

**AMIETE – CS/IT**

Time: 3 Hours

**JUNE 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. Linux components include the \_\_\_\_\_.
- (A) kernel (B) shell  
(C) file system & user programs (D) all of these
- b. The standard way of mounting file systems onto the \_\_\_\_ directory.
- (A) dev (B) mnt  
(C) bin (D) all of these
- c. Binary directory contains \_\_\_\_\_.
- (A) Executable files (B) Special pseudofiles  
(C) Library files (D) System log files
- d. The equivalent for COPY in Linux is \_\_\_\_\_.
- (A) mv & rm (B) cp  
(C) both (A) & (B) (D) none of these
- e. tac \_\_\_\_\_
- (A) concatenates 2 files (B) listing a file backwards from its end  
(C) reverses each line of file (D) none of these
- f. rmdir remove directory if \_\_\_\_\_.
- (A) Directory must be empty of all files  
(B) Directory mayn't be empty  
(C) Both (A) & (B)  
(D) None of these

g. touch command is used for \_\_\_\_\_.

- (A) Updating access/modification times of a file to current system time
- (B) Creating a new file
- (C) Both (A) & (B)
- (D) None of these

h. egrep an acronym for \_\_\_\_\_.

- (A) evaluation global regular expression print
- (B) extensible global regular expression print
- (C) extended global regular expression print
- (D) none of these

i. If finger is used without an argument \_\_\_\_\_.

- (A) it gives information concerning users currently logged in
- (B) it gives information about a particular user on a network
- (C) it gives information about all users
- (D) none of these

j. Protocol used for connecting to a remote host is \_\_\_\_\_.

- (A) ftp
- (B) telnet
- (C) tcp/ip
- (D) none of these

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

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**Q.2** a. Briefly explain the LINUX distributions. (8)

b. Explain the directory structure of the LINUX sources with a neat diagram. (8)

**Q.3** a. What are the different states within a process. Explain with chart of status within a process. (8)

b. Differentiate between hardware interrupts & software interrupts. (8)

**Q.4** a. Describe how abstract process of virtual memory was introduced during the development of LINUX. (8)

b. How is memory allocated in the kernel segment during booting? (8)

- Q.5** a. Explain different methods of locking entire files. (8)  
b. Explain in detail the system V IPC. (8)
- Q.6** a. Illustrate the link between the operating system kernel & the different file systems. (8)  
b. Explain different file operations. (8)
- Q.7** a. Explain polling and interrupt modes in detail. (8)  
b. Discuss how buffer management is achieved in the network. (8)
- Q.8** a. Explain different functional units which can be implemented as modules. (8)  
b. What is kernel initialization & scheduling? (8)
- Q.9** a. Explain the network devices under LINUX. (8)  
b. Explain the socket structure. (8)