Code: 9A05806

1

B. Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

INTERNETWORKING WITH TCP/IP

(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) Discuss the purpose of each layer in the TCP/IP protocol suite.
(b) Explain the various types of options in IPV4 header.

2 (a) What is sub-netting? Explain with an example.
(b) Discuss in detail classful addressing.

3 (a) Discuss in detail the five components of ARP package.
(b) Why isn't the one-way time for a packet simply the round-trip time divided by two?

4 (a) Explain with an example the concept of link state routing.
(b) Describe the five different types of OSPF packets.

5 (a) With an example explain how to calculate checksum of a UDP use datagram.
(b) Give the format of TCP segment header and explain the significance of each field.

6 (a) Explain how TCP provider reliability using errors control.
(b) Discuss about the options in TCP header.

7 Write notes on the following:
(a) TELNET
(b) FTP

8 (a) Make a comparison between IPV4 and IPV6 headers.
(b) Describe the following ICMPV6 messages:
(i) Informational messages
(ii) Neighbor - advertisement message

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2

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(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

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1 (a) Discuss the four levels of addresses used in an internet employing the TCP/IP protocols.
(b) Explain the fields related to fragmentation and reassembly of an IP datagram.

2 (a) Explain the significance of sub-network mask.
(b) Explain how classless addressing address the problem of address depletion.

3 (a) With a neat diagram explain the significance of ATMARP packet.
(b) List and describe the five types of error reporting messages.

4 (a) List the considerations used by RIP while directly implementing distance vector routing.
(b) Discuss BGP in detail.

5 (a) Give the format of UDP header and explain the significance of each field.
(b) Explain three-way handshaking for connection termination.

6 (a) Explain silly window syndrome. Give the two solutions to prevent it.
(b) Discuss the five components of TCP package and their interactions.

7 Write notes on the following:
(a) TELNET
(b) SSH

8 (a) Discuss error messages in ICMPV6 and compare and contrast them with the error messages in ICMPV4.
(b) Explain IPV6 addressing format.

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3

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INTERNETWORKING WITH TCP/IP

(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) Make a comparison between OSI and TCP/IP protocol suite.
(b) Draw the format of IPV4 header and explain the significance of each field.

2 Discuss the various short-term solutions to address depletion problem.

3 (a) With neat diagrams explain the four different cases in which the services of ARP can be used.
(b) Explain the various tools used in the internet for debugging.

4 (a) Explain with an example the two-node loop problem. Also give the solutions to this problem.
(b) Describe the types of links defined in OSPF.

5 (a) List the typical applications that can benefit more from the services of UDP than from those of TCP.
(b) Discuss TCP features in detail.

6 (a) Explain congestion control in TCP.
(b) Describe the four TCP timers.

7 Write notes on the following:
(a) SSH
(b) TFTP

8 (a) What are the advantages of IPV6?
(b) Explain the significance of each field in the format of the IPV6 base header.

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4

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INTERNETWORKING WITH TCP/IP

(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) Discuss in detail the layered architecture of OSI model.
(b) List the fields of the IP header that change from router to router.

2 Write notes on the following:
(a) Super netting
(b) Address aggregation
(c) NAT

3 (a) List and explain the seven steps involved in an ARP process.
(b) Explain with an example how checksum is calculated and tested on the ICMP packet.

4 (a) With an example explain distance vector routing algorithm.
(b) Explain in detail path vector routing.

5 (a) Describe the general services provided by UDP.
(b) Explain connection establishment in TCP using three-way handshaking.

6 (a) Discuss some scenarios that occur during the operation of TCP.
(b) Explain how RTT and RTO are calculated.

7 Write notes on the following:
(a) SSH
(b) FTP

8 (a) Describe the six types of extension headers in IPV6 header.
(b) Explain ICMPV6 error-reporting messages.

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