

**Sixth Semester B.E. Degree Examination, June/July 08**  
**UNIX System Programming**

Time: 3 hrs.

Max. Marks:100

Note : Answer any FIVE full questions.

- 1 a. Explain POSIX feature test macros. (10 Marks)  
b. Explain UNIX kernel support for files with neat block diagram. (10 Marks)
- 2 a. Explain following APJ's with prototypes: i) Open ii) Creat iii) Read iv) Write. (08 Marks)  
b. Bring out the differences between hardlink and symbolic link. (06 Marks)  
c. Describe FIFO and device file classes. (06 Marks)
- 3 a. Explain file and record locking. (08 Marks)  
b. Illustrate the usage of mkfifo and mknod system calls. (06 Marks)  
c. Explain five different ways of process termination. (06 Marks)
- 4 a. Explain with an example the use of setjmp and longjmp functions. (10 Marks)  
b. Explain fork and vfork system calls. When does fork system call fail? (10 Marks)
- 5 a. Explain different exec functions. Write a program in C to demonstrate the exec function. (10 Marks)  
b. Explain process accounting structure in UNIX with an example. (10 Marks)
- 6 a. Explain process groups and sessions. (08 Marks)  
b. Explain job control with an example. (08 Marks)  
c. Show the state of processes after login has been invoked. (04 Marks)
- 7 a. Explain duemon characteristics and coding rules with an example. (10 Marks)  
b. Explain UNIX kernel support for handling different signals. (10 Marks)
- 8 a. Explain popen and pclose functions. (08 Marks)  
b. Explain message queue with a neat diagram. (06 Marks)  
c. Explain client-server communication using FIFO. (06 Marks)

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