

Reg. No. :

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Q 2333

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Sixth Semester

Information Technology

IF 361 — TCP/IP AND SOCKET PROGRAMMING

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the function of Time To Live field in IPV4 header?
2. What is the need for RARP?
3. Why is TCP said to be a reliable, bytestream protocol?
4. How is TCP checksum calculated?
5. State any 2 message types that can be sent to the TCP output process and their functions.
6. What are the difficulties with adaptive retransmission of TCP segments?
7. How can a socket be created? What is the syntax?
8. How can the UNIX pipe mechanism be simulated by socket system calls?
9. What are the two types of devices used in Xinu operating system for TCP connections? What are their functions?
10. What does a ping program do?

PART B — (5 × 16 = 80 marks)

11. (a) What are the reasons for changing over from IPV4 to IPV6? What are the major changes introduced in IPV6?

Or

- (b) What is meant by address resolution problem? What are the issues in ARP implementation?
12. (a) Draw the format of TCP header and illustrate the functions of various fields.

Or

- (b) How does TCP handle time out and retransmission? How does it respond to high variance and delay?
13. (a) Illustrate the process of IP fragmentation and reassembly.

Or

- (b) Draw the TCP finite state machine and illustrate the transitions between various states.
14. (a) Explain the syntax of 5 different operations that can be used to receive data through a socket.

Or

- (b) Illustrate the format of socket address structure when used with a TCP/IP address. How can a local address be specified? How can it be associated with a remote destination?
15. (a) Write code for UDP echo server and explain.

Or

- (b) Write code for TCP finger server which provides information about users logged into a computer.