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NEW SCHEME

Sixth Semester B.E. Degree Examination, July 2006

Unix Systems Programming

Time: 3 hrs.] [Max. Marks:100

Note : ***Answer any Five full questions.***

1 a) What are the major differences between ANSI 'C" and K & R 'C'? Explain with examples. **(10 Marks)**

b) Write a C/C++ POSIX complaint program that supported on any given system using feature test macros. **(10 Marks)**

2 a) Explain the different file types available in UNIX or POSIX systems. **(08 Marks)**

b) Describe the UNIX kernel support for files. **(08 Marks)**

c) Write a program in C/C++ to emulate the UNIX In Command. **(04 Marks)**

3 a) Explain how fcntl API is used for file and record locking. **(08 Marks)**

b) With an example program, explain the use of setjmp and longjmp functions. **(08 Marks)**

c) Write a C/C++ program that outputs the contents of its environment list. **(04 Marks)**

4 a) What is fork and vfork? Explain with an example program for each. **(10 Marks)**

b) What is a Zombie process? Write a C/C++ program to avoid Zombie process by forking twice. **(10 Marks)**

5 a) How UNIX operating system keeps process accounting? **(10 Marks)**

b) What is Job Control? Summarize the Job Control features with the help of a figure. **(10 Marks)**

6 a) What is a SIGNAL? Explain how to setup a signal handler? **(10 Marks)**

b) What is a doemon? Discuss the basic coding rules. **(10 Marks)**

7 a) What is FIFO? Explain how it is used in IPC. Discuss with an example the client-server communication using FIFOS. **(10 Marks)**

b) What is shared memory concept? How it is used for implementing IPC? **(10 Marks)**

8 Write short notes on :

a) Inodes, b) Race Condition, c) 4.3+BSD Network Login, d) Semaphores. **(4x5=20 Marks)**

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