Code No: RR320505 **Set No. 1**

III B.Tech II Semester Regular Examinations, Apr/May 2007
ADVANCED UNIX PROGRAMMING
(Common to Computer Science & Engineering, Information Technology and Computer Science & Systems Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain in detail about the UNIX Operating system structure. [16]
2. What is the purpose of grep command? Explain the various options available with the grep command with an example. [4+8+4]
3. Explain the following functions with syntax:
   (a) stat()
   (b) read()
   (c) open()
   (d) fstat() [4x4=16]
4. Suppose a process does not wish to block until its children terminate. How can it ensure that child processes are cleaned up when they terminate? [16]
5. (a) Write about the signals implementation. Write about "sigpending", "sigsuspend".
   (b) What is meant by reinstalling a signal handler?
   (c) Write about phase function. [6+5+5]
6. (a) What is region lock? What are the rules about the specification of the region to be locked or unlocked? [3+5]
   (b) Write a function to test for a locking condition. [8]
7. (a) Explain, "about the events occurred, when you call the popen( ) and pclose( ) functions"?
   (b) Explain about the "Effect of O-NDELAY flag on PIPEs and FIFOs". [8+8]
8. What is shared memory? What is the importance of it? Explain in detail about the process of "Allocating a shared memory segment". [3+5+8]

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Code No: RR320505 **Set No. 2**

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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the following commands with syntax
   (a) who
   (b) date
   (c) find
   (d) wc [4x4=16]
2. Explain the following commands with syntax
   (a) uniq
   (b) grep
   (c) tar
   (d) join [4x4=16]
3. What is the advantage of having lseek be a separate system call, instead of passing the starting offset to every read or write? What are the drawbacks? [12+4]
4. Explain the following system calls with syntax:
   (a) alloca()
   (b) setjmp()
   (c) longjmp()
   (d) exit() [4x4=16]
5. (a) What are the phases in signaling process? Explain what is meant by the lifetime of a signal. [3+5]
   (b) What is meant by signal catching function? What are the advantages of signal function. [3+5]
6. (a) Explain in detail about fcntl( ) function.
   (b) Write about Advisory locking versus mandatory locking. [8+8]
7. (a) What are the named pipes? Explain in detail. [3+5]
   (b) What is the importance of "semctl" system call. Explain in detail. [3+5]
8. Write an example, Explain in detail about the

(a) Getting Message Queue status and

(b) Removing Message Queue. [8+8]

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Code No: RR320505 **Set No. 3**

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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the following commands with syntax
   (a) df
   (b) umount
   (c) mv
   (d) find [4x4=16]
2. Explain the following commands with syntax
   (a) uniq
   (b) grep
   (c) tar
   (d) join [4x4=16]
3. What is the advantage of having lseek be a separate system call, instead of passing the starting offset to every read or write? What are the drawbacks? [12+4]
4. Explain the following system calls with syntax:
   (a) getrlimit ()
   (b) setrlimit ()
   (c) fork()
   (d) wait() [4x4=16]
5. (a) What is signal function? Write and explain about the structure of signal function. [3+5]
   (b) What are the phases in signaling process? Explain what is meant by the lifetime of a signal. [3+5]
6. (a) Write a function to test for a locking condition.
   (b) Write about Dead lock. [8+8]
7. (a) What is a semaphore? How to synchronize processes using semaphores. [3+4]
   (b) Explain about the semget( ), semctl( ) and semop( ) functions. [9]

8. What is shared memory? What is the importance of it? Explain in detail about the process of "Allocating a shared memory segment". [3+5+8]

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Code No: RR320505 **Set No. 4**

III B.Tech II Semester Regular Examinations, Apr/May 2007
ADVANCED UNIX PROGRAMMING
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the following commands with syntax
   (a) wc
   (b) umask
   (c) ulimit
   (d) mount [4x4=16]
2. What is the purpose of grep command? Explain the various options available with the grep command with an example. [4+8+4]
3. (a) Briefly explain the file directories.
   (b) Write in detail about Device drivers. [8+8]
4. What is meant by process termination? Explain the various types of process terminations with suitable example. [4+8+4]
5. (a) What are the phases in signaling process? Explain what is meant by the lifetime of a signal. [3+5]
   (b) What is meant by signal catching function? What are the advantages of signal function. [3+5]
6. (a) Explain in detail about the requirement of file locking mechanism.
   (b) Explain in detail about fcntl( ) function. [8+8]
7. (a) Explain, "How do you multiplex, multiple writers to the same pipe".
   (b) Explain, "about the events occurred, when you call the popen( ) and pclose( ) functions"? [8+8]
8. (a) With an example, Explain in detail about the process of writing Messages on to a Queue. [4+4]
   (b) With an example, Explain in detail about the process of Reading a Message from the Queue. [4+4]

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