Code: AC71/AT71   **Subject: UNIX SYSTEMS PROGR...**

AMIETE – CS/IT

Time: 3 Hours   **JUNE 2013**   **Max. Marks: 10...**

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 of the following UNIX commands will <u>not</u> take the user *student5* to his personal home directory?

   (A) cd   **(B)** cd /~
   (C) cd ~   **(D)** cd ~student5

b. What is a *shell* in UNIX?

   (A) a program through which users can issue commands to UNIX
   (B) a window management system
   (C) the login screen
   (D) the thing that rides on the back of a turtle in UNIX

c. What is the generic syntax for all UNIX commands?

   (A) command name, followed by arguments, followed by options
   (B) command name followed by arguments
   (C) hole command name followed by options
   (D) command name, followed by options, followed by arguments

d. Which of the following represents an absolute path?

   (A) ../home/file.txt   **(B)** bin/usr
   (C) bin/cat   **(D)** /usr/bin/cat

e. Which of these commands will set the permissions on file *textfile* to read and write for the owner, read for the group, and nothing for everyone else?

   (A) chmod 046 textfile   **(B)** chmod 640 textfile
   (C) chmod 310 textfile   **(D)** chmod rw r nil textfile

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f. Which of the following is not a UNIX file type?

  (A) plain file
  (B) special file
  (C) batch file
  (D) directory file

g. When you use the ln command, which of the following occurs?

  (A) a file is created that points to an existing file
  (B) a file is created that is a copy of an existing file
  (C) a file is moved from one location to another
  (D) a file is renamed

h. What UNIX command is used to update the modification time of a file?

  (A) time   **(B)** modify
  (C) cat   **(D)** touch

i. Which command will print the contents of all files in the current directory whose names with the character 'a' and end with a period ('.') followed by any two characters followed by a number ?

  (A) ls a*.??[0-9]   **(B)** ls a*.??#
  (C) cat a*.??[0-9]   **(D)** cat a?.**#

j. The apropos command is used to:

  (A) obtain a list of commands whose description contains given keywords
  (B) change the system language to French
  (C) get help on a particular command
  (D) create a new binary file

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

Q.2 a. Write short notes on any **FOUR** of the following: **(4×4)**

  (i) open function   (ii) create function
  (iii) close function   (iv) lseek function
  (v) read function   (vi) write function

Q.3 a. Explain any five types of files used in UNIX system.   **(10)**

  b. Explain the following functions:
  (i) chown   (ii) fchown
  (iii) lchown   **(6)**

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Q.4 a. Explain shadow Passwords. Where are shadow passwords used.   **(**

  b. Write a short note on login accounting.   **(8)**

Q.5   Explain in detail various types of network logins.   **(16)**

Q.6 a. Write a program to illustrate the use of sleep function.   **(8)**

  b. Write short note on
      (i)   Unreliable signals.
      (ii) Interrupted system calls.   **(8)**

Q.7 a. With the help of pictorial representation, explain the concept of terminal line discipline.   **(6)**

  b. Write the coding rules of Daemon Processes.   **(5)**

  c. Write short notes on Error Logging.   **(5)**

Q.8 a. Explain popen and pclose functions.   **(6)**

  b. Write notes on any **TWO** of the following:
      (i)   System VIPC
      (ii) Client Server properties
      (iii) Semaphores   **(10)**

Q.9 a. How and when race conditions occur in process control? How can it be avoided?   **(6)**

  b. Differentiate between following functions giving related syntax:

      (i)   fork and vfork
      (ii) wait3 and wait4   **(10)**