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Question Paper Code: 49201

M.E. DEGREE EXAMINATION, MAY 2015.

First Semester

Computer Science and Engineering (with specialization in networks)

14PNE518 – TCP/IP DESIGN AND IMPLEMENTATION

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (5 x 1 = 5 Marks)

1. ARP returns ___ address
(a) IP address (b) Port address (c) MAC address (d) All the above
2. IP routing is supported by
(a) IGMP (b) ICMP (c) FTP (d) SNMP
3. Which of the following describe the DHCP Discover message?
(a) It uses FF:FF:FF:FF:FF:FF as a layer 2 broadcast.
(b) It uses UDP as the Transport layer protocol.
(c) It uses TCP as the Transport layer protocol.
(d) It does not use a layer 2 destination address.
4. Which command displays RIP routing updates?
(a) show IP route (b) debug IP rip
(c) show protocols (d) debug IP route
5. How long is an IPv6 address?
(a) 32 bits (b) 128 bytes (c) 64 bits (d) 128 bits

PART - B (5 x 3 = 15 Marks)

6. Explain the advantages of DHCP.

7. Mention the need for RIP.
8. Explain the various fields present in a TCP segment.
9. What is SBR?
10. Write a note on QoS.

PART - C (5 x 16 = 80 Marks)

11. (a) Describe the working of ARP and RARP. Highlight the need for ARP as a protocol in packet delivery. (16)

Or

- (b) Explain in detail, the frame format, and working of DHCP. (16)

12. (a) Describe the format of an IP Datagram. Explain forwarding and routing of an IP datagram with any one routing algorithm as an example. (16)

Or

- (b) Explain in detail, the working of Open Shortest Path First Routing protocol. (16)

13. (a) The receiver TCP delivers only ordered data to the process. How does it react to loss or delay of segments? Illustrate with diagrams. (16)

Or

- (b) Discuss the mechanism of congestion control in TCP. (16)

14. (a) Explain the working of Equal-cost multi-path routing protocol. Highlight its advantages. (16)

Or

- (b) Describe the working of Multiprotocol Label Switching. Mention its significance over other switching methods. (16)

15. (a) Explain the Header format and working of IPv6. Highlight the interoperability issues with IPv4. (16)

Or

- (b) Explain in detail, the working of ICMP v6. (16)