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10CS62

Sixth Semester B.E. Degree Examination, Dec.2015/Jan.2016

UNIX System Programming

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Discuss the differences between ANSI C and K & R C with example for each. (10 Marks)
b. What are the API common characteristics? List any six values of the global variable errno along with their meanings whenever API's fail. (10 Marks)
- 2 a. Explain the commands to create different file types supported by UNIX. (06 Marks)
b. Explain UNIX Kernel support for files with a neat diagram. (08 Marks)
c. Differentiate symbolic links and hard links. (06 Marks)
- 3 a. Explain the following general file API's:
i) open() ii) fcntl() iii) lseek() (12 Marks)
b. Explain Symbolic Link file API's. (08 Marks)
- 4 a. Draw and explain the summary of starting and terminating a C program. (06 Marks)
b. With a neat sketch, explain the memory layout of a C-program. (06 Marks)
c. Explain exit, _exit and atexit functions with their prototypes. (08 Marks)

PART – B

- 5 a. What is a race condition? Write a program for generating race condition. (08 Marks)
b. Explain in detail the family of exec functions. (12 Marks)
- 6 a. What are signals? Write a program to setup signal handler for the SIGINT signal using sigaction API. (06 Marks)
b. What is signal mask of a process? Explain sigprocmask function along with its prototype. (06 Marks)
c. Define daemon process. Discuss the basic coding rules of the daemon process. (08 Marks)
- 7 a. Discuss the applications of FIFOs. (04 Marks)
b. Explain Popen and Pclose functions. (06 Marks)
c. Explain different API's used with message queues. (10 Marks)
- 8 a. Explain shmget, shmctl, shmat and shmdt functions. (12 Marks)
b. Write short notes on client server properties. (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.