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Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



VII SEMESTER B.TECH (MECHATRONICS ENGINEERING)

MAKE-UP EXAMINATIONS, DEC 2015/JAN 2016

SUBJECT: COMPUTER NETWORKING AND COMMUNICATION

PROTOCOL [CSE 451]

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ANY FIVE FULL** the questions.
- ❖ Missing data may be suitably assumed.

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| 1A. | With a diagram explain TCP/IP reference model for Computer Networks. | 5 |
| 1B. | What is switching? Explain two basic methods of switching. | 3 |
| 1C. | Write any four advantages of ATM networks. | 2 |
| 2A. | Explain in detail two mechanisms of controlling congestion in the network. | 5 |
| 2B. | Differentiate between TCP and UDP. | 3 |
| 2C. | Explain implementation of Ethernet technology in terms of transmission media. | 2 |
| 3A. | Explain link state routing algorithm to find the route between source and destination with an example | 5 |
| 3B. | Discuss problems in class-full addressing scheme used in IP. | 3 |
| 3C. | Differentiate between Frame relay and ATM networks. | 2 |
| 4A. | Explain the different service classes used to improve the QOS in ATM with examples. | 5 |
| 4B. | Differentiate between RIP and BGP protocols. | 3 |
| 4C. | In an IP packet, the value of HLEN is 1000 in binary. How many bytes of options field are being carried by this packet? | 2 |
| 5A. | Discuss briefly the different functions used in network management. | 5 |
| 5B. | Explain the working of fiber optics communication by specifying the components used in transmission technology. | 3 |

- 5C.** Write the functions of ARP protocol and NAT. **2**
- 6A.** Explain the Integrated Service Model used in internet to improve QOS. **5**
- 6B.** Briefly describe any six fields of IP header along with datagram format. **3**
- 6C.** Five channels each with 200KHz bandwidth are to be multiplexed together. **2**
What is the minimum bandwidth of the link if there is a need of guard band of 10KHz between the channels to prevent interference?