Set No. 1

III B.Tech II Semester Supplimentary Examinations, Aug/Sep 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

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain the two methods of altering file access permissions of a file. [4+4=8]

   (b) What are the main functions of kernel? Explain each of them in detail. [3+5]

2. What is meant by a command? Explain different types commands with syntax.
   [3+13]

3. Explain the following system calls with syntax:

   (a) chmod()

   (b) chown()

   (c) unlink()

   (d) link()   [4×4=16]

4. Write short notes on the following:

   (a) Process control

   (b) Process identifiers.   [8+8]

5. (a) What is signal function? Write and explain about the structure of signal function. [3+5]

   (b) What is meant by signal catching function? What are the advantages of signal functions. [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. 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]

⋆ ⋆ ⋆ ⋆ ⋆

Set No. 2

III B.Tech II Semester Supplimentary Examinations, Aug/Sep 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
⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain the two methods of altering file access permissions of a file. [4+4=8]

   (b) What are the main functions of kernel? Explain each of them in detail. [3+5]

2. Explain the following commands with syntax

   (a) cat

   (b) tail

   (c) head

   (d) uniq. [4×4=16]

3. (a) Briefly explain the file directories.

   (b) Write in detail about Device drivers. [8+8]

4. Write short notes on the following:

   (a) Process termination

   (b) Zombie process. [8+8]

5. (a) What are the phases in signaling process? Explain what is meant by the lifetime of a signal. [3+5]

   (b) Explain about the five possible signal default actions. [8]

6. (a) Explain in detail about the requirement of file locking mechanism.

   (b) Explain in detail about fcntl( ) function. [8+8]

7. (a) Explain in detail about file locking with semaphores.

   (b) Explain about simple semaphore operation. [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]

⋆ ⋆ ⋆ ⋆ ⋆

$\boxed{\textbf{Set No. 3}}$

III B.Tech II Semester Supplimentary Examinations, Aug/Sep 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
⋆ ⋆ ⋆ ⋆ ⋆

1. Explain the following commands with syntax

   (a) ftp

   (b) date

   (c) arp

   (d) rlogin.   [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. Write a program to a single command-line argument that specifies a file descriptor and prints a description of the file flags for that descriptor.   [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) Write in detail about the interrupted system calls.   [8]

   (b) Write about the <u>kill</u> and <u>raise</u> functions.   [4+4]

6. (a) Explain in detail about the requirement of file locking mechanism.

   (b) Explain in detail about fcntl( ) function.   [8+8]

7. (a) Draw and explain about the "Kernel data structure for a semaphore set". [8]

   (b) Write about the semaphore adjustment on "exit". Explain about the importance of SEM_UNDO   [4+4]

8. (a) Explain in detail about the "Kernel structure of the shared memory segment".

   (b) Explain about the "shmflag values for shmget system call".   [8+8]

⋆ ⋆ ⋆ ⋆ ⋆

Set No. 4

III B.Tech II Semester Supplimentary Examinations, Aug/Sep 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
⋆ ⋆ ⋆ ⋆ ⋆

1. Explain the following commands with syntax

    (a) ftp

    (b) date

    (c) arp

    (d) rlogin.   [4×4=16]

2. Explain the following commands with syntax

    (a) awk

    (b) cpio

    (c) comm

    (d) tee.   [4×4=16]

3. Explain the following functions with syntax:

    (a) ioctl()

    (b) lseek()

    (c) stat()

    (d) fstat()   [4×4=16]

4. Write short notes on the following:

    (a) Process termination

    (b) Zombie process.   [8+8]

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 about file locking versus Record Locking.   [8]

Set No. 4

7. (a) Explain, "about the events occurred, when you call the popen( ) and pclose( ) functions"?

   (b) Explain about the semget( ), semctl( ) and semop( ) functions.   [7+9]

8. (a) Explain, "How to control a shared-memory segment".   [8]

   (b) Explain, "How to attach and detach a shared memory segment".   [4+4]

⋆ ⋆ ⋆ ⋆ ⋆