CBCS SCHEME

USN | | | | | | | | | | **15CS744**

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019
Unix System Programming

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

1 a. What are major differences between ANSI C and K and R C? Explain width examples.
(08 Marks)
   b. Mention the prototypes of sysconf, pathconf, and fpathconf functions. Write a program to demonstrate querying of limits by using above functions. (08 Marks)

OR

2 a. Differentiate between ANSI C and C++. (03 Marks)
   b. Explain the ANSI C CPP symbols. And also write a program to demonstrate these symbols. (05 Marks)
   c. Define API. Explain the common characteristic of APIs. (08 Marks)

Module-2

3 a. With a neat diagram, explain how UNIX Kernel supports for file manipulation. (10 Marks)
   b. Explain the following APIs. i) lseek   iii) access. (06 Marks)

OR

4 a. What is the relationship between file stream pointer and file descriptor? Which functions are used to convert them one from each other and mention their prototypes. (06 Marks)
   b. Explain fcntl API. Give an example to demonstrate file locking using fcntl API. (10 Marks)

Module-3

5 a. Explain with a neat diagram, how a process can be initiated and how it can be terminated.
(08 Marks)
   b. Explain wait and waitpid APIs with their prototype. Mention the differences between wait and waitpid. (08 Marks)

OR

6 a. Explain setjmp and longjmp APISs, with an example. (08 Marks)
   b. Explain BSDs job control mechanism with a neat diagram. (08 Marks)

Module-4

7 a. Explain sigaction API with a demonstrating program. (08 Marks)
   b. What are daemon processes? Explain with a neat diagram the error logging facility for a daemon process. (08 Marks)

OR

8 a. Write a C/C++ program to show the use of alarm API. (06 Marks)
   b. Explain daemon characteristics and coding rules. (10 Marks)

Module-5

9 a. What are pipes? Explain different ways to view a half-duplex pipe. Write a program to send data from parent process to child process using pipes. (08 Marks)
   b. What is a FIFO? With a neat diagram explain client server communication using a FIFO.
(08 Marks)

OR

10 a. Explain message queue APIs wih their prototypes. (08 Marks)
    b. Explain semctl and semop APIs with their prototypes. (08 Marks)

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