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

III B.Tech II Semester Supplimentary Examinations, Apr/May 2008
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 the following commands with syntax
   (a) finger
   (b) find
   (c) unlink
   (d) ulimit. [4×4=16]
2. Explain the following commands with syntax
   (a) fgrep
   (b) egrep
   (c) paste
   (d) tee. [4×4=16]
3. Explain the following functions with syntax:
   (a) read()
   (b) write()
   (c) open()
   (d) close() [4×4=16]
4. Is there any way for a function that is called by main function to examine the command-line arguments without
   (a) Passing 'argc' and 'argv' as arguments from main to the function.
   (b) Having main copy 'argc' and 'argv' into global variables. [8+8]
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 requirements of file locking mechanism. [8]
   (b) With an example, Explain about the setting a lock. [3+5]
7. Explain in detail about the System V IPCs. [16]

8. (a) Explain, How to place "Data in shared memory". [8]
   (b) What is the use of destroying a shared memory segment? Explain the process of "destroying a shared memory segment". [3+5]

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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) finger
   (b) find
   (c) unlink
   (d) ulimit. [4×4=16]
2. What is the purpose of Stream editor? Explain which option should be used to place the contents of a file f1 after line. [4+12]
3. Explain the following system calls with syntax:
   (a) fgets()
   (b) gets()
   (c) fseek()
   (d) putc() [4×4=16]
4. Explain the following system calls with syntax:
   (a) fork()
   (b) vfork()
   (c) exit()
   (d) wait() [4×4=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) Explain in detail about the requirement of file locking mechanism.
   (b) Explain in detail about fcntl( ) function. [8+8]
7. (a) Write about the Timing comparison of "Semaphores Vs Record locking". [8]
   (b) Write about the semaphore adjustment on "exit". Explain about the importance of SEM_UNDO. [3+5]

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. 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) ftp
   (b) date
   (c) arp
   (d) rlogin. [4×4=16]
2. Write a shell script that searches for a pattern (supplied as argument) in all file names in the current directory and then calls up the vi editor into those files containing the pattern. How will you repeat the search in the current file and other files? [8+8]
3. Explain in detail about the following:
   (a) Directories
   (b) System calls [8+8]
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) What is signal handler? Explain how to install a signal Handler? [3+5]
   (b) Write in detail about "Predefined signal handlers". [8]
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 about file locking versus Record Locking. [8]
7. (a) What are the named pipes? Explain in detail. [3+5]
   (b) Explain, in detail about the client - server communication using FIFOS. [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. 4**

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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) mkdir
   (b) cp
   (c) mv
   (d) rm. [4×4=16]
2. Explain the following commands with syntax
   (a) cat
   (b) tail
   (c) head
   (d) uniq. [4×4=16]
3. Explain the following functions with syntax:
   (a) dup()
   (b) dup2()
   (c) lseek()
   (d) close() [4×4=16]
4. What is the problem with returning an error from the 'exec' system call? How can the kernel handle this problem? [8+8]
5. (a) Explain about "sending signals using system calls". [8]
   (b) What is signal handler. Explain how to install a signal Handler. [3+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 about file locking versus Record Locking. [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. (a) With an example, Explain in detail about the process of writing Messages on to a Queue. [8]

   (b) Explain about the following system calls

      i. msgrev

      ii. msgetl [4+4]

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