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Total No. of Pages : 02

Total No. of Questions : 08

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.

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 for 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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