

AMIETE – CS/IT (Current & New Scheme)

Time: 3 Hours

DECEMBER 2015

Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions, answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

- a. Which option of ls command is used to view file inode number

(A) -l	(B) -o
(C) -a	(D) -i
- b. A process may create a new process by executing _____ system call.

(A) init	(B) fork
(C) create	(D) new
- c. Creation of a semaphore set is done using the _____ system call.

(A) semget()	(B) semsget()
(C) mknod()	(D) sempget()
- d. The find command is different from most UNIX commands in that each of the argument expressions following the beginning path name is considered a _____.

(A) action expression	(B) Boolean expression
(C) Boolean constant	(D) Search qualifiers
- e. A standard UNIX system includes a set of _____ and a set of _____.

(A) Commands, files	(B) Libraries, Applications
(C) Libraries, files	(D) Files, Applications
- f. An orphan process is automatically inherited by the _____ and becomes a _____ of this process.

(A) 'init' process, father	(B) 'init' process, child
(C) 'initial' process, father	(D) 'it' process, child
- g. When a child dies, it sends a _____ signal to its parent.

(A) SIGCHLD	(B) EDEADLK
(C) WNOHANG	(D) SEDECHLD
- h. The usual su command syntax is

(A) su-pwd	(B) su-pd
(C) su - userID	(D) su - userID

- i. Pick the wrong statement from the following.
- (A) UNIX systems originally came with a command interpreter called the Bourne Shell.
- (B) The cat command takes any characters from standard input, and then echoes them to standard output
- (C) A pipe is a means of taking the output of one command and directing it as another command
- (D) The manual entry is called a man page, even though it is often more than one page long.
- j. Bootstrapping is also known as _____
- (A) cold-hot boot (B) hot boot
- (C) hot strap (D) cold boot

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

- Q.2** a. Explain salient features of UNIX operating system. (4)
- b. Compare internal and external commands of UNIX with suitable examples. Also explain the file attributes displayed by ls -l command. (8)
- c. Explain the following commands: (2×2)
- i. creat function
- ii. lseek function
- Q.3** a. Explain the procedure of process creation in UNIX with the help of system calls. (4)
- b. With the help of suitable diagram, explain UNIX file system and also explain the various types of files supported in UNIX. (8)
- c. Explain the commands Umask and chown. Give syntax and examples. (4)
- Q.4** a. What do you mean by standard input, standard output and standard error? (8)
- b. Write short note on:
- (i) Password file (ii) Shadow passwords (8)
- Q.5** a. Discuss the concept of pipes. Illustrate the syntax and working of DUP and open system calls. (8)
- b. What are standard input, output and errors? Explain in context of Unix. Give examples. (6)
- c. Differentiate between a wildcard and a regular expression. (2)
- Q.6** a. Write a AWK program to find the square root of all the numbers from 1-10. (8)
- b. Discuss the following:
- (i) setjmp and longjmp functions
- (ii) getrlimit and setrlimit functions (8)
- Q.7** a. Differentiate between the following: (4×2)
- (i) kill and raise functions
- (ii) alarm and pause functions
- b. Create a script file called file properties that reads a file name entered and output its properties. (8)

- Q.8**
- a. Your printer has stopped working, and you want to be sure whether the printing daemon is working. How will you ensure that? (4)
 - b. Write a shell script to display the period for which a given user has been working in the system. (8)
 - c. Explain the command gzip with their syntax also. (4)
- Q.9**
- a. Differentiate between popen and pclose functions. (8)
 - b. Write short notes on: (4×2)
 - i. shared memory
 - ii. client-server properties