

COMPUTER NETWORKS – I

Written by Administrator
Sunday, 08 November 2009 07:16 -

Subject Code

:

06CS55

IA Marks

:

25

No. of Lecture Hrs./ Week

:

04

Exam Hours

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:

03

Total No. of Lecture Hrs.

:

52

Exam Marks

:

100

PART - A

UNIT - 1

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INTRODUCTION: Data Communications; Networks; the Internet; Protocols and Standards; Layered tasks; The OSI Model and the layers in the OSI model; TCP / IP Protocol Suite.

6 Hours

UNIT - 2

DATA, SIGNALS, AND DIGITAL TRANSMISSION: Analog and digital signals; Transmission impairment; Data rate limits; Performance; Digital-to-Digital conversion; Analog-to-Digital conversion; Transmission modes.

8 Hours

UNIT - 3

ANALOG TRANSMISSION AND MULTIPLEXING: Digital - to - Analog conversion; Analog - to - Analog conversion; Multiplexing; Spread spectrum.

6 Hours

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UNIT - 4

TRANSMISSION MEDIA, ERROR DETECTION AND CORRECTION: Twisted pair cable, Coaxial cable, Fiber-Optic cable, Radio waves, Microwaves, Infrared. Introduction to error detection / correction; Block coding; linear block codes; Cyclic codes, Checksum.

6 Hours

PART - B

UNIT - 5

DATA LINK CONTROL: Framing; Flow and Error control; Protocols; Noiseless channels; Noisy channels; HDLC; Point-to-point Protocol - framing, transition phases.

7 Hours

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UNIT - 6

MULTIPLE ACCESS, ETHERNET: Random Access; Controlled Access; Channelization. Ethernet: IEEE standards; Standard Ethernet and changes in the standard; Fast Ethernet; Gigabit Ethernet.

7 Hours

UNIT - 7

WIRELESS LANS AND CONNECTION OF LANS: IEE 802.11; Bluetooth. Connecting devices; Backbone Networks; Virtual LANs.

6 Hours

UNIT - 8 □□□□□□□□□□

OTHER TECHNOLOGIES: Cellular telephony; SONET / SDH: Architecture, Layers, Frames; STS multiplexing. ATM: Design goals, problems, architecture, switching, layers.

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6 Hours

TEXT BOOKS:

1. **Data Communications and Networking** – Behrouz A. Forouzan, 4th Edition, Tata McGraw-Hill, 2006.

REFERENCE BOOKS:

1. **Communication Networks: Fundamental Concepts and Key Architectures** - Alberto Leon, Garcia and Indra Widjaja, 3rd Edition, Tata McGraw- Hill, 2004.

2. **Data and Computer Communication**, William Stallings, 8th Edition, Pearson Education, 2007.

3. **Computer Networks: A Systems Approach** - Larry L. Peterson and Bruce S. David, 4th Edition, Elsevier, 2007.

4. **Introduction to Data Communications and Networking** – Wayne Tomasi, Pearson Education, 2005.

5. **Computer and Communication Networks** – Nader F. Mir, Pearson Education, 2007.

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