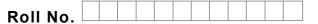


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M.Tech (CSE Engg.) Big Data (PIT) (Sem.-1) ADVANCED COMPUTER NETWORKS Subject Code : CSB-209 Paper ID : [51087]

Time: 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES : 1.Attempt any FIVE questions out of EIGHT questions. 2.Each question carries TWELVE marks.

- 1. a. How big is the MAC address space? The IPv4 address space? The IPv6 address space?
 - b. Differentiate between physical layer addressing and network layer addressing?
- 2. a. If all the links in the Internet were to provide reliable delivery service, would the TCP reliable delivery service be redundant? Why or why not?
 - b. What are some of the possible services that a link-layer protocol can offer to the network layer? Which of these link-layer services have corresponding services in IP?
- 3. a. What is the difference between routing and forwarding?
 - b. An Internet Service Provider (ISP) has the following chunk of CIDR-based IP addresses available with it : 245.248.128.0/20. The ISP wants to give half of this chunk of addresses to Organization A, and a quarter to Organization B, while retaining the remaining with itself. What are the valid allocation of addresses to A and B? Explain.
- 4. a. Explain transmission control protocol (TCP). Explain user datagram protocol (UDP). Is UDP better than TCP? Explain.
 - b. What is ARP? What is the difference between ARP and RARP? Explain.
- 5. What do you mean by ad hoc networks? List and explain the issues in ad hoc wireless networks. Also explain the applications of ad hoc wireless networks.



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- 6. a. Write a short note on security in ad hoc wireless networks.
 - b. Write a short note on issues in designing a routing protocol for ad hoc wireless networks.
- 7. Why are standards important fbr protocols? Explain. Explain in detail about ISO and IEEE standards.
- 8. Write a short note on the following :
 - a. DHCP
 - b. BOOTP
 - c. SNMP
 - d. SMTP

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