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10CS62

Sixth Semester B.E. Degree Examination, Dec.2016/Jan.2017
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 major difference between ANSI 'C' and K and R 'C' with example. (10 Marks)
b. Write a C/C++ POSIX compliant program that prints the POSIX defined configuration options supported on any given system using feature test macros. (08 Marks)
c. Mention any 4 compile time limits with their values. (02 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 prototype. (10 Marks)
b. Write a C++ program to implement following UNIX command i) ln ii) mv. (10 Marks)
- 4 a. Write a C/C++ program to demonstrate the use of outexit function. (10 Marks)
b. Explain briefly the memory layout of a C program. (10 Marks)

PART – B

- 5 a. What is fork and vfork? Explain with an example program for each. (08 Marks)
b. What is zombie process? Write a C program to avoid zombie process by forking twice. (06 Marks)
c. Explain the six different forms of exec API. (06 Marks)
- 6 a. What is signal? Explain with a program how to setup a signal handler. (10 Marks)
b. What is daemon process? Explain daemon characteristics and relation to session and process groups. (10 Marks)
- 7 a. What are pipes? Write a C/C++ program to send data from parent to child over a pipe. (10 Marks)
b. What are FIFO's? With a neat diagram explain the client server communicating FIFO's. (10 Marks)
- 8 a. Explain the following socket programming functions with their prototype:
i) Socket; ii) Connect; iii) Listen; iv) Accept. (10 Marks)
b. Explain the different client server connection functions, with example program. (10 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.