Code: AC71/AT71   **Subject: UNIX SYSTEMS PROGRAMS**

AMIETE – CS/IT (Current Scheme)

Time: 3 Hours   **JUNE 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 command is used to sort the lines of data in a file in reverse order?

   (A) sort   **(B)** sh
   (C) st   **(D)** sort -r

b. Which command is used to display the top of the file?

   (A) cat   **(B)** head
   (C) more   **(D)** grep

c. Which command is used to remove a directory?

   (A) rd   **(B)** rmdir
   (C) dldir   **(D)** rdir

d. Which command is used to extract specific columns from the file?

   (A) cat   **(B)** cut
   (C) grep   **(D)** paste

e. Which command sends the word count of the file infile to the newfile?

   (A) wc infile >newfile   **(B)** wc <infile >newfile
   (C) wc infile - newfile   **(D)** wc infile | newfile

f. Which of the following is not a communication command?

   (A) write   **(B)** mesg
   (C) mail   **(D)** grep

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g. Which of the following keys is used to move the cursor to the end of the paragraph?

  (A) }   **(B)** {
  (C) /   **(D)** $

h. The command which transcribes the standard input to the standard output and also makes a copy of the same in a file is

  (A) tee   **(B)** tr
  (C) sort   **(D)** grep

i. Which command is used to remove a file?

  (A) remove   **(B)** rm
  (C) mv   **(D)** del

j. Which symbol is used to separate more than one command in the same command line?

  (A) $ **(B)** #
  (C) :   **(D)** ;

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

Q.2 a. Define System Calls. Explain with the help of Example System Calls.   **(8)**

   b. Explain with the help of example the following functions: **(8)**
      (i)   open function
      (ii) cat function
      (iii) close function
      (iv) lseek function
      (v)   read function

Q.3 a. How will you set permissions for a file?   **(8)**

   b. What are links and symbolic links in UNIX file system?   **(8)**

Q.4 a. What are Streams? Explain the Standard Input, Output and Error and Buffering in Standard IO Library.   **(8)**

   b. Write short notes on the following terms: **(8)**
      (i) Binary I/O
      (ii) Formatted I/O

Q.5   a.   Explain Kill and Raise functions with the help of examples.   **(8)**

     b.   Describe sigaction function with the help of example.   **(8)**

Q.6   a.   What does fork() do? What is the difference between fork() and vfork()?   **(8)**

     b.   Difference between wait and waitpid.   **(4)**

     c.   Explain the term Process Accounting.   **(4)**

Q.7   a.   What are Command line Arguments?   **(4)**

     b.   How to set Environment Variables?   **(4)**

     c.   Difference between getrlimit and setrlimit functions.   **(8)**

Q.8   a.   How to get and set the attributes of Terminal?   **(8)**

     b.   Explain in detail Client Server Model.   **(8)**

Q.9   a.   Define Pipes. What are popen and pclose functions in Interprocess communication?   **(8)**

     b.   What are Message Queues and Semphores? Explain the terms with the help of Example.   **(8)**