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

AMIETE – CS/IT (New Scheme)

Time: 3 Hours   **JUNE 2016**   **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 check your current directory?
       (A) cd   **(B)** ls
       (C) pwd   **(D)** cat

    b. Which option is used in ls command to list the directory attributes?
       (A) –c   **(B)** -d
       (C) –e   **(D)** -a

    c. cut command is used to
       (A) slitting a file horizontally   **(B)** slitting a file vertically
       (C) cutting the top line of the file   **(D)** cutting the bottom of the file

    d. Which of the command is used for printing a file?
       (A) lp   **(B)** cp
       (C) rm   **(D)** vi

    e. Which of these is a wild card?
       (A) !   **(B)** .
       (C) #   **(D)** $

    f. Zombie is a
       (A) Dead process
       (B) Not allowed to die till the parent acknowledgement
       (C) Running process
       (D) Suspended process

    g. Which is not an environment variable?
       (A) HOME   **(B)** PATH
       (C) SHELL   **(D)** POWER

    h. This command is used for searching a pattern
       (A) awk   **(B)** chmod
       (C) grep   **(D)** man

    i. Which of the command creates a new file?
       (A) chmod file   **(B)** vi file
       (C) grep file   **(D)** pr file

    j. Which is not true?
       (A) Hard Link can link across file systems.
       (B) Hard Link cannot link across directories.
       (C) Hard link creates new inode.
       (D) Symbolic link does not create new inode.

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Answer any FIVE Questions out of EIGHT Questions.
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Q.2 a. Explain the different types of files supported in Unix.   **(6)**

  b. Explain salient features of Unix operating system, clearly bringing out the division of labour between kernel and shell.   **(10)**

Q.3 a. What are the three modes of vi editor? Explain with a diagram.   **(10)**

  b. A file's current permission are rw_r_xr_ _ . Specify the chmod expression required to change them for the following using both relative and absolute methods: **(6)**
  (i) rwx rwx rwx   (ii) r_ _ r _ _ _ _ _

  (iii) _ _ _ _ _ _ _ _ _

Q.4 a. What is shell process? What are three different phases in the creation of process?   **(8)**

  b. UNIX allows jobs to run in the Background – Explain two ways of doing this. **(8)**

Q.5 a. Differentiate between hard link and symbolic link.   **(8)**

  b. Explain the following with suitable examples.   **(8)**
  (i) cut   (ii) tail
  (iii) sort   (iv) tr

Q.6 a. What does the following commands do?   **(8)**
  (i)   grep –n 'marketing' emp.lst
  (ii) grep –i 'agarwal' emp.lst
  (iii) grep "^2" emp.lst
  (iv) grep "^[^2]" emp.lst

  b. Explain the use of sed command in detail.   **(8)**

Q.7 a. Write a shell script to take a search string and filename from the terminal and then search the string in the file. Show the output assuming a dummy file. **(8)**

  b. Write a shell script that uses case to create a menu. The script accepts value 1 to 5 and performs the following actions: **(8)**
  1. List of files
  2. Process of user
  3. Today's Date
  4. Users of system
  5. QUIT

Q.8 a. What is awk used for? Explain simple awk filtering with an example. **(8)**

  b. How do you handle arrays using awk? Explain.   **(8)**

Q.9 a. Explain any 4 string handling functions of perl.   **(4)**

  b. Write a perl script to convert a decimal number to binary.   **(12)**