Course Number and Name
BET008 - INTEGRATED SERVICES DIGITAL NETWORK

Credits and Contact Hours
3 and 45

Course Coordinator's Name
Ms G.Kanagavalli

Text Books and References

Text Books:

1. Gary C. Kesslar and Peter Southwick, "ISDN – concepts, facilities and services", McGraw Hill, 3rd Edition, 1997.

2. William Stallings, "High Speed Networks-TCP/IP and ATM Design Principles", Prentice Hall Inc., 1998.

References:

1. William Stallings , "High-Speed Networks and Internets: Performance and quality of Service" (2nd Edition) , 2002

2. Balaji Kumar, "Broad Band Communications" McGraw-Hill, 1995

3. www.faadooengineers.com

Course Description

- To Study basic concepts of ISDN standards and services.
- To develop knowledge in ISDN protocol Architecture and Signaling.
- To Study concepts of Broad band ISDN
- To have knowledge in Network performance Modeling and Estimation

Prerequisites	Co-requisites
Computer Communication and Networks	Nil

required, elective, or selected elective (as per Table 5-1)
Selected Elective

Course Outcomes (COs)

CO1: To know the basics of ISDN

CO2 : Protocols involved in ISDN

CO3 : To learn about Broad Band ISDN

CO4 : To understand about network Management

CO5: To Empower knowledge in Network Traffic Management

CO6 : Estimate the Network Performance.

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	j	k
CO1	H			M		M				M	
CO2	M	M	H					L			
CO3	M		H	H	H		M		H		
CO4	M						L				M
CO5		M			M				M		
CO6		M	H			H				M	

List of Topics Covered

UNIT I   ISDN – STANDARDS AND SERVICES: 9
 Review of switching technologies and OSI protocol architecture, ISDN channels, access
 interfaces, functional devices and standards, ISDN bearer services and teleservice attribute,
 Broadband services.

UNIT II   ISDN PROTOCOL ARCHITECTURE AND SIGNALI NG   9
 Physical layer protocol, D-channel datalink layer and layer 3 protocols, Network signaling
 systems, SS7 protocol overview and services, ISDN products, Switches, Multiplexers, Terminal
 adapters, ISDN chip sets.

UNIT III   BROAD BAND ISDN   9
 Frame Relay – concepts, protocols, applications and products, asynchronous transfer mode –
 concepts, protocols, application and products, switched multi megabit data service, Internet
 protocol over ISDN frame relay and ATM.

UNIT IV   NETWORK TRAFFIC MANAGEMENT   9
 ATM traffic and congestion control, Traffic management framework, control mechanism and
 attributes, ABR traffic management

UNIT V   NETWORK PERFORMANCE MODELING AND ESTIMATION   9
 Queueing analysis, single server and multi server queues, Networks of Queues, Estimating
 model parameters, Self-similar traffic – performance implication, modeling and estimation