Code: AC109/AT109   **Subject: UNIX & SHELL PROGRAMMING**

AMIETE – CS/IT (New Scheme)

Time: 3 Hours   **June 2018**   **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. What command is used to count the total number of lines, words, and characters contained in a file?
   (**A**) countw   (**B**) wcount
   (**C**) wc   (**D**) count p

b. What command is used to remove files?
   (**A**) dm   (**B**) rm
   (**C**) delete   (**D**) erase

c. What command is used to remove the directory?
   (**A**) rdir   (**B**) remove
   (**C**) rd   (**D**) rmdir

d. What command is used with vi editor to delete a single character?
   (**A**) x   (**B**) y
   (**C**) a   (**D**) z

e. What hardware architectures are not supported by Red Hat?
   (**A**) SPARC   (**B**) IBM-compatible
   (**C**) Alpha   (**D**) Macintosh

f. What does FSF stand for?
   (**A**) Free Software File   (**B**) File Server First
   (**C**) First Server First   (**D**) Free Software Foundation

g. Which of the following is a valid format for mounting a CD-ROM drive?
   (**A**) mount –t iso9660/dev/cdrom/mnt/cdrom   (**B**) mount /dev/cdrom
   (**C**) mount /mnt/cdrom   (**D**) All of these

h. What command do you use to create LINUX file systems?
   (**A**) fdisk   (**B**) mkfs
   (**C**) fsck   (**D**) mount

i. Which of the following command can you execute to count the number of lines in a file?
   (**A**) lc   (**B**) wc -l
   (**C**) cl   (**D**) count

j. Which of the following is not a communication command?
   (A) grep   **(B)** mail
   (C) mesg   **(D)** write

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

Q.2 a. What are the advantages of installing multiple desktop environments on Linux system. Describe root account with the help of suitable example with privileges associated with it.   **(16)**

Q.3 a. What is the basic difference between BASH and DOS?   **(8)**

   b. Explain awk's built-in variables with examples.   **(8)**

Q.4 a. How do you change permissions under Linux?   **(8)**

   b. Explain the term CLI. And also write the advantages and disadvantages of CLI.   **(8)**

Q.5 a. How can you determine the total memory used by LINUX? With suitable examples, explain 3 kinds of file permissions under LINUX.   **(8)**

   b. Linux initially was developed for intel X86 architecture but can be ported to other hardware platform easily than any other Operating System. Do you agree?   **(8)**

Q.6 a. Write a shell program that prompts a user to input a character and a number and prints the name or any thing that many times, with each character on a separate file.   **(8)**

   b. Discuss the array as functions in Pearl, with suitable example.   **(8)**

Q.7 a. What are hard links and soft links? Explain with example.   **(8)**

   b. Explain the following command with example.   **(8)**
      (i) grep   (ii) mkdir
      (iii) cat

Q.8 a. Explain the modes of operation of vi editor with suitable example. **(8)**

   b. What is the important role of kernel in Linux operating system? Describe the relation between user kernel and shell with the help of suitable diagram. **(8)**

Q.9 a. Write a Shell Script to generate Fibonacci Series.   **(8)**

   b. Compare external and internal command in UNIX with suitable example. Explain, why cd command cannot be an external command?   **(8)**