M.C.A. DEGREE EXAMINATIONS: APRIL 2010

Fourth Semester

P07CA401: UNIAX AND NETWORK PROGRAMMING

Time: Three Hours   **Maximum Marks: 100**

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1. What are the functions related to error handling?

2. Give the syntax of 'open' system call.

3. Process ids 0 and 1 belong to which processes?

4. State the use of signals.

5. List down the limitations of pipe structure.

6. What are semaphores?

7. What is the use of 'listen' function?

8. What is Raw Socket?

9. Write the function of 'ping' command.

10. What are dynamic ports?

PART B (5 x 16 = 80 Marks)

11. a) How does Unix support file sharing?

(OR)

   b) (i) What are the different file types?   (6)

      (ii) Discuss on file access permissions.   (10)

12. a) (i) Write about the memory layout of a 'C' program.   (8)

      (ii) Give the meaning and the syntax of the following functions.   (8)

        fork, vfork, wait, waitpid

(OR)

   b) (i) Discuss the different ways for a process termination.   (8)

      (ii) Explain the terminal login procedure.   (8)

13. a) (i) How will you implement communication using pipes?   (8)

      (ii) Explain the concept of FIFOs.   (8)

(OR)

b) (i) Which is the fastest form of IPC available? (2)

 (ii) Explain the steps involved in using a semaphore with an application. (10)

 (iii) What is 'memory mapping' and how is this technique useful? (4)

14. a) Describe synchronous and asynchronous I/O multiplexing implemented in TCP layer.

(OR)

b) (i) Write a note on the following socket options. (8)

  SO_BROADCAST, SO_REUSEADDR, SO_KEEPALIVE

 (ii) Explain how 'select' and 'poll' functions are useful to achieve multiplexing. (8)

15. a) (i) Write a concurrent echo server program. (10)

 (ii) Explain the operation of Trace route tool. (6)

(OR)

b) (i) Write a UDP chat application. (10)

 (ii) Explain the functions used to convert the IP address from presentation to numeric and vice versa. (6)

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