution of High Speed Networking Technologies	PPT	R1
5	4	Overview of Frame Relay Networks	White Board	R2
6	5	Frame Relay Architecture	White Board	R2
7	6	Frame Relay Operation & Features	PPT	R2
8	7	Frame Relay Advantages & Limitations	White Board	R2
9	8	Introduction to Asynchronous Transfer Mode (ATM)	PPT	R2
10	9	ATM Protocol Architecture	Diagram, PPT	R2
11	10	ATM Logical Connections (PVC, SVC)	White Board	R2
12	11	ATM Cell Structure & Format	White Board	R2
13	12	ATM Service Categories	PPT	R2
14	13	ATM Adaptation Layer (AAL) Overview	White Board	R2
15	14	AAL Types and Functions	PPT	R2
16	15	High Speed LANs – Introduction	White Board	R2
17	16	Fast Ethernet	PPT	R2
18	17	Gigabit Ethernet	PPT	R2
19	18	Fiber Channel Architecture	White Board	R3
20	19	Wireless LANs – Applications & Requirements	PPT	R1
21	20	IEEE 802.11 Architecture	Diagram, PPT	R3
22	21	WLAN Standards and Comparison	White Board	R1
23	22	Introduction to Congestion in Networks	White Board	R1
24	23	Effects of Congestion	White Board	R3
25	24	Queuing Analysis Basics	PPT	R1
26	25	Queuing Models	PPT	R3
27	26	Single Server Queues	White Board	R3
28	27	Revision	White Board	R3
29	28	Congestion Control Techniques	White Board	R1
30	29	Traffic Management Concepts	PPT	R3
31	30	Congestion Control in Packet Switching Networks	White Board	R3
32	31	Frame Relay Congestion Control	PPT	R1
33	32	TCP Flow Control	White Board	R3
34	33	TCP Congestion Control Mechanism	PPT	R3
35	34	TCP Retransmission Strategies	White Board	R1
36	35	Timer Management in TCP	PPT	R1

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37	36	Exponential RTO Backoff	White Board	R3
38	37	KARN's Algorithm	PPT	R3
39	38	TCP Window Management	PPT	R3
40	39	Performance of TCP over ATM	White Board	R3
41	40	ATM Traffic & Congestion Control – Overview	White Board	R1
42	41	ATM Traffic Management Requirements	PPT	R3
43	42	Traffic Management Framework	White Board	R3
44	43	ATM Traffic Control	PPT	R1
45	44	ABR Traffic Management	White Board	R3
46	45	ABR Rate Control	PPT	R3
47	46	RM Cell Formats	White Board	R1
48	47	ABR Capacity Allocation	PPT	R3
49	48	GFR Traffic Management	White Board	R3
50	49	Integrated Services Architecture – Introduction	White Board	R1
51	50	Components & Services of Integrated Services	PPT	R3
52	51	Queuing Disciplines – FQ, PS	Diagram, PPT	R1
53	52	BRFQ, GPS, WFQ	PPT	R3
54	53	Random Early Detection (RED)	PPT	R3
55	54	Differentiated Services Architecture	White Board	R1

Study Material / Books / Web-resources / Online Courses Links etc.

S. No.	
1	William Stallings- High Speed Networks and Internet
2	Behrouz A. Forouzan- Data Communications and Networking
3	Pravin Varaiya – High Performance Communication Networks