

**Code: 9A12601**

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 2017

**LINUX PROGRAMMING**

(Information Technology)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Explain the purpose of the following Linux commands and demonstrate their usage.  
(i) uniq. (ii) expand. (iii) join. (iv) egrep.  
(b) Write short notes on stream editor.
- 2 (a) Write a Bourne shell script to compute the sum of digits of a given number.  
(b) Give a detailed description of interrupt processing.
- 3 (a) Compare and construct file locking and record locking.  
(b) Discuss file and directory management.  
(c) Compare and contrast symbolic links and hard links.
- 4 (a) Explain the following terms:  
(i) Signal. (ii) Signal generation. (iii) Alarm function.  
(b) Compare and contrast reliable and unreliable signals.
- 5 (a) What is the need for interprocess communication?  
(b) Consider a scenario where a process creates one child process by using 'fork' system call. If three levels of such child processes are created, which IPC method is ideally suitable for data sharing among these processes? Justify your answer. Explain that method in detail.
- 6 Demonstrate how IPC takes place in UNIX system using semaphores and with the help of an example.
- 7 (a) What are the attributes of a thread?  
(b) Write program to demonstrate thread synchronization using: (i) Semaphore. (ii) Mutex.
- 8 (a) Write a note on socket system calls for :  
(i) Connection oriented protocol.  
(ii) Connection less protocol.  
(b) Explain client server program with an example.

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