Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 91566

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Seventh Semester

Computer Science and Engineering

IT 2351/IT 61/10144 IT 601/IT 1352 — NETWORK PROGRAMMING AND MANAGEMENT

(Common to Sixth Semester – Information Technology)

(Regulation 2008/2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Give the IPV4 socket address structure.

2. Why byte ordering functions are needed?

3. Name two signals whose default disposition is to be ignored.

4. What is the purpose of the poll function?

5. What is the getsockopt function used for?

6. List any two types of resource records in the DNS. What mapping do the resource records provide?

7. Give the difference between a process and a thread.

8. Write about any two features provided by raw socket but not provided by normal TCP and UDP sockets.

9. What are the basic concepts of SNMP network management?

10. What are the benefits of implementing RMON technology in a network?

PART B — (5 × 16 = 80 marks)

11. (a) Write the syntax and explain the use of each of the following functions

(i) inet-aton (4)

(ii) htons (4)

(iii) socket (4)

(iv) read. (4)

Or

(b) (i) Write about the queues associated with a listening socket. Explain how processes more from one queue to the other. (8)

(ii) Explain how fork can be used to implement a concurrent server program. (8)

12. (a) Write an iterative TCP server program that will receive a string from a client and will echo string from a client and will echo back the same string to the client. The server program should continue to run waiting for more clients. Write the corresponding client program

Or

(b) Write notes on the following I/O models :

(i) Blocking I/O model. (4)

(ii) Non blocking I/O model. (4)

(iii) I/O multiplexing model. (4)

(iv) Signal driven I/O model. (4)

13. (a) Explain the use of the following socket options

(i) SO-BROADCAST. (4)

(ii) SO-DONTROUTE. (4)

(iii) IP-TTL. (4)

(iv) TEP-MAXSEG. (4)

Or

(b) With a timeline diagram, explain the functions used for UDP client-server communications. (16)

14. (a) (i) What are the steps involved IPV4 and IPV6 interoperability? (8)

(ii) Explain the syntax of the functions used for creation and termination of threads. Explain significance of each of the arguments to the functions. (8)

Or

(b) (i) Explain with an example, how mutexes can be used to synchronize threads when the is a shared variable between two threads. (8)

(ii) Which are the type of packets that are passed to raw sockets as input. (8)

15. (a) Write about the structure of management information (SMI) in SNMPV1. (16)

Or

(b) Write short notes on :

(i) The system group of MIB. (8)

(ii) The IP group of MIB. (8)
