DEPARTMENT OF INFORMATION TECHNOLOGY

LESSON PLAN

SUBJECT: DATA COMMUNICATION AND COMPUTER NETWORK

BRANCH: 4TH SEM, IT

FACULTY NAME: RABI KUMAR DARJI

Jharsuguda Engineering School, Jharsuguda

Department of Information Technology

Vision:

To focus on development of skilled and confident personalities of today and tomorrow by using cutting edge technology in the department of Information Technology to accept need-based challenges with a sense of social responsibilities.

Mission:

- M1: To impart quality education by implementing state-of- the- art teaching-learning methods to enrich the academic competency, credibility and integrity of the students.
- M2: To implement the educational program in our department from fundamental engineering to recent technology as per emerging trends in the field of Information Technology.
- M3: To facilitate a conducive ambience and infrastructure to develop professional skills and nurture innovation in students.
- M4: To inculcate sensitivity towards society, respect for environment and promote high standards of ethics.

LEARNING OUTCOMES

After competing this course, student will be able to:

- Explain the basic concepts related to computer networks
- Explain various network media and topologies used in computer network
- Exhibit LAN & VLAN concept related to datalink layer
- Exhibit Routing algorithm and Routing Protocols
- Explain Protocols related to Application Layer
- Illustrate Networking Devices.

LEARNING OUTCOMES

After completion of this course the student will be able to:

1. Understand property & use of Electrical conducting & insulating materials.
2. Explain working principle & construction of DC generator.
3. Explain construction & working principle of motor & speed control of DC motor.
4. Discuss AC fundamentals.
5. Explain Construction & principle of transformer.
6. Describe principle of working of three-phase Induction motor.
7. Describe principle of single-phase motor.

Sl No	Class	Time (min)	Unit	Topic to be Covered	Teaching Method
1	1	60	I	Introduction to Computer Networks	Chalk & Talk
2	2	60	I	Network Models	Chalk & Talk
3	3	60	I	OSI Reference Model	PPT
4	4	60	I	TCP/IP Model	Chalk & Talk
5	5	60	I	Comparison of OSI & TCP/IP	Video
6	6	60	I	Revision & Questions	Discussion
7	7	60	II	Transmission Media – Principles	Chalk & Talk
8	8	60	II	Guided Media: UTP, STP, Coaxial	PPT
9	9	60	II	Fiber Optic Cable	Video
10	10	60	II	Wireless Media	Chalk & Talk
11	11	60	II	WiFi & Cellular Networks	PPT
12	12	60	II	Network Topologies	Chalk & Talk
13	13	60	II	Revision	Quiz
14	14	60	III	Data Link Layer – Design Issues	Chalk & Talk
15	15	60	III	Ethernet	PPT
16	16	60	III	WLAN & Bluetooth	Chalk & Talk

17	17	60	III	Switching Techniques	Chalk & Talk
18	18	60	III	VLAN Concept	PPT
19	19	60	III	Revision	Quiz
20	20	60	IV	Network Layer – Design Issues	Chalk & Talk
21	21	60	IV	IPv4 & IPv6	PPT
22	22	60	IV	Routing Principles	Chalk & Talk
23	23	60	IV	Distance Vector Routing	Chalk & Talk
24	24	60	IV	Link State Routing	PPT
25	25	60	IV	Routing Protocols: RIP, OSPF	Video
26	26	60	IV	Revision	Quiz
27	27	60	V	Transport Layer – Design Issues	Chalk & Talk
28	28	60	V	UDP	PPT
29	29	60	V	TCP	Chalk & Talk
30	30	60	V	UDP vs TCP	Discussion
31	31	60	V	Revision	Quiz
32	32	60	VI	Application Layer – Design Issues	Chalk & Talk
33	33	60	VI	DNS & DHCP	PPT
34	34	60	VI	SNMP	Chalk & Talk
35	35	60	VI	FTP & TFTP	PPT
36	36	60	VI	SMTP & WWW	Chalk & Talk
37	37	60	VI	Telnet & SSH	Video
38	38	60	VI	Revision	Quiz
39	39	60	VII	Networking Devices – NIC & Hub	Chalk & Talk
40	40	60	VII	Switch – Core, Distribution, Access	PPT
41	41	60	VII	Router	Chalk & Talk
42	42	60	VII	WiFi Access Point	PPT
43	43	60	VII	Wireless LAN Controller	Chalk & Talk
44	44	60	VII	Revision	Quiz
45	45	60	VII	Overall Revision	Discussion

Signature of the Faculty

Signature of HOD