<div align="center">**SEMESTER-III**</div>

COURSE CODE :- CC6
COURSE TITLE :- **DATA COMMUNICATION AND NETWORKING**
CREDIT :- 4

Marks distribution
Full Marks: 15 (MSE) + 60 (ESE) = 75   Duration: 3 hrs   Pass Marks: 34
This paper consists of 60marksand divided into two groups:
Group-A: Objective questions (Compulsory)   :   1 x 10 = 10
Group-B: descriptive questions (5 out of 8 questions)   :   10 x 5 = 50

Total =   60
   The questions must cover the entire syllabus with equal distribution of marks as far as practicable.

Module 1: Basic network concepts, advantages and disadvantages of computer networks, types of networks-LAN, WAN, MAN LAN Technology: LAN architecture, Bus/Tree LAN, Ring & Star LANsNetwork topologies, Hardware requirement of a network, Network operating system.

Module 2: A communication model, communication tasks, three-layer approach to protocols, brief introduction to TCP/IP and OSI (brief function to different layers), Bridge, Router

Module 3: Concept and terminology, analog and digital data transmission. Transmission impairments, Guided transmission media..Asynchronous& synchronous transmission

Module 4: Data encoding, digital data digital signal, digital data analog signal, analog data digital signal and analog data analog signal

Module 5: Flow control, Error detection (CRC). Error control, High level data control (HDLC). Multiplexing, statistical time division multiplexing

Module 6: Circuit switching and Packet switching: switched network, circuit switching networks, packet switching principals, routing, congestion and control

Module 7: Ethernet:-Standard Ethernet and Fast Ethernet, Aloha (pure Aloha and Slotted Aloha), CSMA, CSMA/CD, CSMA/CA, Token ring and FDDI.

Module 8: Network Security: Requirements, conventional encryption, public key encryption & digitalsignature. (No numerical related questions are to be asked)

Reference Books:

1.Data Communication and Networking :Tannenbaum
2.Data Communication and Networking : Frowzen

PRACICAL:- JOB Training-I

  One Month On-Job Training in the Latest Technology

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