

Sixth Semester B.E. Degree Examination, July/August 2005

Computer Science / Information Science and Engineering

(Common to (CS/IS)

Unix System Programming

Time: 3 hrs.]

[Max.Marks : 100

- Note:** 1. Answer any FIVE full questions.
2. Programs can be written in C or C++
3. Missing data must be appropriately assumed.

1. (a) List out all POSIX. 1 and POSIX 1b defined system configuration limits in manifested constants with compiletime limit, minimum value and meaning. (10 Marks)
(b) Explain unix kernel support for files with neet data structure. (10 Marks)
2. (a) Differentiate between hard link and symbolic links with an example. (5 Marks)
(b) Describe FIFO and device file classes. (5 Marks)
(c) Differentiate between ANSI C and C++ standards. (5 Marks)
(d) Explain process of changing user and group ID of files. (5 Marks)
3. (a) What are named pipes ? Explain with an example the use of lseek, link, access, with their prototypes and argument values. (12 Marks)
(b) Explain how *fcntl* AP1 can be used for file and record locking. (8 Marks)
4. (a) Explain 6 different exec functions. Describe how their functions differ from each other. Write a program that execs an interpreter file. (10 Marks)
(b) Explain how process accounting is done in UNIX system. Write a program to generate accounting data and give its process structure. (10 Marks)
5. (a) What is meant by job control ? What support is required for job control ? Explain with example. (10 Marks)
(b) What is a controlling terminal ? Explain its characteristics and relation to session and process groups. (10 Marks)
6. (a) Explain with prototypes kill function, sigsetjmp and siglongjmp API's. (5 Marks)
(b) Discuss daemon characteristics and coding rules. (5 Marks)
(c) Write a program in 'C' to set up a real time clock internal time using alarm API. (10 Marks)
7. (a) Give an overview of IPC methods. (5 Marks)
(b) Explain p open and p close functions with prototypes and write a program to demonstrate the p open and p close functions. (10 Marks)
(c) What is the need for sigproc mask function ? (5 Marks)

8. Write a short note on :
- Environment list
 - Semaphores
 - Client -server interaction
 - Coprocesses

(4 × 5 = 20 Marks)

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Note:

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(b) Mentio
(c) Table

Duration in days
Dependencies

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(b) Indica
(c) High
3. (a) Mentio
(b) Draw
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4. (a) What
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