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Question Paper Code : 95331

5 Year M.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Elective

Software Engineering

ESE 510 — NETWORK PROTOCOLS

(Regulations 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Why does IP software avoid using physical addresses when storing and computing routers?
2. Is Border Gateway Protocol (BGP) reliable? Justify.
3. Define : IP multicasting and specify its range.
4. How does BOOTP guard against loss of message?
5. What is the purpose of TTL on the Internet Protocol message?
6. What is DNS? What for the domain names .org, .in stands for.
7. Compare and contrast SMTP and POP.
8. What are the fields in MIME header and what they mean?
9. What is purpose of IPsec?
10. How does IPv6 differ from IPv4?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the working of TCP with a finite state machine model. (10)
(ii) Explain BGP OPEN message type. (6)

Or

- (b) Explain Distance vector routing and Link state routing. (16)

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12. (a) (i) Explain the six states of DHCP client/server interaction with a neat diagram. (10)
(ii) How does DHCP differ from BOOTP? (6)

Or

- (b) (i) What is Mobile IP? Explain the steps involved when a computer moves to a foreign network. (12)
(ii) What about the delays when a computer is in a foreign network? (4)
13. (a) Explain the following : (16)
(i) Inverse mappings
(ii) Rlogin
(iii) FTP
(iv) RPC.

Or

- (b) (i) Explain Network File System (NFS) with a neat diagram. (8)
(ii) Explain the working of TELNET Protocol. (8)
14. (a) Discuss how the server and client browser communicate with HTTP and also explain the support for proxy and caching facility by HTTP. (16)

Or

- (b) (i) Explain how a receiver recreate a signal accurately if the network introduces jitter. (6)
(ii) Discuss Real-time Transport Protocol (RTP). (10)
15. (a) How SNMP manage network? Why is SNMPv3 important? (16)

Or

- (b) (i) Explain : firewall. (8)
(ii) Explain packet level filter with an example. (8)