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06CS62

Sixth Semester B.E. Degree Examination, June 2012
Unix Systems Programming

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Explain the setlocale function with syntax and an example. (08 Marks)
b. Explain the following compile time limits: `_POSIX_PATH_MAX`, `_POSIX_OPEN_MAX`. (04 Marks)
c. Explain the commonly occurring error status codes and their meanings. (08 Marks)
- 2 a. Explain the different types of files in UNIX. (10 Marks)
b. Explain the UNIX kernel support for files. (10 Marks)
- 3 a. Explain the working of the open function with the prototype. (10 Marks)
b. How do you access and modify the time stamps of a file? Explain the prototype and write a program to illustrate the usage of the prototype. (10 Marks)
- 4 a. Explain the memory layout of a C program. (06 Marks)
b. What are the APIS to query and change the resource limits. List the rules that govern the changing of the resource limits. (08 Marks)
c. Explain with a neat block diagram UNIX process data structure. (06 Marks)

PART – B

- 5 a. Explain the working of the fork() function. (08 Marks)
b. Describe the sequence of processes involved in executing TELNET server. (08 Marks)
c. What is an orphaned process? Explain with an example. (04 Marks)
- 6 a. What is the use of the alarm API? Give the prototype of alarm API. How can the alarm API be used to implement the sleep API? (08 Marks)
b. List the timer manipulation APIS in POSIC. 1b. (06 Marks)
c. Explain the three ways to generate log messages. (06 Marks)
- 7 a. Explain with an example client-server communication using a FIFO. (08 Marks)
b. What are the advantages and disadvantages of XSI IPC? (06 Marks)
c. Write a program to send data from parent to child over a pipe. (06 Marks)
- 8 a. What is Byte ordering? Explain the two types of ordering. Explain the APIS to convert between the processor byte order and the network byte for TCP?IP applications. (12 Marks)
b. Explain the following APIS with prototypes listen () and accept (). (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.