

**AMIETE - CS/IT {NEW SCHEME}**

Time: 3 Hours

**DECEMBER 2014**

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 extract specific columns from the file?
- (A) cat (B) cut  
(C) grep (D) paste
- b. Which of the following commands is used to display the directory attributes rather than its contents?
- (A) ls -l -d (B) ls -l  
(C) ls -x (D) ls -F
- c. Which of the following commands is used to absolutely assign all permissions to the owner, read and write permissions to the group and only executable permission to the others of the file note?
- (A) chmod 761 note (B) chmod 671 note  
(C) chmod 167 note (D) chmod 4 = rwx, g = rw note
- d. Which command is used with vi editor to search a pattern in the forward direction?
- (A) / (B) ?  
(C) // (D) ??
- e. Which command puts a script to sleep until a signal is received?
- (A) sleep (B) suspend  
(C) disown (D) break

- f. Which command is used to sort the lines of data in a file in alphabetical order?
- (A) sort (B) Sh  
(C) St (D) sort -r
- g. Which system call waits for the child process to complete and return the exit status?
- (A) sleep (B) wait  
(C) delay (D) stop
- h. The 'logout' built in command is used to
- (A) shutdown the computer (B) logoff of the computer  
(C) logout the current user (D) to exit the current shell
- i. A user creates a link to a file file1 using the following command "ln file1 file2". Which of the following is not true?
- (A) file 1 and file2 have the same inode numbers  
(B) The number of links for file1 is displayed as 1  
(C) The number of links for file1 is displayed as 2  
(D) The number of links for file2 is displayed as 2
- j. What UNIX command is used to update the modification time of a file?
- (A) time (B) modify  
(C) cat (D) touch

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

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- Q.2** a. Explain the principal components: Kernel and Shell, of the UNIX operating system. (4+4)
- b. Explain absolute and relative pathnames with the help of examples. (4+4)
- Q.3** a. What is the function of ls command? List the different options and what is the use of -a, -l, -d and -R in it. (4+4)
- b. Explain the three modes of operation in vi editor. (8)
- Q.4** a. List the steps that the shell undertakes in order to execute a given command.(8)
- b. What are pipes in Unix and what is their use ? (8)

- Q.5** a. What is hard link and soft link? How can they be created? (3+3+2)  
b. Which command is used to change permission associated to File/Directories? List and explain methods to change permission of File/Directories. (2+6)
- Q.6** a. What is the difference between a wild card and a regular expression? (4+4)  
b. What is the difference between Interval Regular Expression (IRE) and Tagged Regular Expression (TRE)? (4+4)
- Q.7** a. What is the exit status of a command? What is its normal value and which shell parameter stores its value? (8)  
b. Explain the test command. (8)
- Q.8** a. Explain in detail the simple awk filtering. (6)  
b. Explain with an example how **if** statement can be used in an awk command.(6)  
c. What is the difference between print and print \$0? (4)
- Q.9** a. Explain the foreach loop in perl with the help of an example. (8)  
b. Explain the following: (4+4)  
(i) chop function  
(ii) substr function